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<td></td>
</tr>
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  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the issue
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# Contents

**About this book**  
Related publications .......................................................... 20

## Chapter 1  
**BMC Performance Predictor for Mainframes overview**  
What BMC Performance Predictor for Mainframes is ......................... 24  
Before you begin .................................................................... 27  
How Performance Predictor can benefit you .................................. 27  
  Tracking performance .............................................................. 28  
  Managing capacity and optimizing performance .......................... 29  
  Planning for growth ................................................................. 30  
Typical Performance Predictor usage scenario ............................ 30  
Who uses Performance Predictor? ............................................. 31

## Chapter 2  
**Console features**  
List of features ....................................................................... 34  
Console menus ......................................................................... 37  
Console toolbar ....................................................................... 38  
Functions common to all console tools ....................................... 38  
  Dynamic MIPS ratings in console baselines, scenarios, and reports 39  
  Printing workspace data .......................................................... 39  
  Chart, graph, and report display settings ................................... 40  
  Saving data and settings .......................................................... 40  
  Viewing and editing metrics ..................................................... 40  
Tool window ............................................................................ 42  
Tools List and Tools Status areas ............................................. 42  
  Tools List area ....................................................................... 42  
  Tools Status area .................................................................... 43  
Message window context menu ................................................ 44  
Docking and undocking tools and message windows ................. 45

## Chapter 3  
**Acquiring baselines using Data Subscription Facility**  
Overview ................................................................................. 48  
Setting up a connection with Data Subscription Facility ............... 48  
  Opening the Data Subscription Facility window ....................... 49  
  Subscribing to a data publisher ................................................ 50  
Removing a host name or IP address ......................................... 52  
Modifying a host name or IP address ......................................... 52
Creating a new profile .............................................................. 53
Changing the port numbers .................................................. 53
Changing the subscription .................................................... 54
Download on demand ........................................................... 55
Browsing for baselines .......................................................... 55

Chapter 4 Populating the namespace by using other methods 61
Overview ................................................................................. 62
Setting up to download files .................................................. 62
  Creating directories on PPM .................................................. 63
  Disabling the Publish feature on mainframe systems .......... 64
  Modifying mainframe JCL ..................................................... 65
Populating the namespace by using MDP ................................. 67
  Adding to or overwriting namespace files ......................... 67
  Merging separate baselines into a single model ................. 70
  Performing the merge ......................................................... 74
  Notes for merging or adding/overwriting data .................. 74
Scheduling automatic operations ........................................... 74
  Scheduling a task for automatic operations ....................... 75
Populating sample data ......................................................... 88

Chapter 5 Creating and managing scenarios 89
Overview ................................................................................. 90
Opening Scenario Explorer .................................................... 90
About the Scenario Explorer tree ........................................ 92
  About baselines .................................................................... 93
  About studies .................................................................... 94
  About scenarios .................................................................. 94
  Scenario Explorer tree icons ............................................. 96
Using the Scenario Wizard ..................................................... 97
Inserting a baseline ............................................................... 97
Inserting a study ................................................................... 99
  Create and insert a new study ............................................ 99
  Inserting an existing study ................................................. 100
Inserting a scenario ............................................................. 101
  Creating and inserting a new scenario ............................... 101
  Inserting an existing scenario ........................................... 101
Keeping notes on studies and scenarios ................................. 103
  Describing studies or scenarios in the Properties dialog box .. 103
  Displaying the description preview pane ......................... 104
  Using the Annotation window ......................................... 105
Moving studies and scenarios ............................................... 106
Sorting the order of Scenario Explorer tree elements ............. 106
Customizing settings for workspace displays ...................... 107
Chapter 6  Working with scenarios

Overview ................................. 111
About workspace features ................................. 112
  Changing display settings ................................. 119
Using workspace wizards ................................. 122
  Options after completing a wizard ................................. 124
Performing workspace operations ................................. 125
  Create a new physical system ................................. 126
  Modify a physical system ................................. 128
  Copying an existing physical system ................................. 131
  Creating a new logical system ................................. 132
  Modifying logical system distribution ................................. 135
  Copying an existing logical system ................................. 138
  Creating a new device ................................. 139
  Managing devices ................................. 142
  Building a new workload ................................. 145
  Copying an existing workload ................................. 152
  Removing systems and workloads ................................. 153
  Renaming systems, workloads, and devices ................................. 153
  Moving workloads ................................. 153
  Moving a percentage of a workload ................................. 155
  Moving logical systems ................................. 156
Working with groups ................................. 157
  Creating and managing groups ................................. 162
  Selecting objects for your groups ................................. 162
Working with growth plans ................................. 164
  Predicting impact of current scenarios ................................. 165
  Creating a CDB profile ................................. 167
  Using historical data to populate a growth plan ................................. 170
  Editing a growth plan ................................. 180
  Copying and pasting multiple cells ................................. 184
  Setting percentage values for growth ................................. 187
  Importing and exporting a growth plan ................................. 190
  Exporting a growth plan ................................. 190
  Importing a growth plan ................................. 191
  Applying a growth plan ................................. 194
Using the Change Description List ................................. 196
  Viewing change details ................................. 197
  Deleting a change ................................. 198
  Rearranging the order of scenario changes ................................. 199
Previewing CPU utilization for a growth plan ................................. 199
  Setting automatic or manual refreshing ................................. 200
Evaluating scenarios ................................. 200
  Choosing processor evaluation options ................................. 202
  Viewing evaluation results ................................. 204
  Making changes to an evaluated scenario ................................. 205
Printing a view ................................. 205
Using Normal View and Print Layout View ................................. 205
### Chapter 7 Viewing reports

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report overview</td>
<td>208</td>
</tr>
<tr>
<td>Special terms</td>
<td>209</td>
</tr>
<tr>
<td>Changing display settings of reports</td>
<td>209</td>
</tr>
<tr>
<td>Color coding in reports</td>
<td>211</td>
</tr>
<tr>
<td>Key reports</td>
<td>212</td>
</tr>
<tr>
<td>Viewing the Daily Health Check Summary report</td>
<td>213</td>
</tr>
<tr>
<td>Viewing the Performance Changes Summary report</td>
<td>215</td>
</tr>
<tr>
<td>Viewing configuration and performance reports</td>
<td>216</td>
</tr>
<tr>
<td>Comparing reports</td>
<td>217</td>
</tr>
<tr>
<td>List of all available reports</td>
<td>217</td>
</tr>
<tr>
<td>Notes on scenario reports</td>
<td>219</td>
</tr>
<tr>
<td>Notes on scenario reports with growth plans</td>
<td>220</td>
</tr>
<tr>
<td>Notes on reports for baselines</td>
<td>220</td>
</tr>
<tr>
<td>Opening Report Explorer</td>
<td>221</td>
</tr>
<tr>
<td>Report Explorer toolbar buttons</td>
<td>222</td>
</tr>
<tr>
<td>Report pane context menu</td>
<td>223</td>
</tr>
<tr>
<td>Navigation pane menu</td>
<td>224</td>
</tr>
<tr>
<td>Generating and viewing reports</td>
<td>224</td>
</tr>
<tr>
<td>Creating report profiles</td>
<td>225</td>
</tr>
<tr>
<td>Using the Performance Predictor portal</td>
<td>234</td>
</tr>
<tr>
<td>Opening Performance Predictor portal</td>
<td>234</td>
</tr>
<tr>
<td>Publishing reports to Performance Predictor portal</td>
<td>236</td>
</tr>
<tr>
<td>Selecting and loading reports in the portal</td>
<td>238</td>
</tr>
<tr>
<td>Viewing reports in the main portal viewing page</td>
<td>241</td>
</tr>
</tbody>
</table>

### Chapter 8 Using the Graph Explorer

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graph Explorer overview</td>
<td>244</td>
</tr>
<tr>
<td>Opening the Graph Explorer window</td>
<td>245</td>
</tr>
<tr>
<td>Accessing data</td>
<td>246</td>
</tr>
<tr>
<td>Using the Graph Explorer Wizard</td>
<td>247</td>
</tr>
<tr>
<td>Using the Select Input dialog box</td>
<td>247</td>
</tr>
<tr>
<td>Loading a scenario from the Scenario Explorer</td>
<td>249</td>
</tr>
<tr>
<td>Selecting metrics for a data type</td>
<td>249</td>
</tr>
<tr>
<td>Selecting data views from the navigation tree</td>
<td>252</td>
</tr>
<tr>
<td>Example of navigating in the tree</td>
<td>254</td>
</tr>
<tr>
<td>Contents of each data view</td>
<td>255</td>
</tr>
<tr>
<td>Viewing metrics</td>
<td>257</td>
</tr>
<tr>
<td>Displaying a metric value for a data element within a graph</td>
<td>258</td>
</tr>
<tr>
<td>Highlighting a row of data</td>
<td>259</td>
</tr>
<tr>
<td>Customizing the appearance</td>
<td>259</td>
</tr>
<tr>
<td>Printing, copying, and changing view of graphs</td>
<td>261</td>
</tr>
</tbody>
</table>
Chapter 9   Using Performance Explorer 263
Overview .......................................................... 264
Opening Performance Explorer .................................. 265
  Using the workspace context menu ......................... 267
Displaying reports .............................................. 268
Changing display settings ..................................... 269
Selecting data .................................................. 274
  Reusing the contents of a report ......................... 276
  Copying reports to the clipboard ....................... 276
  Removing baselines or scenarios .......................... 277
  Sorting the order of baselines and scenarios ........... 277
Selecting objects ............................................. 278
Selecting metrics ............................................. 279
Selecting a metric ........................................... 281
Creating reports ............................................. 282
  Generating a new report ................................ 282
  Generating a summary report ......................... 283
  Refreshing an active report ........................... 283
  Creating a blank report ............................... 284
Saving and opening favorite reports ....................... 284
  Saving a favorite report .............................. 284
  Opening favorite reports ............................ 285
  Editing reports from the favorites list ............. 285
Switching to another tool .................................. 286

Chapter 10   Using the Graphlet Explorer 287
Graphlet Explorer overview ............................... 288
  Navigating views ........................................ 288
  Graphlet Explorer display methods .................... 290
  Changing display settings ............................ 292
  Opening the Graphlet Explorer window ............... 296
Accessing baselines and scenarios ......................... 297
  Using the Select Input dialog box ................... 297
  Loading a Scenario from the other tools .......... 299
Using the toolbar buttons .................................. 299
  Using navigation history to go forward or backward 300
  Using the Find feature within a report ............. 301
  Opening a report in a new window .................... 301
  Removing a baseline from view ....................... 302
  Changing the view of the working pane ............. 302

Chapter 11   Using Namespace Manager 303
Namespace Manager overview ............................. 304
Namespace directory structure ............................ 305
  Namespace log file .................................... 305
Opening the Namespace Manager ......................... 306
Viewing namespace objects ................................ 306
<table>
<thead>
<tr>
<th>Chapter 12 Using the Hardware Table Editor</th>
<th>317</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Table Editor overview</td>
<td>318</td>
</tr>
<tr>
<td>Viewing CPU information</td>
<td>319</td>
</tr>
<tr>
<td>Viewing disk information</td>
<td>321</td>
</tr>
<tr>
<td>Viewing tape information</td>
<td>322</td>
</tr>
<tr>
<td>Changing data</td>
<td>323</td>
</tr>
<tr>
<td>Modifying data by cell</td>
<td>323</td>
</tr>
<tr>
<td>Modifying data by row</td>
<td>323</td>
</tr>
<tr>
<td>Inserting rows</td>
<td>325</td>
</tr>
<tr>
<td>Hiding and showing rows</td>
<td>325</td>
</tr>
<tr>
<td>Reloading data</td>
<td>326</td>
</tr>
<tr>
<td>Updating data</td>
<td>326</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appendix A Scenario Explorer toolbars and context menus</th>
<th>329</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Explorer tree toolbar</td>
<td>330</td>
</tr>
<tr>
<td>Working pane toolbar</td>
<td>331</td>
</tr>
<tr>
<td>Using the workspace and palette context menus</td>
<td>332</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appendix B Contents of reports</th>
<th>337</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>338</td>
</tr>
<tr>
<td>Daily Health Check Summary subreports</td>
<td>338</td>
</tr>
<tr>
<td>Performance Changes Summary subreports</td>
<td>339</td>
</tr>
<tr>
<td>Top analysis reports</td>
<td>340</td>
</tr>
<tr>
<td>Top Workload Analysis report</td>
<td>341</td>
</tr>
<tr>
<td>Top Coupling Facility Analysis report</td>
<td>342</td>
</tr>
<tr>
<td>Top Tape Analysis report</td>
<td>343</td>
</tr>
<tr>
<td>Top Disk Analysis report</td>
<td>344</td>
</tr>
<tr>
<td>Top System Analysis report</td>
<td>345</td>
</tr>
<tr>
<td>Top Application Analysis report</td>
<td>346</td>
</tr>
<tr>
<td>Top Storage System Analysis</td>
<td>348</td>
</tr>
<tr>
<td>Top Storage Group Analysis</td>
<td>349</td>
</tr>
<tr>
<td>Configuration reports</td>
<td>350</td>
</tr>
<tr>
<td>Configuration Summary report</td>
<td>351</td>
</tr>
<tr>
<td>Coupling Facility Configuration report</td>
<td>351</td>
</tr>
</tbody>
</table>
Workload Configuration report 352
Tape Configuration report 352
Disk Configuration report 352
System Configuration report 353
Application Configuration report 353
Storage System Configuration Summary report 353
Storage Group Configuration Summary report 354
Performance details reports 354
Workload Performance Details report 354
System Performance Details report 355
Coupling Facility Performance Details report 356
Tape Performance Details report 356
Disk Performance Details report 357
Application Performance Detail report 357
Storage System Performance Detail report 359
Storage Group Performance Detail report 360
Operation Description Summary report 360
Growth plan trending reports 361

Appendix C  Contents of Graphlet views  363
Contents of views 364
Navigating views 371

Index 375
## Figures

Performance Predictor information flow ................................................. 26  
BMC Performance Predictor for Mainframes ........................................... 36  
Data Dictionary Editor ........................................................................... 41  
Tools List ................................................................................................ 43  
Data Subscription Facility window ....................................................... 49  
Publisher Information dialog box ......................................................... 50  
Subscribe dialog box ............................................................................. 51  
Port Numbers dialog box ...................................................................... 53  
Download Data Set dialog box ............................................................... 55  
Baseline Explorer ................................................................................... 56  
Viewing members of a particular data set ........................................... 57  
Choosing members from selected baselines ....................................... 58  
Datasets panel with Publish feature disabled ..................................... 64  
Clearing the Include Publish step .......................................................... 65  
Sample job step for FTP transfer ............................................................ 66  
Manual Data Population (MDP) utility .................................................. 68  
Multiple UIE runs .................................................................................. 71  
Scenario Explorer with one scenario in tree ...................................... 92  
Scenario Explorer tree ........................................................................... 93  
Same scenario in two different settings .............................................. 95  
Scenario tree legend ............................................................................. 96  
New baseline with default study and scenarios .................................. 98  
Insert Study dialog box ......................................................................... 100  
Insert Scenario dialog box .................................................................. 102  
Properties dialog box ........................................................................... 104  
Annotation window .............................................................................. 105  
Scenario Explorer - Navigation tree, Systems Palette, and workspace .... 113  
Scenario Explorer System View ............................................................ 115  
Scenario Explorer Group View .............................................................. 116  
Logical System Properties ................................................................... 117  
Scenario Explorer Systems Palette Help .............................................. 118  
Scenario Explorer display settings ....................................................... 120  
Opening the Add Modeling Object Wizards ...................................... 123  
Opening the Managing Devices Wizard ............................................... 124  
Wizard completion options ..................................................................... 125  
Moved workload display ......................................................................... 154  
Move Percent of Workload dialog box ................................................. 155  
Manage Groups dialog box ................................................................. 158  
Group object Chart Viewer .................................................................... 159  
CDB Profile Editor opening page ........................................................... 168
CDB profile information entry page ................................................................. 169
Forecast Wizard profile information page ...................................................... 170
Selecting CDB information from profile options ............................................ 171
Specifying workload application information ............................................... 172
Specifying projection points and delta values ................................................. 173
Project Point Editor .......................................................................................... 174
Reviewing the projection summary .................................................................. 175
Finishing the Forecast Wizard .......................................................................... 176
Status of the job ............................................................................................... 177
Import Summary ............................................................................................... 178
Growth plan populated with Forecast results ................................................... 179
Apply Growth Plan Periods dialog box .............................................................. 195
Change Description List .................................................................................. 196
Changes with details ....................................................................................... 197
Details dialog box ............................................................................................ 198
Setting evaluation options ............................................................................... 203
Report Explorer Settings dialog ...................................................................... 210
Daily Health Check Summary report ............................................................... 214
Report Explorer ............................................................................................... 221
Report Profile Editor window .......................................................................... 225
New Profile dialog box .................................................................................... 226
Associating reports sets with a profile ............................................................ 226
New profile as displayed in the Available Profiles List ..................................... 227
Associate Report Set dialog box ..................................................................... 229
Report Profile Workspace ............................................................................... 230
Save As dialog box .......................................................................................... 232
Rename dialog box ......................................................................................... 233
Opening the Portal ........................................................................................... 235
Baseline root display ....................................................................................... 237
Report Publishing dialog box .......................................................................... 237
Report Loader calendar .................................................................................. 239
Scenario selection in the calendar ................................................................... 240
Main portal viewing page ................................................................................ 242
Hovering cursor highlights relative size of data .............................................. 244
Graph Explorer ............................................................................................... 245
Selecting input ................................................................................................. 248
Metrics Filter dialog ....................................................................................... 250
Full navigation tree ........................................................................................ 253
Logical systems expanded ............................................................................. 254
Expanded view of logical system ..................................................................... 255
Physical system metrics .................................................................................. 257
Hovering cursor displays metric value ............................................................ 258
Settings dialog for Graph Explorer .................................................................. 260
Opening Performance Explorer ...................................................................... 266
Data Selection Pane ......................................................................................... 274
Object Selection pane ..................................................................................... 279
Metric Selection display .................................................................................. 280
Coupling facility view ....................................................................................... 290
Workload view ................................................................................................. 291
Figures 15

Pie chart for workload OMVSMED .................................................. 292
Graphlet Explorer Settings dialog box ............................................. 293
Graphlet Explorer window .............................................................. 296
Selecting Input ............................................................................. 298
Namespace Manager ....................................................................... 306
Delete Namespace Object Confirmation dialog box ....................... 307
File Transfer Protocol dialog box .................................................. 315
Hardware Table Editor - Disk Information view .............................. 321
Hardware Table Editor - Tape Information view .............................. 322
Tables

Table of Growth Plan Editor tasks .......................................................... 181
Special terms used in reports ................................................................. 209
Reports available in Performance Predictor .............................................. 217
Report Explorer toolbar buttons ............................................................. 222
Report pane menu items .......................................................................... 223
Navigation pane menu items .................................................................... 224
Default report profiles ........................................................................... 228
Metric Selection toolbar buttons ............................................................. 251
Contents of data views in Graph Explorer ................................................ 255
Performance Explorer workspace context menu ....................................... 267
Display buttons ....................................................................................... 268
Metric Selection toolbar buttons ............................................................. 281
Linking to another Performance Predictor tool ........................................ 286
Namespace view categories ....................................................................... 307
Hardware Table toolbar ........................................................................... 318
Hardware Table Editor - cell editing context menu ................................. 318
Hardware Table Editor - row management context menu ......................... 319
Hardware Table Editor - CPU information view ........................................ 320
Scenario Explorer tree toolbar buttons ..................................................... 330
Working pane toolbar buttons ................................................................. 331
Workspace context menu .......................................................................... 333
Physical system workspace context menu ................................................ 334
Group View - “Systems Palette” context menu .......................................... 334
Physical System list - “Systems Palette” context menu .............................. 335
Logical system list context menu .............................................................. 335
Workload list workspace context menu ..................................................... 336
Graphlet views and contents .................................................................... 364
Navigating views ....................................................................................... 371
About this book

This book contains detailed information about the BMC Performance Predictor for Mainframes console and is intended for capacity planners, system administrators, and other persons responsible for managing the performance or capacity of mainframe computing systems. Use this book with the BMC Performance Predictor for Mainframes Getting Started book.

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The software also offers online Help. To access Help, press F1 within any product or click the **Help** button in graphical user interfaces (GUIs).

**NOTE**
This book assumes that you are familiar with your host operating system. You should know how to perform basic actions in a window environment, such as choosing menu commands and dragging and dropping icons.
## Related publications

The following related publications supplement this book and the Help:

<table>
<thead>
<tr>
<th>Category</th>
<th>Document</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation documents</td>
<td><strong>BMC Performance Assurance Suite for Mainframes Installation Guide</strong></td>
<td>describes product-specific installation information for UIE, UIE/PC, and UIE/VM and explains how to configure and connect UIE and BMC Performance Predictor for Mainframes console. This book also includes system requirements and installation tape contents.</td>
</tr>
<tr>
<td></td>
<td><strong>BMC Performance Predictor for Mainframes Getting Started</strong></td>
<td>provides instructions for installing BMC Performance Predictor for Mainframes software on a Microsoft Windows system and configuring an associated web server for report viewing. It also includes steps for using the BMC Performance Predictor for Mainframes console and associated tools.</td>
</tr>
<tr>
<td>Core documents</td>
<td><strong>Universal Information Exchange User Guide</strong></td>
<td>describes how to set up the z/OS job to process and package the baseline models that are sent to the BMC Performance Predictor for Mainframes processes for viewing and modification. It also explains how UIE produces a BMC Performance Analyzer for Mainframes file that can be used to view graphs.</td>
</tr>
<tr>
<td></td>
<td><strong>BMC Performance Predictor for Mainframes User Guide</strong></td>
<td>describes how to perform user tasks, such as creating groups, scenarios, graphs, and reports using the BMC Performance Predictor for Mainframes. It also explains how to interact with the Performance Predictor portal.</td>
</tr>
<tr>
<td></td>
<td><strong>Universal Information Exchange/VM User Guide</strong></td>
<td>describes how to prepare and run Universal Information Exchange/VM. It also presents the types of output you can get from Universal Information Exchange/VM. Additionally, this book explains how to collect VM MONITOR data and describes the best way to run VM MONITOR.</td>
</tr>
<tr>
<td>Category</td>
<td>Document</td>
<td>Description</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Notices</td>
<td>BMC Performance Assurance Suite for Mainframes Release Notes</td>
<td>Contains all post-publication changes and updates. Also provides a maintenance summary of reported problems that have been fixed since the last product release.</td>
</tr>
<tr>
<td></td>
<td>BMC Performance Assurance Suite for Mainframes Media Contents</td>
<td>Describes the contents of each kit associated with BMC Performance Assurance Suite for Mainframes.</td>
</tr>
</tbody>
</table>
This chapter provides a general description of the BMC Performance Predictor for Mainframes product, who uses it, and what they use it for. This chapter presents the following topics:

- What BMC Performance Predictor for Mainframes is .................................................. 24
- Before you begin ............................................................................................................. 27
- How Performance Predictor can benefit you ............................................................... 27
  - Tracking performance .................................................................................................. 28
  - Managing capacity and optimizing performance ...................................................... 29
  - Planning for growth .................................................................................................... 30
  - Typical Performance Predictor usage scenario ....................................................... 30
- Who uses Performance Predictor? ............................................................................... 31
What BMC Performance Predictor for Mainframes is

Performance Predictor is a windows application that makes it easy to track performance, manage capacity, and plan for the growth of your z/OS environment.

Performance Predictor has the following major components.

- Universal Information Exchange, running on z/OS
  - Gathers raw SMF/CMF or SMF/RMF data about workloads, physical systems, logical systems, disks, tapes, storage systems and storage groups
  - Creates 24 hourly baselines and one Daily Health Check Summary of performance data
  - Sends the baseline data in XML form to the Performance Predictor console
Performance Predictor, running on Microsoft Windows

— generates HTML reports from the XML baselines for viewing on your console computer and publishes them to Performance Predictor portal automatically

**NOTE**
You can adjust the number of reports that you receive per baseline hour by changing the “DURN” setting in the UIE. For more information, see the *BMC Performance Assurance Suite for Mainframes Universal Information Exchange User Guide*

— provides tools to backup, or move baseline data between namespaces and lets you copy scenarios and growth plans

— provides the Scenario Explorer to create scenarios from the baseline information and group objects from one or more baselines in various ways

— provides cross-platform modeling (Only one platform can be reported on at a time.)

— includes zIIP and zAAP modeling capability

This modeling is achieved in the baseline data by representing general purpose processors, zAAP processors, and zIIP processors as separate resources. Best case and worst case results can be returned in the “What-if” scenario evaluations.

— enables viewing of scenario results and baseline information in any number of ways

There are formatted reports from the Graph Explorer, Report Explorer, and Graphlet Explorer, and you can create your own reports by using Performance Explorer. Furthermore, you can specify a particular subset of reports that you want to view by using the Report Explorer Profile Editor and then, manually publish scenario and baseline reports to the Performance Predictor portal.

— provides trending reporting using the Automated Growth Planner

Performance Predictor portal, running on your designated web server

This component displays published scenario and baseline reports. The information flow from Universal Information Exchange to the Performance Predictor console and Performance Predictor portal is shown in Figure 1 on page 26.
Before you begin

Before working with information in BMC Performance Predictor for Mainframes, perform the followings actions:

1. Install Universal Information Exchange on one or more computers in your z/OS environment and configure them to create baseline and summary information. See the BMC Performance Assurance Suite for Mainframes Installation Guide for installation instructions, and the Universal Information Exchange User Guide for information about configuring Universal Information Exchange.


3. Install UIE/PC software, if you want the option to issue Universal Information Exchange commands from an interface on the Predictor console.

4. Designate a web server for publishing your reports to the Performance Predictor portal.

5. Use the Data Subscription Facility to connect Performance Predictor and Universal Information Exchange (Chapter 3, “Acquiring baselines using Data Subscription Facility.”) You can also download and add or merge data from the Universal Information Exchange by using FTP as described in Chapter 4, “Populating the namespace by using other methods.”

How Performance Predictor can benefit you

Using Performance Predictor, you can

- track the performance of your z/OS environment from the Performance Predictor portal on your web server and from within the Performance Predictor console running on Windows
- manage capacity and optimize performance by creating “What if...?” scenarios and growth plans
- populate growth plans by using current or historic data from data sources that you specify
- group systems from your baseline to create various scenarios based on those groupings
- review the results of your scenarios with the different report tools in Performance Predictor
- model zIIP and zAAP processing resources as separate entities by using best case and worst case evaluation options
- share your results by publishing customized reports to the Performance Predictor portal so that managers and other designated people in your company can access them through a web browser

Tracking performance

The Report Explorer tool in Performance Predictor provides a quick snapshot of system performance that you can check daily. It is called The Daily Health Check Summary and it identifies workloads that fail to meet service level objectives.

In each day’s Daily Health Check Summary report, you find information on vital measures of system performance, including detailed information on how each workload is meeting the performance goals that you set for it in Goal Mode. (See the Universal Information Exchange User Guide for more information about Goal Mode and Service Level Agreements.)

If your system is meeting its service level objectives, you may not need to look any further than the daily summary. However, if you discover a performance problem, Performance Predictor provides tools that help you examine the problem closely to find the most cost-efficient solution.

There are 24 hourly baseline sets of reports on system performance that you can view in a variety of formats. You can also choose to view a subset of favorite reports from the total report list, for example, you may want to view only those reports showing the top \( n \) events that identify problem areas.

You can drill down within the hourly reports to examine detailed information such as workload and application response time, CPU utilization, device utilization, and coupling facility structures and performance.

In the following chapter, you will learn more about the Performance Predictor tools that help you create and customize reports and track your system performance. Using the product tools, you can explore the following questions:

- Which workloads demand the most resources?
- Are the workloads properly balanced among logical and physical systems?
- Which physical or logical systems may profit from more or faster processors?
What would be the effects of capping processor saturation levels for best and worst case evaluations by adding zIIP or zAAP processors to your configuration to off load work from the general central processors?

Does your system meet the service level objectives that you set for it?

If response time is slower than desired, is the problem traceable to CPU or I/O resources?

Is a particular bottleneck reducing overall performance?

Can you spot potential bottlenecks or trouble areas that may degrade system performance as your workload continues to grow?

You can set permissions on your web server to allow or restrict access to the reports on the Performance Predictor portal. You can also send the reports to others in your company who are involved in system maintenance, workload optimization, and capacity planning.

Managing capacity and optimizing performance

After you have tracked performance, you might want to try out some changes. You can create “What if...?” scenarios that let you experiment with adding or changing system resources, reallocating resources to avoid bottlenecks or enhance performance and other changes. Without actually making the changes to your environment, the “What if...?” scenarios enable you to see the impact of what would happen if you were to

- move a workload or percentage of a workload to other logical systems
- move an LPAR to another physical system
- modify hardware to provide more processors and increase processor speed
- reallocate shared and dedicated processors within the physical system
- add new logical or physical systems, or devices
- add or remove zIIP or zAAP processors
- copy an existing physical or logical system or workload
- build new workloads
- change or grow your workloads using current or historic data
- manage a set of systems as a group
- rename physical and logical systems, workloads, and devices
- remove physical and logical systems, workloads, and devices
Planning for growth

A very important part of managing your environment is planning for growth. Performance Predictor provides a Growth Plan Editor, which is part of your “What if...?” scenario creation tool. You can use the Growth Plan Editor to explore how your system needs will change as your business grows. See “Working with growth plans” on page 164.

The Growth Plan Editor lets you examine what happens as your workloads or applications increase or decrease over time. You can look at the effects of percentage and transaction increases or decreases for an individual workload or application, for multiple workloads or applications, or for all workloads or applications, over multiple time periods.

With the Import/Export feature of Growth Plan Editor, you can save a growth plan to another location or export to or import a file from another program such as Excel into an existing growth plan. This feature has an easy-to-use wizard.

The Growth Plan Editor also provides data trending that you can use to predict problem areas and growth based on historical data and past performance.

EXAMPLE
You want to see what happens if your workloads increase an average of five percent each quarter for a year. You enter that figure in the Growth Plan Editor. When you evaluate the scenario, Performance Predictor produces four separate results, one for each growth period. You view these results with the Performance Predictor tools and then create further scenarios to solve any problems caused by the growth.

Typical Performance Predictor usage scenario

When you use Performance Predictor, a typical usage scenario is as follows:


2. Identify a problem area.

3. Create one or more “What if...?” scenarios with the Scenario Explorer to solve the problem. See Chapter 5, “Creating and managing scenarios” and Chapter 6, “Working with scenarios.”

4. View the scenario results in the Report Explorer, Performance Explorer, Graph Explorer, or Graphlet Explorer.
5. Repeat 3 and 4 until you are confident you have found a cost-effective solution.

6. Use the Report Explorer to publish your scenario report to Performance Predictor portal, where others in your organization can review it on their web browsers.

Who uses Performance Predictor?

The primary users of Performance Predictor are system administrators, capacity planners, application performance analysts, and other persons responsible for managing the performance or capacity of an z/OS environment.

The secondary users of Performance Predictor include storage managers, data center managers, operations managers and other people who need to know how the z/OS environment, or their part of its workload, is performing. This group may include managers who set growth plans and service level objectives, and who have the final say on approving new system resources.
Console features

This chapter describes the general console features of the Performance Predictor for Mainframes (also referred to as PPM) product, and includes the following topics:

- List of features .......................................................... 34
- Console menus ......................................................... 37
- Console toolbar ....................................................... 38
- Functions common to all console tools .......................... 38
  - Dynamic MIPS ratings in console baselines, scenarios, and reports .......... 39
  - Printing workspace data ......................................... 39
  - Chart, graph, and report display settings .................................. 40
  - Saving data and settings ........................................... 40
  - Viewing and editing metrics ....................................... 40
- Tool window ............................................................ 42
- Tools List and Tools Status areas .................................. 42
  - Tools List area .................................................... 42
  - Tools Status area .................................................. 43
- Message window context menu ..................................... 44
- Docking and undocking tools and message windows ............... 45
List of features

The BMC Performance Predictor for Mainframes has the following main features:

- Console window that provides the framework in which you run Performance Predictor tools and includes
  - Tool window, in which you run the tool
  - menu bar
    (Help describes the menus and items in each menu.)
  - toolbar
    (Help describes the tool bar buttons.)
  - Tools List area with buttons for opening the Performance Explorer, Report Explorer, Graphlet Explorer, Graph Explorer and Scenario Explorer tools
  - Tools Status area with buttons to view General Status, MVP System Services, and Scenario Explorer messages (displayed in the lower half of the console)
  - docking capabilities for tools and message windows
  - Settings dialog where you can set display preferences for the graphs, reports, or other displays in each of the tools

- Data Subscription Facility for subscribing to the z/OS environment and downloading data sets on demand

- Performance Explorer for creating and modifying customized reports that include metrics for one or multiple objects

**NOTE**

Utilization metrics for version 1.7 of Performance Predictor are now primarily displayed as performance units (MIPS). In previous releases, utilization metrics were displayed as a percentage. Using performance units as the primary measure ensures uniformity between metrics displayed by the different processor types in this release (zIIP/zAAP/GCP). While this change to performance units is mainly seen in Scenario Explorer, you will also see it in reports created by any of the Performance Predictor tools. (Utilization values are still available as percentages throughout the Performance Predictor console, but are no longer the primary unit of measure for display.) See “Dynamic MIPS ratings in console baselines, scenarios, and reports” on page 39 for additional information.

- Scenario Explorer for creating, managing, and working on scenarios, as well as creating growth plans from current or historical data

- Graph Explorer for viewing graphic representations of information in multiple baselines and scenarios

- Report Explorer for viewing and publishing detailed reports on baselines and scenarios
List of features

- Graphlet Explorer for drilling down within baselines or scenarios to find detailed information
- Namespace Manager for managing namespaces and web portals, and deleting saved baselines, studies, scenarios, and growth plans
- Hardware Explorer for displaying modifiable characteristics of CPUs, disks, and tapes that you can try out in your model
- Data Dictionary Editor that lets you view and edit, if you choose, the names and descriptions of data metrics
- CDB Profile Editor for creating a profile that identifies a BMC CDB data source for use with the Forecast Wizard in the Growth Plan Editor (Use of this feature requires you to have a license for the BMC Performance Analyzer for Mainframes product.)
- Manual Data Population for populating and merging baselines
- Web Publishing Configuration to view or change the web server configuration you set up during installation
- Disk Usage Summary that shows how much space was used by different components that you have installed
Detailed descriptions of each of the main tools in the product—Performance Explorer, Report Explorer, Graphlet Explorer, Graph Explorer, and Scenario Explorer—are provided in later chapters of this book specific to each tool and so are not elaborated upon in this introductory chapter.
## Console menus

There are five console menus:

<table>
<thead>
<tr>
<th>Menu Name</th>
<th>Menu Items</th>
</tr>
</thead>
</table>
| **File**  | - Settings  
             - Save  
             - Save All  
             - Print  
             - Exit |
| **View**  | - Toolbar  
             - Status Bar |
| **Tool**  | - Performance Explorer  
             - Report Explorer  
             - Graphlet Explorer  
             - Graph Explorer  
             - Scenario Explorer |
| **Utilities**  | - Populate Sample Baselines  
                   - Namespace Manager  
                   - Data Subscription Facility  
                   - Web Publishing Configuration  
                   - Manual Data Population  
                   - Hardware Table Editor  
                   - Data Dictionary Editor  
                   - CDB Profile Editor  
                   - Disk Usage Summary  
                   - UIE/PC console (if installed) |
| **Help**  | - Getting Started  
             - Using Online Help  
             - Contents  
             - Index  
             - BMC on the web\(^a\)  
             - Customer Support  
             - Contact BMC Software\(^a\)  
             - About |

\(^a\) These menu items have submenus.

All the menu items are described in the Help.
Console toolbar

The console toolbar activates the following features:

- Settings
- Save
- Save All
- Print
- Namespace Manager
- Data Subscription Facility
- Web Publishing Configuration
- Manual Data Population
- Hardware Table Editor
- Data Dictionary Editor
- CDB Profile Editor
- Performance Explorer
- Report Explorer
- Graphlet Explorer
- Graph Explorer
- Scenario Explorer
- Help

See the Help for a description of each toolbar button.

Functions common to all console tools

There are certain functions that all the tools in the console have in common. They are:

- dynamic MIPS utilization ratings in console baselines, scenarios, and reports
- printing workspace data using the Print option
- choosing display settings for charts, graphs, and reports using the Settings option
- saving recent changes in the currently active tool using Save and saving all changes in all tools using Save All
- viewing and editing metrics using the Data Dictionary Editor
Dynamic MIPS ratings in console baselines, scenarios, and reports

One of the major new features in Performance Assurance for Mainframes version 1.7.00 is the modeling of special purpose engines (zAAPs and zIIPs).

Having these engines in your current configuration, or the configuration that you want to model, significantly affects the performance of the whole Central Electronic Complex (CEC). Because of that, it is impossible to assign a fixed MIPS rating to a particular processor model without taking into account the number of special processors. (See the related Note on page 34 and page 112.)

To reflect the effect of specialized engines on the performance of the whole CEC, all BMC PASM components are using a proprietary method of calculating the dynamic MIPS rating. This method is based on the processor model and number of General Purpose engines, zAAPs and zIIPs.

Note that on 2086, 2096 and some 2094 processor models (4xx, 5xx and 6xx), the speed of specialized processors (zAAPs and zIIPs) can exceed the speed of General Purpose processors by 1.25 to 17 times. This speed difference is also taken into account by all BMC PASM components in the calculation of the dynamic MIPS rating.

While it is necessary to mention that specialized ICF and IFL engines also affect the performance of the CEC, their influence is much less significant because these engines are never used by an LPAR together with other types of engines. Because of that, BMC PASM components do not currently take into account the effect of ICF and IFL engines on CEC performance.

Printing workspace data

If you click the console File menu and choose Print, a standard Print dialog box opens and allows you to specify details of your print job. When you click Print in the dialog box, after verifying your settings, the contents of the current workspace is printed on the specified printer.
Chart, graph, and report display settings

Before you display report or chart and graph data, you can specify what the display will look like. You do this using the Settings option from the BMC Performance Predictor for Mainframes toolbar or the File menu.

When you choose Settings, the Settings dialog box opens. The contents of the Settings dialog box will differ depending on which tool is active when you open it. The settings are specific for each tool and are described separately in the chapters that describe each tool.

Saving data and settings

You can save the changes you have made working with a specific tool or all the tools using the Save and Save All options from the Performance Predictor console toolbar or the File menu.

Clicking Save, causes all changes that you have made in the currently active tool to be saved, even if you shut down the console.

Clicking Save All causes all changes that you have made using any tool in the current session (since opening the console) to be saved.

Viewing and editing metrics

You can view and edit changes to metrics in the PPM console, using the Data Dictionary Editor. Any changes you make to a metric apply to all instances of that metric in the PPM.

Click Data Dictionary Editor in the Utilities menu or on the PPM toolbar to invoke the Editor.
To change the description or name of any metric

1. Select it and type the new information over the old.

2. Click the **Save** button to save the change throughout all tools in the PPM console, or click the **Restore to Defaults** button to restore all descriptions to the default text.

To refresh the Data Dictionary Editor display, click the **Reload** button.
Tool window

The Tool window is the area in the right part of the console window in which the various Performance Predictor tools run. When you right-click in this pane, you get a tool-specific menu of options.

The Tool window is further divided to provide a navigation or selection pane on the left and a larger workspace pane on the right. These two parts of the Tool window are resizable by clicking the dividing bar between them and dragging the bar either to the left or to the right. You can also resize the length of the Tool window by clicking the bar that divides it from the Status pane and dragging that bar either up or down.

Tools List and Tools Status areas

The left side of the Performance Predictor console contains the Tools List and Tools Status areas. The Tools List area is displayed automatically in the left region of the main console window when you access Performance Predictor.

Tools List area

From this area, you can select any of the five Performance Predictor Explorer tools that are used to create and manage reports: Performance Explorer, Scenario Explorer, Report Explorer, Graph Explorer, and Graphlet Explorer.
1 Click **Tools List** to display the tools in the Tools List area.

**Figure 4  Tools List**

![Tools List](image)

2 Click a tool button to open the corresponding tool.

The Tool window displays the interface and information relevant to the tool that you selected.

**Tools Status area**

To display the Tools Status, click **Tool Status** at the bottom of the Tools List area. The Tool Status area contains the General Status, MVP System Service, and Scenario Explorer icons. The General Status and MVP System Service icons provide information on the internal activity of Performance Predictor. For example, when Performance Predictor is receiving baselines from UIE, the message window displays the progress and notes when the transfer of each baseline is complete.

The Scenario Explorer Tools Status icon describes the status of the Scenario Explorer. For example, when you evaluate a scenario, the message window displays the progress of the evaluation, and notes when the evaluation is complete.

Status information is displayed in the General Status, MVP System Service, or Scenario Explorer message window in the lower section of the Performance Predictor main window. You can toggle between the different Tools Status icons by clicking their respective buttons. The corresponding status information displays in the message window.
Tools area context menu

You can right-click any of the icons in the Tools List or Tools Status area to perform the following tasks:

- Select either small or large icon size.
- Dock and undock tool and message windows. See “Docking and undocking tools and message windows” on page 45 for more information.

**NOTE**
If you right-click in the General Tools Status area but not on an icon, only the icon resizing commands are available and not the undocking command.

Message window context menu

You can perform the following tasks by right-clicking anywhere below the banner of the message window. The tasks are common to both the General Status and the MVP System Service message windows, except for enabling and disabling logging and viewing the log, which are not activated for General Status.

- **Enable/Disable logging** is used to turn on and off the message logging feature.
- **View log** opens a Notepad summary of the information that is currently displayed in the message window.
- **Copy** copies the contents of the message. You can paste the copied information to your clipboard.
- **Select All** selects all the text currently displayed in the message window.
- **Clear All** – removes all currently displayed message information from the message window.

**NOTE**
In addition, you can sort messages that are displayed in the message window by clicking the column headings. For example, to order messages by date, click the **Time Stamp** column heading.
Docking and undocking tools and message windows

You can dock a tool or message window to fix it in place in the user interface. You can dock

- Performance Explorer, Scenario Explorer, Graph Explorer, Report Explorer, or Graphlet Explorer in the upper half of the Console.
- General Status message window, MVP System Service, or Scenario Explorer message window in the lower half of the console.

You can resize the docking area by dragging its borders.

You can also undock, move, and resize these tools and windows. When you reopen Performance Predictor the tool and message windows revert to the state they were in when you last closed the application—docked, undocked, maximized, or minimized.

TIP
If you undock several tools, you can arrange them so that all are visible at the same time.

To undock or undock a window:

1. If necessary, click
   - Tools List to display the tool buttons
   - Tools Status to display the message window buttons

2. Right-click either the tool button or the window title bar (for example Scenario Explorer or General Status title bars) if the window is already open in the console. In the context menu, choose either
   - Dock Window
   - Undock Window

TIP
When a tool is visible in the console, you can right-click the title bar of the tool and then click Dock Window or Undock Window.
Docking and undocking tools and message windows
Acquiring baselines using Data Subscription Facility

This chapter describes how to make your mainframe baselines available to the PPM console using the Data Subscription Facility tool, which automatically pushes mainframe data to PPM on a regular basis. This chapter also describes how to use that tool to download data on demand and presents the following topics:

Overview ................................................................. 48
Setting up a connection with Data Subscription Facility .............................. 48
  Opening the Data Subscription Facility window ................................ 49
  Subscribing to a data publisher ........................................... 50
Removing a host name or IP address ........................................... 52
Modifying a host name or IP address ...................................... 52
Creating a new profile ..................................................... 53
Changing the port numbers ............................................... 53
Changing the subscription ................................................ 54
Download on demand ...................................................... 55
  Browsing for baselines .................................................. 55
Overview

You have several ways to get baseline mainframe data onto PPM. Most of the time, you will run the Data Subscription Facility, which is described in this chapter. The Data Subscription Facility sets up a connection that automatically pushes data from a mainframe host to PPM on a regular schedule, usually every night. (You determine the schedule by using the UIE interface, which is described in the Universal Information Exchange Publication Type.) You can also use the Data Subscription Facility to download data on demand as described later in this chapter.

You can also use the following options, described in the next chapter, which do not involve Data Subscription Facility.

- an FTP connection to manually download baseline data which you can then populate into the namespace or merge (by using Manual Data Populate)
- a menu option to populate sample data that is included with the product installation from the Utilities menu (by using Populate Sample Baselines)

Setting up a connection with Data Subscription Facility

To enable the nightly flow of baseline data from the mainframe computer where UIE processes your data to the Windows console that is running PPM, you must subscribe to a data publisher. To subscribe to a data publisher, use the Data Subscription Facility to tell the z/OS computer where to send the processed data.

**NOTE**

As part of the z/OS server installation, you specify parameters that let you form a TCP/IP connection to the Windows console system. You cannot automatically receive baseline files from the z/OS server over this connection unless you either subscribe to a data publisher by using the Data Subscription Facility (Figure 5 on page 49) after you install PPM on your Windows console or bypass this process and manually edit the TARGETS file created during installation of the UIE on your host z/OS server.

After you subscribe to a data publisher, the z/OS computer automatically delivers daily performance information to the console as long as your Windows computer is turned on. Even if you exit the PPM console, the product still receives the daily performance reports and publishes them as HTML reports to the Performance Predictor portal running on your web server.
Opening the Data Subscription Facility window

The first time you start the PPM console after installation, you receive a message that you are not currently subscribed to a host computer running the Universal Information Exchange product. If you click the *Subscribe Now* button, the Data Subscription Facility opens. If you need to open the Data Subscription Facility at any other time, do the following action:

Choose **Utilities => Data Subscription Facility**.

**Figure 5**  Data Subscription Facility window

---

**NOTE**

If you intend to populate or merge baselines using the Manual Data Population utility (described in Chapter 4, “Populating the namespace by using other methods”), do not use Data Subscription or download data sets on demand as described in this chapter.
Subscribing to a data publisher

A data publisher is a z/OS computer running the UIE E2COMM started task.

**NOTE**

The E2COMM task that is created during the UIE installation must be active, whether it is running as a batch job or as a started task, before you can subscribe to a data publisher.

After you have opened the Data Subscription Facility, do the following tasks to subscribe to a new data publisher:

1. In the Available Profiles pane, click to select a profile, if necessary. A profile stores information for frequently-used systems from which you might choose a host. If you do not select a profile that you have created, the Default Profile is selected by default.

   Any host names or IP addresses stored in the profile are displayed in the Publishers pane.

2. Do one of the following steps:

   - If you have previously added a host name or IP address to the profile and you want to subscribe to it, go to Step 4.
   - To add a host name or IP address to the profile, click **Add** to open the Publisher Information dialog box.

![Publisher Information dialog box](image-url)
3 In the Publisher Information dialog box, perform the following actions:

   A. Type the host name (for example, hostname.yourcompany.com), or IP address of the z/OS computer running the UIE E2COMM started task.

   B. (optional) Type a short description.

   C. Click OK.

   The new host name or IP address appears in the Publishers pane of the Data Subscription Facility window.

4 In the Publishers pane, select a host name, and then click Subscribe, or right-click the host name and choose Subscribe.

   The Subscribe dialog box opens, displaying the progress of the subscription operation. The Data Subscription Facility searches until it finds the specified computer and connects with it. Upon successful subscription to the host computer, a notification message is displayed as shown in Figure 7. The dialog box then closes automatically.

**Figure 7 Subscribe dialog box**

When the subscription is complete, the host name and IP address of the z/OS computer appear in the Subscriptions pane, and a message informs you that your data subscription was accepted by the host computer.
Removing a host name or IP address

You can use **Remove** or **Modify** to remove or modify any host name or IP address in the Publishers pane.

### Removing a host name or IP address

Do one of the following actions to remove a host name or IP address:

- Select a host name in the Publishers pane and click **Remove**.
- Right-click the host name and choose **Remove**.

### Modifying a host name or IP address

Use the following procedure to modify a host name or IP address.

1. Do one of the following things to open the Publisher Information dialog box:
   - Select a host name in the Publishers pane and click **Modify**.
   - Right-click the host name and choose **Modify**.

2. Edit the existing host name or IP address and click **OK**.

**NOTE**

The Subscription process can find an IP address or host name and list it as **subscribed** in the Subscription box only if the z/OS server with that name or address is active and running the UIE E2COMM started task.
Creating a new profile

You can use profiles to organize related host names and IP addresses. If you want to subscribe to different z/OS computers at different times, you might want to create new profiles to contain one or more of the different host names or addresses. Alternatively, you can put all the host names and IP addresses in the Default profile.

1. Right-click in the Available Profiles pane, and choose Create.

2. In the Create a new profile dialog box, type a name for the profile.

3. Click OK.

The new profile appears in the Available Profiles pane.

To add host names and addresses to the profile, follow Steps 1 through 3 in “Subscribing to a data publisher” on page 50.

Tip
You can delete or rename a profile by right-clicking the profile in the Available Profiles pane and choosing Delete or Rename from the menu.

Changing the port numbers

This optional configuration setting lets you configure both PPM and the remote data publisher’s port settings for the UIE.

1. In the Data Subscription Facility dialog box, click Port Numbers to open the Port Numbers dialog box.

Figure 8 Port Numbers dialog box

Any changes to your port numbers must be in the range of 1025-65535.
2 Type the new port numbers in the Host and Local Port Number fields.

**NOTE**

Port numbers must be in the range of 1025 - 5000. The host port number must match the port number that you specified for the E2COMM job on your z/OS server.

3 Click OK to save the port numbers.

---

## Changing the subscription

Generally, the subscription that you create when you first use the Data Subscription Facility lasts as long as you want to receive and analyze the data from that z/OS system running Universal Information Exchange.

However, you might need to use the Data Subscription Facility again under the following circumstances:

- To unsubscribe from the data publisher when you no longer want to receive data from the z/OS system.

- To re-subscribe if the host name of the Windows console or the z/OS computer changes.

- To subscribe to a new data publisher if you want baseline data from a different z/OS computer running UIE.

To unsubscribe, right-click the host name in the Subscriptions pane, and choose **Cancel Subscription**.

To re-subscribe or create a new subscription, follow the steps in “Subscribing to a data publisher” on page 50.
Download on demand

If you know the exact name of a z/OS partitioned data set that contains the information you want, you can use the following procedure to download data from your subscribed host on demand without logging on to your Mainframe computer.

1. Open the Data Subscription Facility from the console tool bar or Utilities menu. (The UIE E2COMM started task must be active.)

2. Right-click a host name in the Subscriptions pane.

3. Select Download Data Set from the context menu in the Subscriptions pane.

4. Next, you can either enter the partitioned data set name for the data that you want to download using the format: YOUR.BASELINE.PDS.NAME(INDEX) and click OK or go on to the following section and use the baseline Browse function.

**NOTE**

If you type the data set name, it displays in uppercase by default. The index name must comprise five characters or fewer.

Browsing for baselines

If you want to browse through the baselines that are available on your subscribed host before choosing one or more to download, you can use the Browse button in the Download Data Set dialog box.

**Figure 9  Download Data Set dialog box**
To browse for baselines:

1 Click the Browse button.

The Baseline Explorer window opens.

Figure 10 Baseline Explorer

2 Click Get Baseline Files.

This action causes a request to go to the mainframe system and retrieve a list of the available baseline files. The file list is generated from a mainframe file named `&HIQUAL..&MIDQUAL.OCONFIG`, that is created and populated with data set name patterns by the mainframe systems programmer. (See the BMC Performance Assurance Suite for Mainframes Installation Guide for details and examples of this file.) You will only see those data sets that match the patterns the mainframe systems programmer has added to the .CONFIG file and you will initially see them in the order that they appear in that file, for example, with the most current baseline first.
3 Click a particular baseline file.

4 Click **Get Baseline Members**.

It might take a while to populate the list of data set members if the data set has been archived to disk or tape or if many members are in the data set. (The list of files that is displayed includes the device name and type, which might help you to plan for this situation.) A wait cursor indicates the operation is still working. If you do not want to continue waiting, click **Cancel Search**.

A list of the members that you can choose from within that baseline appear in the right pane. The example in Figure 11 shows one member.

**Figure 11  Viewing members of a particular data set**

When looking at this data, you can tell how many members are in each baseline by looking next to the file name. The column next to the file name lists how many members are in the corresponding file.
5 Click the checkbox next to one or more members that you want to download in the right-hand pane.

You can select members from different baselines by repeating steps 3 and 4 for each baseline. A count of how many members you have chosen for each baseline is displayed in the column marked by the flag icon next to the file name. For example, in Figure 12, two out of the three members of the selected baseline have been chosen.

Figure 12  Choosing members from selected baselines

6 Click OK after selecting all the baselines and members that you need.

A list of all the members to be downloaded is displayed in the bottom right pane. Then, the Download Data Set dialog box reopens.
Review the names of the data sets that you have chosen in the cutout window. If you want, you can manually delete or add additional data sets to the list in the window.

Click **OK** to begin the download.

The download can take a while, depending on how many data sets you have specified.

If you click **Cancel** or **Browse**, no transfer occurs and you have to begin again.

--- **NOTE**

Any data set that you specified is downloaded to your active namespace and evaluated. It will overwrite any existing baselines in the active namespace. After it is downloaded, you can choose it from the common selection calendar for scenario evaluation and viewing.

The UIE E2COMM started task must be active on your selected host for the download to be successful.

If a data set that you specified cannot be located or is not cataloged on the host computer, an error message is displayed. Check the partitioned data set name or that the data set is cataloged on the host.
Browsing for baselines
Chapter 4  Populating the namespace by using other methods

This chapter describes how to make baseline data available by using means other than the Data Subscription Facility described in the previous chapter. It discusses interactive and automatic methods and also how to merge multiple baselines into a single namespace model and how to use sample baselines.

This chapter presents the following topics:

Overview........................................................................................................ 62
Setting up to download files........................................................................... 62
Creating directories on PPM......................................................................... 63
Disabling the Publish feature on mainframe systems................................. 64
Modifying mainframe JCL............................................................................ 65
Populating the namespace by using MDP..................................................... 67
Adding to or overwriting namespace files................................................... 67
Merging separate baselines into a single model.......................................... 70
Performing the merge.................................................................................. 74
Notes for merging or adding/overwriting data............................................ 74
Scheduling automatic operations................................................................. 74
Scheduling a task for automatic operations................................................ 75
Populating sample data................................................................................ 88
Overview

In the previous chapter, you learned how to set up a connection to a host computer using the Data Subscription Facility so that baseline data is pushed to PPM and populates the namespace nightly. You also learned to download specific data sets on demand.

This chapter describes the following alternative methods of acquiring baseline data for use with PPM.

- Download baseline data from mainframe computers using FTP to do either of the following Manual Data Population utility (MDP) operations:

  — Populate baseline files into the PPM namespace using the **Add/Overwrite** option. If the files contain new data, it is added to the namespace; if they contain data for intervals already stored in the namespace, it overwrites that data.

  — Populate baseline files using the **Merge data** operation. This operation merges separate baseline files for the same date/time stamp interval that were derived from multiple UIE hosts into a single model using MDP.

- Populate sample baselines included with PPM for testing or learning activities.

You can execute the **Add/Overwrite** and **Merge data** operations interactively or schedule them to run automatically according to the time and frequency that you preset, as described later in this chapter.

Setting up to download files

To download files for use on PPM, perform the following tasks. While there is no strict order for the steps described, the list gives you a sample order that you might use.

**NOTE**

These tasks assume that you are using UIE run data (performance baselines) that must be downloaded from mainframe systems to the PPM. However, you also have the option of using UIE run data that is already stored on your PPM system. For any data that is already stored on the PPM console, you can skip the tasks in this section provided the data is stored in appropriate FTP directories as described in Step 1. In that case, you can go directly to “Populating the namespace by using MDP” on page 67.
1 On the PPM console, create a physical and corresponding FTP virtual directory (described in the following section, “Creating directories on PPM”) to hold the results of UIE runs for each mainframe system that performs UIE runs.

2 On each mainframe system where you perform UIE runs to create baseline files that you will download to the PPM console, perform the following steps:

A Disable the Publish function for the UIE job on that system (described in “Disabling the Publish feature on mainframe systems” on page 64).

B Modify the JCL that performs nightly downloads to the PPM console so that you define the target FTP virtual directory as the one that you created in Step 1. You need to modify the JCL on each system where you perform UIE runs.

Also, specify an FTP command to download the data from the UIE computer to the PPM console. One way you could do this is to replace the nightly download “push” step in the JCL with the FTP command to download the data (described in “Modifying mainframe JCL” on page 65).

Creating directories on PPM

You must create a physical and corresponding FTP virtual directory for each system that will download UIE run data (see Figure 17 on page 71). These directories receive the baseline data from the UIE runs on each system. You create these directories on your windows PPM console.

To create a physical directory for the FTP data

1 Navigate to the directory that you want to use.

2 Open the File menu.

3 Choose New, then Folders.

4 Name your folder to reflect the system data contained there.

Because the methods for creating FTP virtual directories are dependant on the FTP server that you use, consult the documentation instructions issued with your FTP server for details.
**Disabling the Publish feature on mainframe systems**

You must disable the Publish feature prior to downloading data using either

- the Datasets panel on each mainframe system where you are running a UIE job
- the UIE/PC function on the PPM console

**To disable the Publish feature on a mainframe system**

1. From the Datasets panel in UIE, replace the data set name next to the MVP TARGETS file with NULLFILE.

2. Press Enter.

3. Go to the main UIE panel and rebuild the JCL by selecting Option 5.

**Figure 13  Datasets panel with Publish feature disabled**

![Datasets panel with Publish feature disabled](image_url)

**To disable the Publish feature in UIE/PC**

1. Go to the Build/Submit JCL and Commands panel.

2. Select the JCL Build Options pull down menu.

3. Clear the Include Publish Step option as shown in Figure 14 on page 65.
Figure 14   Clearing the Include Publish step

You are responsible for running UIE at each location and downloading the resulting baseline files to the PPM console. Figure 15 on page 66 shows a sample job and commands that you can use to download the UIE run files to the PPM console using FTP (File Transfer Protocol). You might want to add the FTP step to your UIE nightly process. Or, you can run FTP as a separate job.

Modifying mainframe JCL

You are responsible for running UIE at each location and downloading the resulting baseline files to the PPM console. Figure 15 on page 66 shows a sample job and commands that you can use to download the UIE run files to the PPM console using FTP (File Transfer Protocol). You might want to add the FTP step to your UIE nightly process. Or, you can run FTP as a separate job.
Figure 15  Sample job step for FTP transfer

```plaintext
//Valid Job Card for your site
//* 1) SIGN ON TO PPM SERVER ID or IP address
//* 2) WITH USER ID + PASSWORD
//* 3) SET TRANSFER MODE
//* 4) SET THE MAINFRAME PDS FILE TO BE TRANSFERED
//* 5) SET THE PC DIRECTORY TO TRANSFER TO
//* 6) COPY ALL OF THE PDS MEMBERS TO THE PC
//* 7) QUTS SESSION
//*
//FTP     EXEC PGM=FTP
//SYSPRINT DD SYSOUT=*  
//OUTPUT   DD SYSOUT=*
//INPUT    DD *
xxxxxx.YOUR.FTPSERVER
xxxxxx\yyyyyy pppppp
ASCII
LCD 'UIE.CREATED.PDS.BASELINE'
CD LocationA
MPUT *
QUIT
```

where:

* `xxxxxx.YOUR.FTPSERVER` is the name of the FTP server that you are using to download the UIE baselines.

* `xxxxxx\yyyyyy` is the ID on the FTP server.

* `pppppp` is the password.

* `‘UIE.CREATED.PDS.BASELINE’` is the output from the UIE job.

---

**NOTE**

You need to run the FTP job on each mainframe system where you are performing UIE runs, for example, for LocationB and then again for LocationC. (You change the line that reads CD LocationB to CD LocationC.) See Figure 17 on page 71.
Populating the namespace by using MDP

After you have downloaded the data to your PPM system, you can use the Manual Data Population (MDP) utility to

- add to or overwrite existing files in the namespace
- merge the results of separate UIE runs for the same date/time stamp interval into a single model file in the namespace

Adding to or overwriting namespace files

You might want to use MDP to add newly downloaded data to or overwrite data in the namespace (rather than use the nightly push method described in Chapter 3, “Acquiring baselines using Data Subscription Facility”) under the following conditions:

- The connection between the mainframe data publisher and the Windows console is broken.
- You are unable to subscribe to a data publisher.
- You want to work with baselines other than those created and produced daily by the computer running UIE.
- You want to import data sets from multiple datacenters that cannot access a common SMF/RMF file or the time constraints require you to do separate UIE runs.

When you have completed an MDP operation, you can view the baselines, which are stored in the namespace, using Report Explorer. You can create scenarios using Scenario Explorer. Then, you can publish the data to the Mainframe Predictor portal. You can also view data using Performance Explorer, Report Explorer, Graph Explorer and Graphlet Explorer.

To add or overwrite baselines by using MDP

1. Click the Utilities menu on the PPM main screen and choose Manual Data Population.

   If you have previously created a configuration file by using this version of the utility, MDP opens with the configuration file that you were working on when you last closed the utility.

   If you have never created a configuration file, the information banner at the top of the screen shows the current configuration file name as <NO-NAME>. Figure 16 on page 68 shows the MDP screen.
2 Click the Open button if the configuration file that you want is not open or create a new file by clicking the New button at the top of the screen.

The name of the currently open configuration file appears next to the following text:

Current configuration file

It is located in the information banner just above the Operation section of the screen and is either an .mdp file or the text <NO-NAME> if no file is open.
3 Click the radio button next to Add/Overwrite in the Operation section.

This operation overwrites data for existing intervals in the namespace that were processed by the same UIE and have the same date and time stamp as the data you are importing and adds any new data that is not currently in the namespace for the indicated baselines.

4 In the Clean-up section, choose the action you want performed on the source data after the operation completes.

5 Click the Insert button to browse and choose the directory folder containing the baseline data from the UIE run that you want to use. Repeat this for each UIE run involved in the operation.

**NOTE**

The Manual Data Population utility was designed to run quickly on one or two sets of data. If you are constructing a large set of folders to use in batch mode, it would be easier to add one or two folders and then edit the configuration file by hand.

MVP Services must be able to access the folder containing the baselines that you want to use from your windows computer. You cannot use baselines from a shared network drive unless you configured the MVP Services to run under a user account that has access to that network drive during installation.

6 Highlight an item and click Remove to clear it from your baseline list, if you want.

All baselines in the directory that you choose are selected by default. You can open the directory and clear specific baselines. Cleared baselines are not removed from the disk, only from the Input data directories pane. You also have the option of selecting multiple directories by using the entire contents of each directory or clearing individual baselines, as needed.

**NOTE**

The baseline or baselines must be in the folder that you specify, and not in a subfolder. If the baseline that you select does not have a summary file in the source directory, a warning message is displayed, but the baseline still populates the namespace successfully.
7 If you have configured a web server and on the Web Publishing Configuration dialog box, you checked the box labeled

Enable automated report publishing

You can publish reports about the results of the MDP operation to the portal. To publish these reports, check the MDP dialog box labeled

Publish reports to my MVP portal when the add or merge operation is complete.

If you have not configured a server as described, this directive to MDP is ignored.

8 Click the Save button to save your configuration file for use in automatic scheduling.

**NOTE**

If you plan to add/overwrite or merge the baselines on a regular basis and you do not want to run this procedure interactivity each time, you can save this information in a configuration file that you name using the MDP utility as described in this step. You can later schedule this configuration file to run automatically at a particular time and frequency using the Microsoft Task Scheduler ("Scheduling a task for automatic operations" on page 75).

9 If you want to save this configuration file under a different name, so that you can edit it with different information, click the Save As button.

10 Click Run Now.

The Log messages section at the bottom of the screen shows you the process and completion status of the operation, as well as errors and other information.

The Overwrite/Add operation is complete. The next step, if you want automatic execution of this operation in the future, is to specify a schedule ("Scheduling a task for automatic operations" on page 75).

---

### Merging separate baselines into a single model

If you have separate UIEs for the same time interval running on separate mainframe host systems (each producing its own unique set of XML model files), you could merge these separate sets of output files into a single model in the PPM namespace. You would do this using the Merge data option of the MDP utility.
This option is useful when you want to study the performance of a group of systems together or evaluate how various changes may affect their growth strategies. The Merge data option is also useful when time constraints favor running parallel UIE runs instead of trying to run all SMF/RMF data from a sysplex in a single run.

**NOTE**

As you do with the Add/Overwrite option, you have the option of executing the Merge data option interactively or scheduling automatic execution of it using the Schedule Task program (“Scheduling a task for automatic operations” on page 75).

With the MDP utility, you can select baselines having the same date time stamp from separate UIE runs, produced by multiple host systems. These baselines are stored in separate directories on your Windows system (one directory for each UIE host as shown in Figure 17).

**Figure 17  Multiple UIE runs**
You might want to merge multiple UIE runs on the PPM console for the following reasons:

- You might not be able to process all of the RMF/SMF data from your mainframe systems in one run of UIE.
- All of your data might not be available when it is required for the run.

The following general rules apply when merging:

- When merging two baselines that have the same physical system and same logical system, one of the logical systems must be non-modeled, that is, contain no workloads. The modeled logical system is merged and the non-modeled one is dropped.

- Use only the merge process or only the add/overwrite process for all your data. Do not combine the two processes.

The reason for this limitation is that both the **Add/Overwrite** option of the Manual Data Population Utility and the automatic Publisher feature of UIE (on the mainframe) override the models with identical time stamps instead of merging them. XML baseline files that are to be merged should have exactly the same time stamps. For information on how to disable the mainframe Publisher prior to running MDP, see the section “Disabling the Publish feature on mainframe systems” on page 64.

- The MDP utility merges individual XML baseline files based on their time stamp. The **Merge data** option tries to match the resulting file that is to be merged with a file in the namespace that has exactly the same time stamp. XML baseline files to be merged must have the same time stamps.

For example, if you create XML baseline files representing the interval from 10:00 to 11:00 a.m on a given day, these cannot be merged with data from another UIE job representing the two intervals 10:00 to 10:29 a.m. and 10:30 to 11:00 a.m. for the same day.

Also, data representing the interval from 10:01 to 11:01 a.m. cannot be merged together with either of these preceding examples. (See the *Universal Information Exchange User Guide* for an explanation of the DURN [interval length], STIME [start time], and ETIME [end time] parameters.)
Example

The following two sets of commands are equivalent:

**Command Set 1**

```
SDATE TODAY-1 GMTOFF=-6.0
STIME 0000
EDATE TODAY-1
ETIME 2400
VISFILE GMTOFF=-6.0
```

**Command Set 2**

```
SDATE TODAY-1 GMTOFF=0.0
STIME 0600
EDATE TODAY
ETIME 0600
VISFILE GMTOFF=-6.0
```

To make sure that the separate UIE runs did create XML baseline files having the same GMT offset, check the Summary Report for each run and verify that the following statements in each are identical:

```
FOLLOWING GLOBAL SETTINGS WILL BE USED
........
VISFILE VER=REL36 GMTOFF=-6.0 (VISFILE IS COMPATIBLE WITH VISUALIZER REL 3.6 or higher)
........
```

Naming conventions

- You cannot merge two XML baseline files that contain data from two identically named z/OS systems.
- You cannot merge XML baseline files from two data centers that are identically named z/OS images.
- You cannot merge XML baseline files that are produced by two UIE runs in which data from the same system was processed in each UIE run.

The **Merge data** option assumes that identically named workloads and applications represent the same business activity. Therefore, you should use the same naming conventions in different UIE runs if you want to combine “like” workloads or applications in the PPM console.

**NOTE**

The **Merge data** option does not merge the Summary file information. Therefore, merged data produces all reports except the Daily Health Check Summary report.
Performing the merge

The procedure to merge separate baselines in MDP is the same procedure described for adding to or overwriting the namespace ("Adding to or overwriting namespace files" on page 67), except for the following change in Step 3.

3 Click the radio button next to Merge data in the Operation section.

After clicking the Merge data option, follow the other steps as described for the Add/Overwrite operation.

Notes for merging or adding/overwriting data

- You can start up the MDP utility from the Utilities menu in PPM or you can right-click any tool’s title bar in the working pane and choose Manual Data Population from the menu.

- You can click the Remove button (X) in the MDP utility to remove any baselines from the Input data directories pane, but not from the disk itself. If the specified folder does not contain a summary file, you can still continue. However, you get a warning message that you cannot generate a Daily Health Check Summary report.

- If you have multiple summary files in the baseline folder in MDP, you receive a warning message that problems could occur when generating the Daily Health Check Summary report.

Scheduling automatic operations

To schedule the MDP operations Add/Overwrite or Merge data for automatic execution, so that you do not have to interactively run MDP each time you want to populate a set of data into the namespace, do the following actions:

- Create a configuration file in MDP by using the Save button.
- Run the Microsoft Scheduled Tasks program on your Windows system to schedule the operation.

When you open the Scheduled Tasks program, you need to specify

- the name and path of the configuration file that you created in the MDP utility
- how often you want the operation to run
- what time you want the operation to run
This setup information directs the Scheduled Tasks program to execute the MDP program at the appointed time and frequency using the configuration file, which specifies the location of the UIE output files to Add/Overwrite or to Merge.

**Scheduling a task for automatic operations**

The Microsoft Scheduled Tasks program enables you to schedule the MDP operations to execute automatically according to the start date, time, and frequency that you specify. You can have it run daily, weekly, or monthly. You can set this tool to start up when you log on to Windows. The Scheduled Tasks program runs as a background task.

After you do the setup for your operation, you can forget about it until you want to change or discontinue the operation.

To set up automatic MDP operations using the Scheduled Tasks program, you must first open the Scheduled Tasks program. (Refer to the Microsoft Help on your system for full details about using the program.)

**To open the Microsoft Task Scheduler on Windows 2000**

1. Click the **Start** button at the bottom of your Windows screen and choose **Settings** or double-click the **My Computer** icon on your desktop.

2. Double-click **Control Panel**.

3. Double-click **Scheduled Tasks**.

4. Double-click **Add Scheduled Task**.

   The Scheduled Task Wizard opens.

**To open the Microsoft Task Scheduler on Windows XP**

1. Click the **Start** button at the bottom of your Windows screen.

2. Double-click **Control Panel**.

3. Double-click **Scheduled Tasks**.

4. Double-click **Add Scheduled Task**.

   The Scheduled Task Wizard opens.
After you have opened the Scheduled Task Wizard, perform the following steps:
1 Click Next.

2 Click Manual Data Populate as shown in the figure or, if you do not see that entry, click Browse and navigate to the folder where you installed PPM and click the following path Program Files==>PASM==> PPM==> NSPopulate.exe to open the NSPopulate.exe file that runs the Manual Data Populate utility.

3 Click Next if you selected Manual Data Populate. If you opened the NSPopulate.exe file, the next page opens automatically.

4 Click the radio button that indicates how often you want to perform the automatic operation and then click Next.
5 Use the scroll bar to enter the Start time and the list box to enter the Start date. You also have the opportunity on this page to change the frequency of the operation, if you choose.

6 Click Next.
7 Enter a user name and password. The user who is currently logged on appears in the **Enter the user name** field by default.

![Scheduled Task Wizard](image)

8 Click **Next**.

9 Check the box **Open advanced properties for this task when I click Finish** and click **Finish**.
When you open the advanced properties dialog box, you specify the name of the configuration file that you created in the Manual Data Population utility. The dialog opens on the Task tab.

The location of NSPopulate.exe appears in the Run field by default as shown in the following example:
The location where you installed PPM appears in the Start in field. If the configuration file is not in the path specified by the Start in field, you need to enter the correct path and enclose the file specification in quotation marks as shown in the sample page. You should also enclose the file specification in quotation marks if it includes spaces, for example, “C:\Program Files\”.  

NOTE
Do not include the commands that you specify in Step 1 of the following procedure within the quotation marks.

If you need to enter a different path than what is specified, use the Browse button to navigate to the correct path.
1 In the Run field, just after NSPopulate.exe, add the following commands to specify the configuration file:

```
/c <config_filename> /s
```

where:

`/c` means that the configuration file name will follow

`/s` causes the program to execute in silent mode, which means that the program dialog will not be displayed

For example:

```
"C:\Program Files\PASM\PPM\NSPopulate.exe \"/c \"test.mdp\" /s
```

2 Enter a comment about the operation or schedule, if you choose.

3 To run the task when you are not logged in to the PPM system, enter your domain and user name in the Run As field. Click the Set password button and specify your account information. Use the same information that you specified in the previous procedure.

4 Check the Enabled box and click Apply.

5 Click the Schedule tab.

If you are happy with your current schedule and settings, you need do nothing other than click OK to exit the dialog box that opens.
The title of this page and other pages may be NSPopulate if you initially opened NSPopulate instead of Manual Data Population back in Step 1 of the Scheduled Task Wizard. NSPopulate is the executable file for the Manual Data Population utility. You can set up your scheduled task by using either name.
6 *(optional)* If you want to specify more detail on the schedule shown, you can do so and click **Apply**.

You can also check whether you want to see multiple schedules created for that task as shown in the sample dialog. This dialog also provides an **Advanced** button that opens the following dialog where you can specify a start and end date that includes the month, the time and duration limits for the tasks, and whether you want to stop the task if it exceeds those limits.

![Advanced Schedule Options](image)

7 *(optional)* Click the **Settings** tab if you want to specify special instructions about starting and stopping the task and managing power when running the task with laptop batteries as shown in the following dialog box.
Click the Security tab to add or remove users who can schedule and run the task and to assign their permissions as shown in the following dialog box.
The **Advanced** button on this dialog opens the Advanced Security Settings for Manual Data Populate dialog box, where you can fine tune user accounts, set up auditing, or change the ownership for the task.
Advanced Security Settings for Manual Data Populate

To view more information about Special permissions, select a permission entry, and then click Edit.

Permission entries:

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Permission</th>
<th>Inherited From</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow</td>
<td>Everyone</td>
<td>Full Control</td>
<td>C:\WINDOWS\Tasks\</td>
</tr>
</tbody>
</table>

Inherit from parent the permission entries that apply to child objects. Include these with entries explicitly defined here.
Populating sample data

If you are looking for sample data to test the various PPM tools, you will find it under the Utilities menu. To populate the PPM console with sample data:

1 Pull down the Utilities menu in the PPM window.

2 Click the Populate Sample Baselines item to display a message asking if you want to populate the sample baselines for September 15, 2006.

3 Click Yes when prompted.

**NOTE**
September 15, 2006 is the date for version 1.7.00 production sample baselines. Any existing baselines with this date in the namespace will be replaced.

The baselines are evaluated and populated into the PPM active namespace. If you open the Scenario Explorer tool window, you can watch the evaluation counter in the black bar at the top of the workspace.
Creating and managing scenarios

This chapter describes how to use the Scenario Explorer to create and manage “What if...?” scenarios. This chapter presents the following topics:

Overview ................................................................. 90
Opening Scenario Explorer ............................................. 90
About the Scenario Explorer tree ..................................... 92
  About baselines ..................................................... 93
  About studies ....................................................... 94
  About scenarios ................................................... 94
  Scenario Explorer tree icons ..................................... 96
Using the Scenario Wizard ............................................. 97
Inserting a baseline .................................................... 97
Inserting a study ....................................................... 99
  Create and insert a new study .................................. 99
  Inserting an existing study ...................................... 100
Inserting a scenario .................................................. 101
  Creating and inserting a new scenario ......................... 101
  Inserting an existing scenario ................................. 101
Keeping notes on studies and scenarios .......................... 103
  Describing studies or scenarios in the Properties dialog box ........................................... 103
  Displaying the description preview pane ...................... 104
  Using the Annotation window .................................. 105
Moving studies and scenarios ....................................... 106
Sorting the order of Scenario Explorer tree elements ......... 106
Customizing settings for workspace displays .................. 107
Overview

This chapter describes how to create and manage baselines, scenarios, and studies. These operations include

- inserting baselines into the Scenario Explorer tree so that you can work with them
- creating studies and setting up the “What if...?” scenarios that you apply to the baselines to help you manage your workloads, troubleshoot problems, and plan for changes in your z/OS environment
- using the management facilities that are available in the Scenario Explorer tree to manage the various baselines, studies, and scenarios
- customizing settings for how things will look in the workspace

The following chapter, Chapter 6, “Working with scenarios” describes how to develop the contents of the scenarios that you create; that is, how to make changes to the systems, devices, workloads and growth plans, or create new ones in the Scenario Explorer. You can organize your systems into groups and manage the changes you make in those groups. By evaluating the changes you make, you can see how they would affect your actual environment.

Opening Scenario Explorer

To start, choose Scenario Explorer from the Tools menu or Tools list. The first time the tool opens, no baselines are in the Scenario Explorer navigation tree. You need to insert a baseline. In the Available options area, you can insert a baseline by clicking the here hyperlinks. (Use the Select Input dialog as described in “Using the Select Input dialog box” on page 247.)

To create a study or scenario, follow the Wizard instructions. To insert additional baselines, refer to “Using the Scenario Wizard” on page 97.

**NOTE**

For a description of the difference between scenarios, baselines, and studies, see “About baselines” on page 93, “About studies” on page 94, and “About scenarios” on page 94.
After you have inserted a baseline and created studies and scenarios, Scenario Explorer, as shown in Figure 18 on page 92, displays the following information:

- Available baselines, studies, and scenarios are listed in the Scenario Explorer tree.

- A vertical panel called the Systems Palette is displayed initially between the Scenario Explorer navigation tree to the left and the workspace to the right, and has the following four tabs: System View, Group View, Properties, How to. When you click any of these tabs, depending on which tab, a small window opens showing the physical and logical systems from a baseline, grouped systems from a baseline, object properties, or Help for Scenario Explorer.

  (You can click a small pushpin in the right corner of each tab window to keep the window open.) You can drag the Systems Palette panel to the right of the workspace and dock it there, if you prefer rather than viewing it on the left.

- Physical and logical system arrays are displayed, along with workloads that you can work with for the selected scenario, in the workspace on the right side of the tool window.

- Toolbars are displayed above the Scenario Explorer tree pane and workspace pane (See Appendix A, “Scenario Explorer toolbars and context menus.”for a description of each toolbar.)

- Tab buttons at the bottom of the workspace are available for switching the workspace view among the Workspace View that displays your systems, workloads, and devices, the Changes View that lists all of the changes you make prior to an evaluation, and Child Node View that lists any child objects belonging to objects that you have changed. By using the small pushpin in the right corner of each window, you can hold open each of these views.
About the Scenario Explorer tree

The Scenario Explorer tree displays active baselines, studies, and scenarios as shown in Figure 19 on page 93. It is in the Scenario Explorer tree that you insert baselines, create studies and scenarios, and then define their proper relationships with each other. In this tree, you create and select baseline-related scenarios that you can manipulate for reports and planning activities in the workspace. (See Chapter 6, “Working with scenarios” for details on manipulating this data.) The Scenario Explorer tree is also where you manage baselines, studies, and scenarios.
About baselines

Baselines are always at the highest level in the Scenario Explorer tree. You can do nothing in Scenario Explorer until you have inserted a baseline. Baselines contain all the system performance information that your z/OS server delivered for a specified interval, usually an hour. You can associate one or more studies and scenarios with a particular baseline in the Scenario Explorer tree.

You need to acquire your baseline data from your mainframe systems before you can create scenarios. See Chapter 3, “Acquiring baselines using Data Subscription Facility” and Chapter 4, “Populating the namespace by using other methods” for instructions on how to get baseline data into your Performance Predictor namespace. Once in the namespace, you can insert it into the Scenario Explorer tree.

Using sample baselines

If you need sample baselines for practice or testing, Performance Predictor provides them for you. For BMC Performance Assurance Suite for Mainframes 1.7.00, Performance Predictor populates sample baselines dated September 15, 2006. See “Populating sample data” on page 88 for instructions on making these baselines accessible.

After Performance Predictor imports the sample baselines, it automatically evaluates them, so that you can access them in Scenario Explorer for “What if...?” analysis and as input for the reporting tools.
About studies

Studies are the second level in the Scenario Explorer tree. Studies are folders that can hold one or more scenarios. Beyond the description and annotation you write for it, a study contains no information other than what is contained in the scenarios beneath it in the tree. Studies can hold multiple scenarios, but studies cannot hold other studies. A particular study name can be used by only one baseline at a time. You can move a study from one baseline to another.

About scenarios

Scenarios are placed under studies or under other scenarios in the Scenario Explorer tree. A scenario is a consecutive list of changes to be applied to a baseline. You create a scenario from an individual baseline (single or merged), make changes to the data within the scenario, and evaluate the changes. (These last two actions are described in the next chapter.) The baseline itself never changes.

After you create a scenario, you can move or copy it

- to another study under the same baseline
- to a study under a different baseline
- to another scenario on the tree

A scenario placed beneath another scenario on the tree becomes a child scenario that takes on all the properties of the parent scenario above it. If you move a workload in a parent scenario, that workload automatically moves in all child scenarios placed directly under the parent scenario in the tree.

The same scenario can appear multiple times on the tree, providing different results depending on the baseline with which it is associated, and whether it has parent scenarios. You can insert multiple scenarios under the same study, so that each scenario is independent of the other scenarios under that study.

In Figure 20 on page 95, scenario Scenario6 appears in two different relationships in different baselines. First, it is a scenario in the 18:00 baseline study “Study6” and then it is also a child scenario of Scenario5 in the 17:00 baseline. As a child under Scenario5, Scenario6 inherits the properties of Scenario5. As a scenario under the study “Study6,” Scenario6 does not inherit any properties.
Even when a scenario is a child of another scenario, it retains its identity as a single scenario. For example, when you make changes to Scenario6 in its location under the study “Study6,” those changes are also reflected in Scenario6 under Scenario5.

However, any properties that the scenario takes on because of its location in the tree apply to the scenario only in that location. For example, in Figure 20, any inherited properties Scenario6 takes on as a child of Scenario5 do not apply to Scenario6 under “Study6.” If you move a scenario in the tree so that it is no longer the child of another scenario, it ceases to exhibit the properties of the parent scenario.
If you move a scenario to a new baseline that lacks some of the data that was included in the scenario’s original baseline, the missing data is ignored when you evaluate the scenario under the new baseline. You might receive warning messages in the General status window regarding these items.

**Scenario Explorer tree icons**

Hover the cursor over a scenario tree icon to display the scenario tree legend that describes the scenario tree icons as shown in Figure 21.

**Figure 21  Scenario tree legend**

A scenario icon with a green background represents a scenario that has “Growth” applied.

As the legend explains, the appearance of the scenario tree icons depends on the state of the scenario.

Whenever a study or scenario is selected in the Scenario Explorer tree, the associated baseline and any studies or scenarios included in the path above the selected item are highlighted in yellow and underlined (see Figure 19 on page 93).
Using the Scenario Wizard

Using the Scenario Wizard, you can insert a baseline, create studies and scenarios associated with the baseline, and insert them into the tree. You can also use the Scenario Wizard to associate existing scenarios and studies with different baselines.

If there are no entries in the Scenario Explorer tree, you are prompted to open the Scenario Wizard to create a new scenario. To open the Scenario Wizard when there are entries in the Scenario Explorer tree:

1. Right-click anywhere in the Scenario Explorer tree.
2. From the menu, select **Scenario Wizard**.

Follow the instructions in the Scenario Wizard to create a baseline-study-scenario combination and insert it into the tree. (Use the Select Input dialog as described in “Selecting data” on page 274.)

**NOTE**
You can also run the Scenario Wizard by clicking **Scenario Wizard** in the toolbar above the Scenario Explorer tree.

Inserting a baseline

When you add a baseline to the Scenario Explorer tree, Performance Predictor automatically inserts a default study and a default scenario based on the baseline. (You can rename the default scenario and study, if you choose.)

There are several methods of inserting a baseline into the tree.

1. Do one of the following actions to open the Select Input dialog box:
   - If there are no baselines in the tree, click the **here** hyperlink in the scenario tree pane, or click **Insert Baseline**.
   - If there are baselines in the tree, right-click in the tree and choose **Insert Baseline** from the menu.
   - If there are baselines in the tree, select one and click **Insert Baseline** in the toolbar.
2 In the Select Input dialog box:

A Navigate in the calendar to the desired day and click to select it. Days with available baselines have underlined hyperlinks. (See “Using the Select Input dialog box” on page 247 if you need details on how to use the dialog box.)

The right hand pane displays a list of available baselines.

B Select a baseline by clicking a circle to the left of the baseline date.

C Click OK.

The selected baseline appears in the Scenario Explorer tree, with a default study and a default scenario beneath it (see Figure 22). Initially, the Start Page appears in the workspace offering you workspace options for working with groups or starting wizards, but if you do not select anything within a few seconds, the physical and logical systems from the baseline replace the Start Page in the workspace. (See Chapter 6, “Working with scenarios” for a description of these displays.)

NOTE
You can only select one baseline to insert at a time.

NOTE
Default studies and scenarios are automatically numbered consecutively.
Inserting a study

You can create a new study or insert an existing study that has been removed from the tree. For more information about the properties of studies, see “About studies” on page 94.

NOTE

You can insert studies only under baselines, not under other studies or scenarios, and a study can be referenced by only one baseline at a time.

When you create a new study, Performance Predictor automatically creates a default scenario under the study. When you insert an existing study, any scenarios associated with that study also appear on the Scenario Explorer tree.

Create and insert a new study

Use the following procedure to create a new study and insert it in the Scenario Explorer tree.

1. In the tree, right-click the baseline under which you want to insert the study.

2. Choose New Study from the menu.

3. In the New Study dialog box, enter a study new name and description for the study, and click OK.

NOTE

You can also click Browse in this dialog box to search for an existing study name.

The new study appears under the selected baseline, with a default scenario beneath the study.
Inserting an existing study

If you have removed a study from the Scenario Explorer tree, you can still access that study and its associated scenarios by reinserting the study under a baseline.

1. In the tree, right-click the baseline under which you want to insert the study.

2. Choose Insert Study from the menu to open the Insert Study dialog box, displaying a list of available studies and their descriptions (see Figure 23).

   **NOTE**

   You can also select the baseline, and click Insert Study in the toolbar.

3. Click to select a study and click OK.

   The selected study appears beneath the selected baseline in the Scenario Explorer tree. Any scenarios that were associated with the study when it was last removed from the tree reappear beneath the study.
Inserting a scenario

You can use the following procedure to create a new scenario apart from the Scenario Wizard or to insert an existing one into a baseline. For more information on the properties of scenarios, see “About scenarios” on page 94.

NOTE
You can insert a scenario under any study or scenario in the Scenario Explorer tree, but a scenario can appear only once at the same level beneath a particular study or scenario.

Creating and inserting a new scenario

Use the following procedure to create and insert a new scenario in the Scenario Explorer tree.

1 In the tree, right-click the study or scenario under which you want to insert the new scenario.

2 Choose New Scenario from the menu, or select a study or scenario and click New Scenario in the toolbar.

3 In the New Scenario dialog box, enter a name and, optionally, a description for the scenario, and click OK.

The scenario appears at the selected location in the Scenario Explorer tree.

Inserting an existing scenario

Use the following procedure to insert an existing scenario into the Scenario Explorer tree.

1 In the tree, right-click the study or scenario under which you want to insert the existing scenario.

NOTE
You can also select a study or scenario and then click Insert Scenario in the toolbar.
2 Choose **Insert Scenario** from the menu to open the Insert Scenario dialog box (Figure 24).

**Figure 24  Insert Scenario dialog box**

3 Click a scenario name to select it.

4 If you are inserting the scenario as the child of another scenario and would like the child scenario to inherit the workspace object layout of the parent, click the checkbox that states

   **Inherit workspace layout from parent scenario**

5 Click **OK**.

The scenario appears in the selected location on the Scenario Explorer tree.

**NOTE**

Unlike studies, which can be used only once in the tree, you can reuse scenarios that are already in use, or that have been associated with studies.
Keeping notes on studies and scenarios

Whenever you create a new study or scenario, you can write a description of it in the New Study or New Scenario dialog box. This description appears in the

- Description Preview pane at the bottom of the navigation tree when you select the scenario or study in the Scenario Explorer tree
- Operation Description Summary report in the Report Explorer

The descriptions are global for each study or scenario across all of the baselines in which they appear. If you want to further annotate your work, you can record information about scenarios and studies by using the

- Properties dialog box to create or edit a description
- Annotation window to create a separate annotation

Use the Annotation window to record information about a study or scenario that appears in a particular baseline. If you move the study or scenario to a different baseline within the navigation tree, the annotation is erased.

---

**TIP**

When you make changes to a scenario in the workspace, those changes are automatically recorded in the Changes View, which can be selected using the button beneath the workspace. To display the list, select the scenario or study in the Scenario Explorer tree, and then click the Changes View on the workspace toolbar.

---

Describing studies or scenarios in the Properties dialog box

Use the Properties dialog box in the navigation tree to create or edit a description of a study or scenario. (This dialog box is different from the Properties tab in the workspace, which is described in Chapter 6, “Working with scenarios.”)

The description you create appears in the description preview pane at the bottom of the navigation tree whenever the study or scenario is selected, or whenever your cursor hovers over the name of the study or scenario in the Scenario Explorer tree. The description remains the same for all instances of the scenario in the Scenario Explorer tree.
To create or edit a study or scenario

1 In the Scenario Explorer tree, right-click a study or scenario.

2 From the menu, choose Properties to open the Properties dialog box opens (see Figure 25).

Figure 25  Properties dialog box

3 Enter a description in the Description field, or edit any existing description.

4 Click Apply.

5 Click OK.

Displaying the description preview pane

1 Right-click the sorting bar (above the first baseline in the Scenario Explorer tree).

2 Choose Description Preview from the menu.
Using the Annotation window

Use the Annotation window to record information about a study or scenario that is particular to the path of the study or scenario on the Scenario Explorer tree.

**NOTE**

If you move the study or scenario within the Scenario Explorer tree, the annotation will be erased.

1. In the Scenario Explorer tree, right-click to select a study or scenario and choose **Annotation** from the menu to open the Annotation window.

**NOTE**

You can also select a study or scenario, and then click **Annotation** in the toolbar.

2. Type text in the window.

   The annotation is recorded, with the time of your last edit displayed in the window.

   To view the annotation for any study or scenario, repeat Step 1 or switch to the **Child Node View**.

**TIP**

You can resize and move the Annotation window, and leave it open while you work in the Scenario Explorer.
Moving studies and scenarios

You can move studies and scenarios within the Scenario Explorer tree by dragging and dropping them. You can also use the context menu to

- copy a scenario and paste it elsewhere in the tree
- cut and paste a study or scenario to move it in the tree

The following rules apply to all moves:

- You can drag and drop or cut and paste a study onto a different baseline.
- You can drag and drop, cut and paste, or copy and paste a scenario onto a different study or scenario. (The scenario becomes a child of the study or scenario that you drop it on.)
- When you move a study or scenario, all of its child scenarios move with it.

Sorting the order of Scenario Explorer tree elements

When you have many elements in the Scenario Explorer tree, you might want to sort them for easier access. To change the sort order of tree elements, click the sorting bar (above the first baseline in the tree).

The sorting bar sorts baselines by date. If there are multiple studies under a baseline, or multiple scenarios under a study or scenario, the sorting bar sorts them alphanumerically.

---

**TIP**

Click the sorting bar again to reverse the sort order.
Customizing settings for workspace displays

You can customize how certain aspects of the workspace data are displayed using the **Settings** button from the Performance Predictor toolbar. If you click this button while Scenario Explorer is active, you get the dialog described in “Changing display settings” on page 119.
Working with scenarios

This chapter describes creating groups of scenario objects, creating and copying systems, creating and managing devices, building and copying workloads, moving workloads, modifying physical and logical systems, creating growth plans, and evaluating scenarios. The chapter presents the following topics:

Overview ................................................................. 111
About workspace features ........................................ 112
  Changing display settings ........................................... 119
Using workspace wizards ........................................... 122
  Options after completing a wizard .............................. 124
Performing workspace operations ............................... 125
  Create a new physical system ................................. 126
  Modify a physical system ........................................ 128
  Copying an existing physical system ....................... 131
  Creating a new logical system ................................ 132
  Modifying logical system distribution ..................... 135
  Copying an existing logical system ......................... 138
  Creating a new device ........................................... 139
  Managing devices ................................................. 142
  Building a new workload ....................................... 145
  Copying an existing workload ............................... 152
  Removing systems and workloads ......................... 153
  Renaming systems, workloads, and devices ............. 153
  Moving workloads ................................................ 153
  Moving a percentage of a workload ....................... 155
  Moving logical systems ........................................ 156
Working with groups ................................................ 157
  Creating and managing groups ............................... 162
  Selecting objects for your groups .......................... 162
Working with growth plans ....................................... 164
  Predicting impact of current scenarios .................. 165
  Creating a CDB profile .......................................... 167
  Using historical data to populate a growth plan ....... 170
  Editing a growth plan ........................................... 180
  Copying and pasting multiple cells ....................... 184
  Setting percentage values for growth .................... 187
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importing and exporting a growth plan</td>
<td>190</td>
</tr>
<tr>
<td>Exporting a growth plan</td>
<td>190</td>
</tr>
<tr>
<td>Importing a growth plan</td>
<td>191</td>
</tr>
<tr>
<td>Applying a growth plan</td>
<td>194</td>
</tr>
<tr>
<td>Using the Change Description List</td>
<td>196</td>
</tr>
<tr>
<td>Viewing change details</td>
<td>197</td>
</tr>
<tr>
<td>Deleting a change</td>
<td>198</td>
</tr>
<tr>
<td>Rearranging the order of scenario changes</td>
<td>199</td>
</tr>
<tr>
<td>Previewing CPU utilization for a growth plan</td>
<td>199</td>
</tr>
<tr>
<td>Setting automatic or manual refreshing</td>
<td>200</td>
</tr>
<tr>
<td>Evaluating scenarios</td>
<td>200</td>
</tr>
<tr>
<td>Choosing processor evaluation options</td>
<td>202</td>
</tr>
<tr>
<td>Viewing evaluation results</td>
<td>204</td>
</tr>
<tr>
<td>Making changes to an evaluated scenario</td>
<td>205</td>
</tr>
<tr>
<td>Printing a view</td>
<td>205</td>
</tr>
<tr>
<td>Using Normal View and Print Layout View</td>
<td>205</td>
</tr>
</tbody>
</table>
After you have inserted a baseline and created a study and scenario, as described in the previous chapter, you can work with your model by:

- creating new physical and logical systems and devices
- copying existing physical and logical systems and workloads
- assigning physical and logical systems and workloads to groups that you can compare and manage
- building new workloads
- managing workload devices on a logical system
- renaming existing physical and logical systems, workloads, and devices
- removing existing physical and logical systems, workloads, and devices
- moving workloads or percentages of workloads
- moving logical systems to other physical systems
- replacing a physical system in a “What-if” scenario with a different physical box
- defining the number of processors of a particular type (zIIP, zAAP, or general purpose processor) that are used on a physical system
- changing the distribution of shared and dedicated processors (for each processor type) used by the logical systems running on a physical system
- setting the usage levels that will result in saturation for each processor type on a logical system or workload
- viewing and editing select properties of workspace objects
- reviewing a list of changes made
- adding a growth plan where you can view and report on trending data

**TIP**

Before you can work on a scenario, you must insert it and select it in the Scenario Explorer tree.
Any changes you make to a scenario are recorded automatically in the Change Description List. To display this list, click Changes View below the workspace. A two-pane window opens as described in “Using the Change Description List” on page 196.

All items in the Changes View are refreshed automatically in your data views except for the following items:

- where you have applied a growth plan period to the scenario
- when you moved or deleted a change from the Change Description List

To refresh the view for these changes, you need to click the Refresh button in the toolbar. A message prompts you to do this step if you have not set the Refresh button to Automatic Refreshing.

**TIP**

Rather than creating one scenario with many changes, spread the changes across multiple child scenarios, especially if you are creating new objects. That way, you can evaluate the impact of each change, as well as reorder the changes, if needed. (Each child object inherits changes in the parent scenario.)

---

**About workspace features**

The Scenario Explorer workspace is where you can view, group, manage, and manipulate system objects, creating them, modifying them, viewing their properties and other actions.

**NOTE**

Utilization metrics for version 1.7 of Performance Predictor are now primarily displayed as performance units (MIPS). In previous releases, utilization metrics were displayed as a percentage. Using performance units as the primary measure ensures uniformity between metrics displayed by the different processor types in this release (zIIP/zAAP/GCP). While this change to performance units is mainly seen in Scenario Explorer, you will also see it in reports created by any of the Performance Predictor tools. (Utilization values are still available as percentages throughout the Performance Predictor console, but are no longer the primary unit of measure for display.) See “Dynamic MIPS ratings in console baselines, scenarios, and reports” on page 39 for additional information.

The workspace is to the right of the navigation tree (described in Chapter 5, “Creating and managing scenarios”) as shown in Figure 27 on page 113.
Figure 27  Scenario Explorer - Navigation tree, Systems Palette, and workspace
The following features are used in the Scenario Explorer workspace:

- If you right-click in the workspace and on systems in the workspace, you get context menus that enable you to perform various operations. The contents of each menu depends on what you click on. See Appendix A, “Scenario Explorer toolbars and context menus” for the contents of these menus.

- All normal Windows selection methods can be used to select objects in the Systems Palette and workspace. You can drag system objects from the Systems Palette to the workspace. However, you cannot drag a device to an area of the workspace outside of a system.

- The Systems Palette is initially seen as a vertical bar between the navigation tree and the workspace. (You can drag it to the right of the workspace if you choose.) It has four tabs:
  - System View
  - Group View
  - Properties
  - How to...

When you click one of these tabs, a pane opens with that type of information. To hold the pane open, click the pushpin in the top right-hand corner of the pane. When a pane is pinned open, the remaining tabs are displayed across the bottom of the open pane as shown in Figure 29 on page 116 and Figure 30 on page 117.

- The System View pane contains the physical and logical systems from the current baseline that you can drag and drop to the workspace (see Figure 29 on page 116). To open the System View pane, click the System View tab on the Systems Palette. To keep this window open, click the pushpin in the top right-hand corner. Clicking the pushpin again, hides it. The last button in the workspace toolbar also allows you to open and close the Systems Palette window.
The **Group View** pane contains a list of systems in the currently active group. The first time you open the workspace, all of the physical systems in your selected baseline are loaded into one group. You are prompted to add systems to that group, if you like. You can move systems from that auto-created group to other groups that you create, and you can browse any baseline or portions of it to create groups with different physical and logical systems and workloads. You can drag and drop a system from any group onto the workspace.
Figure 29  Scenario Explorer Group View

If you click the Properties tab in the Systems Palette, a Properties view opens for the selected object (physical system, logical system, workload, or device). The Properties view contains various critical elements that define that object. For physical and logical systems and workloads, one or more additional tabbed sections show properties specific to different processor types (general purpose, shown as GCP, zIIP, or zAAP) on the system.
Each property on any tab is defined at the bottom of the pane when you click it, for example, the Dedicated property is selected in the GCP property pane in Figure 30.

Figure 30  Logical System Properties

In Figure 30 many properties are grayed out. You can edit any property in black print. Depending on the property, you are offered one of the following editing options:

- a drop-down edit box, where you select the value you want
- a dialog box, where you provide one or more new values and click OK
- in-place editing, where you type the value
  Use this method if neither the drop-down box nor dialog are present.

NOTE

A short view of object properties is displayed if you hover the cursor over an object. This short list is not editable.

The How To tab opens a pane of Help.
To keep any of the Systems Palette panes open, click the pushpin in the top right corner. Clicking the pushpin again hides the pane. Clicking on any other System Palette view from a “pinned open” view opens the new view in the “pinned open” state also. The last button in the horizontal toolbar that runs across the top of the workspace also allows you to open and close the Systems Palette window.

- If there are no objects in the workspace, the Scenario Explorer Workspace Start Page is displayed there to get you started. This page offers self-explanatory instructions on how to start as well as an assortment of links. You can click on the appropriate link to open objects or invoke a wizard.

- In the top right area of each system object in the System View and workspace, is an icon consisting of a yellow cross with a small system object next to it. If you click this icon, it invokes a wizard enabling you to create an object appropriate to the view, for example, a new physical system or a logical system. (The icon is just below the Close window X button as shown in the workspace physical systems in Figure 29 on page 116.)

- In the top right-hand area of each object in the Group View of the Systems Palette is a button to open the Chart Viewer to display the object in chart form. This Chart Viewer button is just to the right of the Close window X button.
- In the lower right-hand corner of the workspace, there is a thumbnail viewer (an arrow-tipped cross) that you can use to locate a physical or logical system or workload that may be in the scrollable area and not in your current view. To use this viewer, click and hold down the mouse button while hovering over the arrow-tipped cross.

- At the bottom of the scroll bar on the right-hand side of the workspace, between the two double-arrow scroll buttons, is a small button with an o on it. Clicking this button opens a small toolbar that lets you set the display of systems in the workspace, print the display, and create objects as shown in the following figure. (These functions are also available using the context menu in the workspace and the workspace toolbar.)

### Changing display settings

Before you begin working in the Scenario Explorer workspace, you can specify what the objects in it will look like. This is totally optional, as you can use the default settings.

If you do want to customize display settings, you do this using the **Settings** option from the Performance Predictor console toolbar or console File menu.
When you click **Settings** from Scenario Explorer, the Settings dialog box opens with a display similar to the following:

**Figure 32   Scenario Explorer display settings**

1. To change the theme from the default, click the drop-down list and then click **web-Colours**.

2. To change the color of a specific physical system, click **Add** to add the name of the physical system to the list, if needed. (Conversely, you can remove any system from the list by selecting it and then using the **Remove** button.)

3. Choose the color you want from the drop-down list.

4. Check **Use Gradient Fill**, if you would like a gradual deepening effect of the color in the object.

5. Click **Apply** when done.
Next, you can change any of the following workspace options by clicking on the Workspace tab:

- Color Identify Systems - related systems are the same color, if True
- Show Properties w/Tooltips - tooltips are shown in the properties box, if True
- Show Short Property Names - short names are used instead of full names, if True
- Show System Relationships - lines are drawn between related systems, if True
- Show Tooltips - tooltips are shown whenever available, if True

These options are all set to True by default. You can change any of them to False, if you choose. Click Apply, then OK for changes to take effect. Any changes you make will apply only to Scenario Explorer.
Using workspace wizards

The Scenario Explorer workspace contains several types of wizards:

- Object Creation Wizards create new physical and logical systems and devices
- Object Builder Wizard builds a new workload
- Managing Devices Wizard specifies the devices that a workload will utilize on particular logical systems to manage device saturation

The Object Creation and Object Builder wizards are invoked from a single page, which you open by clicking the Add Object to Scenario button in the workspace toolbar. The starting page is shown in Figure 33 on page 123.
The steps involved in using each wizard are described in the following sections about creating and building objects and in the Help. (You can also use the Create wizards to modify objects.)

To invoke the Managing Devices wizard, you need to select a particular workload in the workspace and click Managing Devices from the context menu. The Managing Devices wizard starting page is shown in Figure 34 on page 124.
The steps involved in using this wizard are described in “Managing devices” on page 142 and in the Help.

**Options after completing a wizard**

When you create a physical or logical system or a device using a workspace wizard, you have a set of options upon completion as shown in Figure 35 on page 125.
Performing workspace operations

You can perform various operations on scenarios that you bring into the workspace. These operations are described in the following sections. At any time during workspace operations, you may want to create and manage your objects as groups. A description of group operations follows this section on workspace operations; see “Working with groups” on page 157.

You can check more than one option, for example, you might want to open the object onto the workspace, and also add it to an active group.
Create a new physical system

You can create a new physical system and add it to your scenario using an Object Creation Wizard as shown in the following steps:

1. In the workspace toolbar, click the Add Object to Scenario button. The wizard’s starting page opens (Figure 33 on page 123).

2. Choose Click here to create new Physical Systems.

3. On the Welcome page, click Next.

4. Click the Add button.
   The following information box appears:

   ![Physical System Information](image)

   1. Enter the name you want to give the new physical system in the first field.

   5. Click the Browse button to select the CPU type.
      
      A. Select a CPU type from the Hardware Browser window.
      
      B. Click OK.

   6. Select the partition mode, either PR/SM or NONE.

   7. Click OK.

   9. Verify your information on the Physical System Information page. If there is an error in your selections, you can remove the system and begin again or modify your selections using the buttons shown.
10 Click **Add** to add another system. If you are done adding, removing or modifying systems, click **Next**.

11 Click **Finish**.

12 In the Wizard Complete dialog box, select the options you want for the new object (see “Options after completing a wizard” on page 124). 

---

<table>
<thead>
<tr>
<th>Physical System</th>
<th>CPU Type</th>
<th>Number of Processors</th>
<th>MIPS Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>green</td>
<td>1025</td>
<td>2</td>
<td>118.3</td>
</tr>
</tbody>
</table>

---

**Create Physical System - (Step 2 of 3)**

*Physical System Information*  
This page allows you to add, modify, and remove physical systems.
Modify a physical system

After you have created a physical system, you might want to modify it to see the impact of using a different number or type of processors. Specifically, you can

- change the physical system model
- modify the physical system processor types allocations
- add processor types to the physical system

You perform these modifications by using the **Modify Physical System** menu item.

**To access this item**

1. Right-click the title bar of a physical system in either the System View or the workspace. (You can access the menu of any system in the workspace by right-clicking its title bar.)

2. Click the **Modify Physical System** option to open the dialog box.

![Modify Physical System dialog box](image)
The following rules apply for any modification of a CPU model that supports zIIP or zAAP processors:

- The number of zIIP or zAAP processors cannot exceed the number of GCP processors for that physical system, as listed in the Group Maximum CP field in the Hardware Browser. For example, a CPU model with four general purpose processors cannot have five zIIP processors as this would exceed the number of GCPs.

- The total number of zIIP, zAAP, and GCPs cannot exceed the maximum number of processors for that physical system, as listed in the Group Maximum CP field in the Hardware Browser. For example, a CPU model with four general purpose processors and a Group Maximum CP of six can have, at most, two zIIP or zAAP processors in any combination (two zIIP or two zAAP or one zIIP and one zAAP).

In another example, combining this rule and the previous rule, a CPU with four GCP processors could have, at most, 6 zIIP or zAAP processors in any combination as long as each type did not exceed the number of GCPs. Four zIIP processors and two zAAP processors would be valid, but five zIIP processors would not, because five is larger than the number of GCP processors (four). If this same CPU model has a Group Maximum CP of 30, you cannot have more than 8 zIIP and zAAP processors combined. This would be a maximum of four of each type for a total of 12 processors.

- You are allowed to configure ICF and IFL processors on any physical system. These processors are considered non-modeled and all counts related to them have no effect on the physical system in which they reside unless they are the only processor types in use by the system (as a stand-alone coupling facility for example).

**NOTE**
The selection boxes only let you select the number and type of processors that are supported by the new physical system.

### To change the physical system

1. Open the Modify Physical System dialog box.

2. Click the **Change** button to select a different physical system from the Hardware Browser.
3 In the Hardware Browser, select the new physical system and click OK.

**TIP**

The Group Maximum CP field in the Hardware Browser shows the maximum number of general processors that each physical system supports. The total number of GCP, plus zIIP and zAAP processors that you specify for a system cannot exceed the Group Maximum CP value.

The new physical system that you selected is shown below the current system in Part 1 of the Modify Physical System dialog box.

4 Click OK to accept the changes.

If you do not have the appropriate number of logical system processors allocated, you will receive a message. In that event, a new dialog box opens to allow you to reallocate shared and dedicated logical system processors right then. If you do not correct the allocation at this time, the new processor that you selected is recorded in the Change Description List, but the logical system distribution remains invalid until you change it.

**To allocate different processor types**

1 Open the Modify Physical System dialog box.

2 Select a CPU type from the Part 2, Allocate your processors list.

   The number of configurable processors is shown in brackets.

3 Click the Modify button.

4 Add or subtract the number of processors of the indicated type by using the list box.

5 Change the Speed Normalization Factor, if desired.

   This value indicates the speed ratio between the GCP and zIIP or zAAP processors for those processor models that have GCP speed artificially lowered.

6 Click OK.

**To add different processor types**

1 Open the Modify Physical System dialog box.

2 Select a CPU type from the Part 2, Allocate your processors list.
3 Click the Add button.

4 Select a processor type from the displayed list.

5 Click OK.

You can repeat this process if there are additional processor types in the list that you want to add. Remember, while you can configure IFL and ICF processors, their counts are ignored in all calculations.

Copying an existing physical system

If you want to create a new physical system with the same attributes as an existing system, you can copy that existing system and rename it as described in the following procedure.

1 Right-click the title bar of the physical system that you want to copy.

2 Choose Copy To

The following dialog box opens:

![Copy dialog box]

3 In the Target name field, enter the name that you want to give to the copied system. The name of the original system is entered by default.
Creating a new logical system

You can create a new logical system and add it to your scenario using an Object Creation Wizard as shown in the following steps. When creating the logical system, you can enter values for system overhead, such as time spent on management tasks, and also unaccounted utilization, if you choose. In this way, you can account for unmodeled data in your evaluation.

1. In the workspace toolbar, click the Add Object to Scenario button. This opens the wizard’s starting page (Figure 33 on page 123).

2. Choose Click here to create new Logical Systems.

3. On the Welcome page, click Next.

4. Click the Add button. This opens the following information page:

4. Select Workspace.

It is the only target destination for physical systems.

5. If you want to include associated resources of the existing system, check one or both boxes at the bottom of the dialog box.

6. Click OK.
Enter the SYSID you are assigning to the new logical system in the first field.

Click the Browse button to select the physical system that will contain the new logical system. You can do one of the following:

A Select an existing physical system from the list.

B Click the Create button to create a new physical system. This takes you to the wizard to create a new physical system and temporarily hides the logical system wizard. Follow the physical system wizard (see “Create a new physical system” on page 126).

Click OK.

Click the Distribution button to specify how you want to distribute the logical system processors that are on the physical system.

Follow the instructions in Step 3 of “Modifying logical system distribution” on page 135 for distributing the processors.

Click OK on the Modify Distribution dialog, when finished. You are returned to the Logical System Information page.

Enter a percent value for any unaccounted utilization.

Click “Other” Information to specify any information you want to include for reporting purposes only, such as partition id or operating system type.
Creating a new logical system

13 Click **OK**.
You are returned to the Logical System Information page.

14 Click **OK** again.

15 Verify your information on the Logical System Information page.

If you need to correct your selections, you can remove the system and begin again or modify your selections by using the buttons shown.
16 Click **Add** to add another system. If you are done adding, removing or modifying systems, click **Next**.

17 Click **Finish**.

18 In the Wizard Complete dialog box, select the options you want for the new object (see “Options after completing a wizard” on page 124).

---

**Modifying logical system distribution**

You can distribute your processors of the same and different types (zIIP, zAAP, general purpose) for use (shared or dedicated) on each logical system in your physical system. The number of processors that you distribute cannot exceed the total number of physical processors of a particular type on your system.
In addition, any of the following changes can invalidate the current distribution and require you to modify it:

- You modify the physical system type for a scenario. The new physical system might have more or fewer processors to be distributed than the baseline system.
- You change your allocation of the number and types of processors in use on the physical system.
- You change the processor distribution for one or more other logical systems on the same physical system.

In these cases, you need to change your logical system processor distribution. A dialog box opens to identify the logical system or systems affected, and gives you the option to modify the logical system distribution. If you click Yes, the Modify Logical System Distribution dialog box opens.
To distribute processors across logical systems in your physical system:

1. In the far left column, click the logical system you want to modify.

   You can modify only one logical system at a time, returning to this dialog box each time to choose the next system, as needed.

2. (optional) Click Add if you want to add an additional processor type from the list offered.

3. Click Modify to open the Modify Distribution dialog box, where you set the number of shared and dedicated processors for the selected logical system.

4. Change the number of shared processors and dedicated processors and click OK.

   If you enter an invalid number, the field turns red and the OK button is disabled. To be valid, the number of shared processors added to the total of all dedicated processors must be less than or equal to the total number of processors in the physical system.

5. Click OK.
For example, if physical system PROD has four online processors (of the same or different type), you can designate any or all of those four processors to be shared by any number of logical systems on PROD. If, however, you want one of those four processors to be dedicated to a specific logical system, you must subtract it from the shared pool. You would enter the number of shared processors as 3 and the number of dedicated processors would be 1.

**Copying an existing logical system**

If you want to create a new logical system with the same attributes as an existing system, you can copy that existing system and rename it as described in the following procedure.

1. Right-click the title bar of the logical system that you want to copy in the workspace.

2. Choose **Copy Logical System To**

   The following information box opens, displaying source information for the logical system you selected.

3. In the Target name field, the default is the name of the original system you are copying. You can change this if you choose by entering the name that you want to give to the copy.
4 Check the box next to one or more of the target destinations (physical systems on which you want the new logical system to exist).

5 If you want to copy all associated resources of the existing system, check the box at the bottom of the dialog box. This copies all workloads and devices associated with the logical system.

6 Click OK.

Creating a new device

You can create a new disk or tape and add it to your scenario using an Object Creation Wizard as shown in the following steps:

1 In the workspace toolbar, click the Add Object to Scenario button. This opens the wizard’s starting page (Figure 33 on page 123).

2 Choose Click here to create new Devices.

3 On the Welcome page, click Next.

4 Click the Add button.

5 Enter the VOLSER you are assigning to the new device.

6 Click Browse to open the Hardware Browser.
7 Select the type of disk or tape you are creating (see tabs at bottom of page) and click OK.

8 Select the storage group from the drop-down list.

9 Select the storage system from the drop-down list.

10 Click OK.

11 Verify your information on the Device Information page.

   If there is an error in your selections, you can remove the device and begin again or modify your selections using the buttons shown.
12 Click **Add** to add another device. If you are done adding, removing or modifying devices, click **Next**.

13 Click **Finish**.

--- **TIP**

Creating a new device does not assign it to a workload or processor. See “Managing devices” on page 142 for information on how to make those assignments.
Managing devices

Managing devices involves selecting which devices a workload will use on a given logical system. You specify this information using the Manage Devices Wizard. You invoke and use this wizard as follows:

1. Click and drag the logical system containing the workload for which you want to specify information to the workspace and release the mouse button.

2. Right-click on the workload and choose **Manage Device** from the context menu. This opens the Manage Device wizard. (Alternatively, you can open the workload and select the icon just above the vertical scroll bar to open the wizard.)

3. Click **Next**.

4. Click **Add** to open the Available Devices page.

### Available Devices

<table>
<thead>
<tr>
<th>VOLSER</th>
<th>Type</th>
<th>Extract</th>
<th>Utili.</th>
<th>I/O Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM0001</td>
<td>DISK</td>
<td>No</td>
<td>2.99%</td>
<td>28251.0420</td>
</tr>
<tr>
<td>BM0002</td>
<td>DISK</td>
<td>No</td>
<td>1.77%</td>
<td>40344.0970</td>
</tr>
<tr>
<td>BM0003</td>
<td>DISK</td>
<td>No</td>
<td>2.82%</td>
<td>35928.4338</td>
</tr>
<tr>
<td>BM0004</td>
<td>DISK</td>
<td>No</td>
<td>2.22%</td>
<td>17951.3489</td>
</tr>
<tr>
<td>BM0005</td>
<td>DISK</td>
<td>No</td>
<td>2.01%</td>
<td>20804.9345</td>
</tr>
<tr>
<td>BM0006</td>
<td>DISK</td>
<td>No</td>
<td>2.21%</td>
<td>38725.6219</td>
</tr>
<tr>
<td>BM0008</td>
<td>DISK</td>
<td>No</td>
<td>1.86%</td>
<td>18064.4950</td>
</tr>
<tr>
<td>BM001</td>
<td>DISK</td>
<td>No</td>
<td>2.12%</td>
<td>44567.2310</td>
</tr>
<tr>
<td>BM002</td>
<td>DISK</td>
<td>No</td>
<td>1.24%</td>
<td>21222.0722</td>
</tr>
<tr>
<td>BM003</td>
<td>DISK</td>
<td>No</td>
<td>35.62%</td>
<td>211523.0000</td>
</tr>
<tr>
<td>BM001</td>
<td>DISK</td>
<td>No</td>
<td>2.90%</td>
<td>60542.2960</td>
</tr>
<tr>
<td>BM002</td>
<td>DISK</td>
<td>No</td>
<td>4.13%</td>
<td>86220.6330</td>
</tr>
<tr>
<td>BM003</td>
<td>DISK</td>
<td>No</td>
<td>0.00%</td>
<td>1.0000</td>
</tr>
<tr>
<td>BM004</td>
<td>DISK</td>
<td>No</td>
<td>1.75%</td>
<td>51762.5156</td>
</tr>
<tr>
<td>BM005</td>
<td>DISK</td>
<td>No</td>
<td>0.81%</td>
<td>25347.4650</td>
</tr>
<tr>
<td>BM006</td>
<td>DISK</td>
<td>No</td>
<td>0.53%</td>
<td>47725950</td>
</tr>
<tr>
<td>BM007</td>
<td>DISK</td>
<td>No</td>
<td>0.13%</td>
<td>557 8231</td>
</tr>
</tbody>
</table>

**Note:**

Invoking a new creation wizard will temporary hide the current wizard's context.
You can then do one of the following:

**A** Select one or more existing devices from the list. (You can use standard windows selection methods with the **Ctrl** and **Shift** keys to select multiple devices.)

**B** Click the **Create** button to create a new device.

This takes you to the wizard to create a new device and temporarily hides the Manage Device Wizard. Follow the Create New Device Wizard (see “Creating a new device” on page 139).

6 With the device selected, click **OK**.

This returns you to the Device Management page in case you want to add another device.

7 To add another device, repeat steps 4 through 6.

8 To modify a device, select the Volser on the Device Management page and click **Modify**.
9 You can change the default service time shown. However, as stated in the warning, if you change the service time, it will affect all the workloads on that system that use the device.

10 Enter the total amount of I/Os for the workload on that device.

   The wizard then calculates the rate for each transaction by dividing the total number of I/Os done by the workload on the device by the number of transactions per hour.

11 Click OK and return to the Device Management page where you may add or modify additional devices or complete the operation.

12 If you are done adding devices, click Next.

13 Click Finish.
Building a new workload

You can build a new workload and add it to your scenario using an Object Creation Wizard as shown in the following steps:

1. In the workspace toolbar, click the Add Object to Scenario button.

   This opens the wizard’s starting page (Figure 33 on page 123).

2. Choose Click here to build a new Workload.

3. On the Welcome page, click Next.

   This opens the Workload Information page.

4. Enter the name you want to give the new workload in the first field.
Optionally, click the **Browse** button to select the workload that you want to use as the template (if you want to use a template) for the workload you are creating.

If you use a template, you can override the CPU and I/O values associated with the template.

A Select an existing workload from the list. The workload's logical system list is automatically applied to the new workload.

B Click **OK**. This returns you to the Workload Information page.

Enter the total MIPS that the new workload would consume across all logical systems. If you used a template, this field is filled in with the same values as the template workload that you chose. You can change any of these values, if you want.

Enter the total amount of I/O the workload would consume across all logical systems. If you used a template, this field is filled in with the same values as the template workload that you chose. You can change any of these values, if you want.

Click **Next**.

This opens the Workload Execution Context page. If you chose a template, all of the logical systems used by the template workload are listed here along with the remaining MIPS and I/Os. (Click a particular system to see these values.) You can add, modify, remove logical systems using the buttons shown. If you did not use a template, click **Add** to create a logical system.
If you click **Add** to add a logical system, the following page opens:

![Select a Logical System](image)

**Note:**
Invoking a new creation wizard will temporarily hide the current wizard’s context.
10 Select the system you want to add and click **OK**.

This action opens the Logical System Attributes page.

11 Click the **Browse** button to select a logical system on which the new workload will run. You can do one of the following:

A Select an existing logical system from the list.

B Click the **Create** button to create a new logical system.

This takes you to the wizard to create a new logical system and temporarily hides the build workload wizard. Follow the logical system wizard (see “Creating a new logical system” on page 132).

12 Click **OK**.
13 Click the % sign on the combination boxes for 3 and 4 to open the sliding lever window and adjust the sliding lever to the desired values for MIPS and I/O consumption, if you are specifying percent values. Otherwise, just enter the values in the box (if the values have not been automatically populated). The maximum value you can enter cannot exceed the remaining resources for your system.

14 Click the down arrow on the combination box for 5 and select one of the values listed as the priority rating you will give to this logical system. The options are:

- **Low Priority** - the lowest priority already observed on this processor, or 1, if no value is available
- **Medium Priority** - the median priority already observed, or 128, if no value is available
- **High Priority** - the highest priority already observed, or 254 if no value is available
- **System Priority** - 255
- **Custom Priority** - If you choose this option, the Custom Priority dialog box opens and provides a slider that you can use to set a custom priority between 1 and 255, providing a finer degree of granularity than the other options, should you need that.

Although Universal Information Exchange on the mainframe can handle the varying priority distributions of existing workloads, only a single priority can be set for a workload that is newly created or copied.

15 The I/O service time and I/O rate per transaction values are automatically calculated from the values that you have provided. You do not have to fill in anything here.

16 Click **OK**. This returns you to the Workload Execution Context page in case you want to add another logical system.

17 To add another logical system, repeat Steps 8 through 16. If you are done adding logical systems, click **Next** to open the Device Management page.
From the drop-down box at the top of the dialog, select a logical system.

Click **Add** to add devices or **Modify** to modify any of the devices on the logical system that the workload will use.

If you click **Add** to add other devices to the logical system, the Available Devices page opens.
21 You can then do one of the following:

A Select an existing device from the list.

B Click the Create button to create a new device.

This takes you to the wizard to create a new device and temporarily hides the Manage Device Wizard. Follow the Create New Device Wizard (see “Creating a new device” on page 139).

22 Click OK.

This returns you to the Device Management page in case you want to add another device.

23 To add another device, repeat steps 18 through 22. If you are done adding devices, click Finish.

24 In the Wizard Complete dialog box, select the options you want for the new object (see “Options after completing a wizard” on page 124).
Copying an existing workload

If you want to create a new workload with the same attributes as an existing workload, you can copy that existing workload as described in the following procedure.

1. Click and drag the logical system containing the workload that you want to copy to the workspace and release the mouse button.

2. Right-click the workload and choose Copy workload to from the context menu.

The following information box opens. The source path for the workload that you are copying from is filled in and the same name is given to the copy as to the original workload by default.

3. In the Target name field, enter the name that you want to give to the copy, if different than the default.

4. Check the box next to one or more of the target destinations (physical/logical system combinations on which the workload copy will run).

5. Click OK.
Removing systems and workloads

You can remove physical and logical systems and workloads from your scenario. When you remove them, they are deleted and no longer in the model.

1. Right-click the object (physical or logical system or workload).
2. Select the **Remove** option from the context menu in the workspace.
3. Click **OK** to confirm the remove action.

Renaming systems, workloads, and devices

You can rename physical and logical systems, workloads, and devices in your scenario.

1. Right-click on the object (physical or logical system, workload, or device).
2. Select the **Rename** option from the context menu.

Moving workloads

Within a scenario, you can move workloads and percentages of workloads from one logical system to another.

1. In a logical system box in the workspace, click the workload that you want to move and hold the mouse button down while you drag the workload off one logical system to another. Then, release the mouse button.

This moves 100% of the workload. The following changes appear in the workspace (see Figure 36 on page 154):

- The workload appears in the desired logical system.
- The **Changes View** pane describes the last workload move that you completed.
- The name of the moved workload is now followed by an @ symbol and the name of the logical system from which it was moved. For example, if you move workload STCHI from logical system SYSL to logical system SYSI, the workload appears in SYSI as STCHI@SYSL.
- A red asterisk appears next to the scenario name in the Scenario Explorer tree, indicating that there are unsaved changes to the scenario.
The CPU utilization percentages in the logical system you moved will be recalculated.

**Figure 36  Moved workload display**

2 Right-click the scenario name in the Scenario Explorer tree and click **Save Changes** on the menu to save the changes to the scenario.

When your changes are saved, the red asterisk no longer appears next to the scenario name in the Scenario Explorer tree.
Moving a percentage of a workload

As well as moving whole workloads to and from logical system boxes, you can also move a percentage of a workload.

1. In a logical system box, right-click the workload that you want to move.

2. Click **Move Workload to**

3. To move only a percentage of the selected workload, set the slider at the bottom of the box to the percent that you want. If you are moving the entire workload, leave the slider at 100%, which is the default.

4. Click the target system to which you are moving the workload.

**Figure 37  Move Percent of Workload dialog box**

5. Click **OK** to make the following changes in the workspace (see Figure 36 on page 154):

   - The workload appears in the desired logical system.
   - The Change Description List pane describes the last workload move that you completed.
Moving logical systems

- The name of the moved workload is now followed by an @ symbol and the name of the logical system from which it was moved. For example, if you move workload STCHI from logical system SYSL to logical system SYSI, the workload appears in SYSI as STCHI@SYSL.

- A red asterisk appears next to the scenario name in the Scenario Explorer tree, indicating that there are unsaved changes to the scenario.

**Tips for moving workloads**

Consider the following tips when moving workloads:

- You can move workloads between logical systems using drag and drop.

- If you drag and drop a workload using the left mouse button, it moves 100% of the workload. If you use the right mouse button, you can move a percent of the workload.

- After you move a workload, the name of the workload is now followed by an @ symbol and the name of the logical system from which it was moved.

- If you want to move the workload back to its original logical system, use Changes View to remove the change. Make sure to click the Refresh button afterwards, if you have manual refreshing set.

**Moving logical systems**

Within a scenario, in addition to moving workloads, you can also move logical systems from one physical system to another.

1. In a physical system box, click the logical system that you want to move and hold the left mouse button down.

   The cursor changes shape with red arrows pointing at the target system, and the logical system undocks itself from the host logical system.

2. Drag the logical system to the physical system that you want to move it to, and release the mouse button to implement the following changes in the workspace:

   **NOTE**

   You may have to change the logical system distribution, if the logical system Online Processors count is greater than the physical system Processor count. Also, you may want to change the distribution if you use a different processor.
The logical system appears in the desired physical system.

The Change Description List pane describes the last logical system move that you completed.

A red asterisk appears next to the scenario name in the Scenario Explorer tree, indicating that there are unsaved changes to the scenario.

Right-click the scenario name in the Scenario Explorer tree and choose Save Changes to save the changes to the scenario.

When your changes are saved, the red asterisk no longer appears next to the scenario name in the Scenario Explorer tree.

---

**NOTE**

Another way to move a logical system is to right-click on the logical system in the workspace and choose Move Logical System to. This opens a dialog box where you can choose the target system.

---

**Tips for moving logical systems**

Consider the following tips when moving logical systems:

- To move the logical system back to its original physical system, use Changes View to remove the change.

- The target system should not already have a logical system with the same name. If it does, the moved logical system will have a version number added to its name. For example, BMXQ might become BMXQ_02 on the target system.

- You can move a logical system to a physical system by dragging and dropping the logical system onto the physical system.

---

**Working with groups**

When working in the workspace, you may want to group certain objects together.

---

**NOTE**

Groups are global and can include objects from baselines other than the currently-selected baseline. However, objects outside of the current baseline would be available as Read-Only objects (in that group) and could not be modified.
You can group objects by using the group functions available in the Systems Palette Group View as follows:

1. Click the Group View tab in the Systems Palette.

2. Click the Manage Groups option on the Group View pane or from the Start page. The following dialog opens. (If it is the first time you are opening the dialog box, you will be prompted to add systems to create a group.)

**Figure 38  Manage Groups dialog box**
The Manage Groups dialog box is resizable. In the bottom half of this dialog box, you can view each of the objects in the selected group. You can view this information in the dialog box as shown in Figure 38 on page 158 or you can click the Chart Viewer icon in the title bar of an object to open up a full-view window of that object as shown in Figure 39.

You can print or copy this chart to the clipboard using the Print and Copy buttons in the toolbar.

The Chart Viewer opens with a proportional view of the data. If you want to see the full-screen view, click the Full Screen button. The Proportional button returns you to the view shown in Figure 39.
The bar graph and pie chart icon buttons next to Full Screen enable you to set the display to either a bar chart type shown in Figure 39 on page 159 or a pie chart. If you choose the pie chart display, you can use the next item on the toolbar, **Maximum pie slices** to specify the greatest number of slices you want in the chart. Specify this value using the drop-down list box.

Click the **Show “Other”** button to see a detailed table of the values that make up the “Other” slice of the chart as shown in the following figure.
TIP
If you hover the cursor over any object at the bottom of the chart, for example, in the previous figure - a device, that object is highlighted in the chart and the other objects are dimmed to make viewing easier.
Creating and managing groups

Using the Manage Groups dialog box, you can create groups of objects from your active baseline systems. You have the following options:

1. Display a group in the Systems Palette by checking the box next to its name (clickable selection bars can be listed simultaneously for multiple groups in the Palette).

2. Click **Add Group** to create a new group. Specify the group name and a short description in the dialog box that opens.

3. Click **Remove Group** to remove a group from the System Palette.

4. Click **Modify** to change the name or description of a group.

5. Click **Move Up** or **Move Down** to change the order of a group in the displayed list of the Manage Group dialog box. The new order is reflected in the System Palette.

**NOTE**
You can select multiple groups, so that when you add or remove an object, it affects all of the groups selected.

Selecting objects for your groups

Using the lower half of the Manage Groups dialog box, you select the individual objects that are in each group. You can also

- click **Remove Object** to take one or more selected objects out of the active group
- click **Select All** to select all of the objects in the active group for an operation
- click on buttons next to **Select All** to tile or auto-size the object display

To add objects to a group, you open an additional dialog box, as follows:
1 Click the **Add Objects** button.

This opens the Add Objects dialog box, shown in the following figure, where you can browse through the active baseline, using the map provided, to select objects.

2 To narrow your search to a subset of the objects shown, select any object in the baseline as a parent and click the **Root Object** button. This displays only those objects under the parent root you selected. To go back up the tree and view objects above the parent root object, click the **Backward** button.

3 Click the **Search** button on the dialog box toolbar to activate the wild card search area at the bottom of the dialog box as shown in the previous figure. Filling in the pattern you want in the **Search Pattern** box and then clicking the **Search** button next to that box initiates a search for systems having the wildcard pattern you specified.
Some other things that you can do using the Add Objects dialog box are

- click the Expand toolbar button to expand a selected object that has objects under it (indicated by a small box with a plus sign next to the object name).

- click the Collapse toolbar button to collapse from view the child objects under the selected object (indicated by a small box with a minus sign next to the object name).

- click Text Size to alter the size of the text in the Add Objects browser map.

- click the thumbnail scroller at the bottom right-hand corner of the browser map to get a thumbnail view of the map that you can scroll through horizontally or vertically to get the view you want on the full-size map.

- view the settings for a selected object in the right-hand pane next to the browser map.

- click on the plus sign next to an object to view the top number of logical systems, workloads, or devices associated with that object. This display is in the bottom part of the right-hand pane under the settings and next to the map browser. (You will see the next level of objects down from the one you select in the browser map, for example, select a physical system and you see the top logical systems for that computer.)

NOTE
You can also perform object functions (add and remove objects, select all, and tile and auto-size display) with buttons on the Group View dialog. All group functions, however, must be done in the Manage Groups dialog.

Working with growth plans

After you have created a scenario, you can use the Growth Plan Editor to predict the response time and other performance metrics, if the demands on one or more workloads, systems, or applications were to change. You can also use a component of the Growth Plan Editor, called Forecast Wizard, to populate your growth plan with projections produced from historical data. Viewing historical trends can be a useful tool in predicting future performance.
Predicting impact of current scenarios

When you change the demands on a workload in the Growth Plan Editor, you are actually changing the workload’s arrival rate—the number of times that workload is called per hour. You can apply the same growth plan to different scenarios.

Using the Growth Plan Editor, you can create a plan to increase or decrease the number of transactions for

- a single workload
- multiple workloads
- workloads on one or more logical systems
- all workloads by the same percentage
- some workloads by different percentages
- a single application
- multiple applications
- a combination of application and workloads

The typical process of using Growth Plans to apply growth is as follows:

1. Create a new growth plan or open an existing one.
2. Edit the plan with growth changes.
3. Save the plan.
4. Apply the growth plan to the scenario (you can apply it one period at a time or to all the periods at once).

You can apply all or some of the changes for up to 48 time periods. For example, one workload might increase by five percent in the first time period, four percent in the second, and 10 percent in the third, while a second workload might remain the same for the first time period, decrease by five percent in the second, and increase by 10 percent in the third. The changes are compounded in each successive period.

You also have the option of importing values into your plan or exporting them to an external file, for example, Microsoft Excel.

After you apply a growth plan to a scenario and then evaluate the scenario, you can view the results for each time period in the Performance Explorer, Report Explorer, Graph Explorer, and Graphlet Explorer. In the Scenario Explorer, the utilization figures in the physical system boxes in the workspace display the compounded values.
Creating a growth plan

You must select a scenario in the Scenario Explorer tree in order to create, edit, or apply a growth plan. However, once you create a growth plan, you can apply it to any scenario. Use the following procedure to create a growth plan.

1. Click to select a scenario in the Scenario Explorer tree.

2. Click the Growth Plan Editor button in the workspace toolbar to open the Growth Plan Editor. (See the Help for a description of the toolbar and all operations you can perform in the from the main window of the Growth Plan Editor.)

3. Click the New button in the Growth Plan Editor toolbar to open the New Growth Plan dialog box or if a link is offered in the Available Options area, you can click that to create a new growth plan.

4. In the New Growth Plan dialog box, type
   - a growth plan name
   - the number of periods of growth (4 is the default; 48 is the maximum)
   - a period prefix, for example, Q for quarter.

5. Click OK to display the name of the new growth plan, workloads and logical systems in rows, and time periods in columns in the Available Growth Plans pane. All growth values are set to zero.

6. If desired, change the column heading names of the time periods (see “Changing column headings” on page 185).
7 Click **Save** to save the growth plan, or click **Save As** to save the growth plan by using a different growth plan name.

8 Do one of the following actions:
   - Close the Growth Plan Editor window.
   - Edit the growth plan. For information about editing a growth plan, see “Editing a growth plan.”

Creating a CDB profile

**NOTE**

Use of this feature requires that you have a license for the BMC Performance Analyzer for Mainframes product.

If you want to populate a growth plan with projections based on BMC CDB historical data (from a Visualizer data base), you must first create one or more CDB profiles that will bind the Forecast Wizard in the Growth Plan Editor to the BMC CDB Services that you want to use.

**To create a CDB profile**

1 Open the Utilities menu in the console.

2 Click **CDB Profile Editor** to open the utility.
Creating a CDB profile

Figure 40  CDB Profile Editor opening page

3 Click Add to add a new profile, Edit to edit a selected existing profile, or Remove to delete a selected existing profile.

4 If you are adding a profile, fill in the name of the profile, the name of the CDB Server that contains the data source, the port you are using to populate the information into the Growth Planner and the name of the virtual directory for the data source.
Creating a CDB profile

Chapter 6 Working with scenarios 169

Figure 41  CDB profile information entry page

If the data source requires an account to access it, you also need to provide a valid username and password. (The default for BMC CDB data sources is to allow anonymous access.)

5 To edit an existing profile, select the profile, click Edit on the opening page (Figure 40 on page 168) and change the content of any field on the information page shown in Figure 41.

6 To remove an existing profile, select the profile and click Remove on the opening page (Figure 40 on page 168).

7 Click OK after adding or editing a profile.

8 (optional) You can test the profile by clicking the Test Profile button on the information page (Figure 41).
Using historical data to populate a growth plan

NOTE
Use of this feature requires that you have a license for the BMC Performance Analyzer for Mainframes product.

After you have created a CDB profile ("Creating a CDB profile" on page 167), you can populate an active growth plan with projections based on historical data, as follows:

1. Create a growth plan as described in "Creating a growth plan" on page 166 or open an existing one.

2. In the Growth Plan Editor toolbar, press the Forecast Wizard button.

3. Click Next to open the CDB information page.

Figure 42  Forecast Wizard profile information page

4. Click the CDB profile drop-down box and select a profile that you created for the CDB source of the historical data ("Creating a CDB profile" on page 167). After you click the profile, the information associated with that profile fills in the various fields as shown in Figure 42.

5. Click Next.
6 Click the specific data source containing your historical data.

7 Select the platform on which the data was generated. Your choices are VM or MVS platforms.

8 Click the radio button that describes the level of detail you want. You can retrieve detailed data, a summary of multiple data intervals (such as daily, weekly, or by shift), or data that shows trending information.

9 Click Next
Using historical data to populate a growth plan

**Figure 44  Specifying workload application information.**

10 Click the radio button for the type of information you want to use and the metric, as shown in Figure 44.

11 Click the down arrow in item 2 to display a calendar from which you can select the start date of the sample that you want to view and also the end date. This time span should encompass the actual data sample you will choose for trending.

12 Click the down arrow in item 3 to select the Visualizer MASF policy that you want to apply to the data. (See the Visualizer Implementation Guide for general information about creating and using Visualizer MASF policies.)

13 If there are multiple data points provided, select one in the drop-down box next to the policy.

14 Click Next.
The next page in the Growth Planner Forecast Wizard is where you specify the exact range of data that you want to populate into your growth plan.

**Figure 45   Specifying projection points and delta values**

1. Click the down arrow in item 1 and select the start date for the projection.

2. Use the counter in item 2 to specify how many data projection points you want within the date range.

3. Select the first interval in item 3 that states **Specify Delta Value** and click **Modify** to open the Project Point Editor. Use this dialog box to specify the value of equal intervals between each data point.

---

**NOTE**

You can also select an interval and click **Modify** to change any interval that you entered.
4 Click the arrow on the drop-down box to select a value from the list or enter your own explicit value in the blank box.

5 Click OK.

6 Repeat Steps 3 through 5 for each interval that directs you to Specify Delta Value. In the Figure 45 on page 173 example, this would be intervals 1 and 2.

7 Click Next.

A summary of the information that you have entered is displayed as shown in Figure 47 on page 175.
Figure 47  Reviewing the projection summary

Growth Planner input will be built using the following information. Click Finish to proceed.

- **DataSource:** SQLMain
- **Platform:** CPMVS
- **Data Type:** Detail
- **Metric Type:** Suite
- **Metric:** Suite_CPU_Utl
- **Interval Start:** 9/16/2002 12:00:00 AM
- **Interval End:** 9/17/2002 12:00:00 AM
- **Policy:** Normal
- **Projection Start Date:** 10/8/2007
- **Projection Delta Values:**
  - Day 1 day
  - Day 1 day

8 Click **Next** after reviewing the information to continue.

9 Click **Finish** in Step 7 to complete the process and submit your request.
After you click the Finish button, the dialog box in Figure 49 on page 177 opens to show the status of your request while the Trending Service is processing it.
Figure 49  Status of the job

10 When the CDB Trending Services Complete message is displayed, click OK. The Growth Plan is updated with the results of the request and the Import Summary is displayed.
You cannot have a large amount of data that does not match the specific modeling interval. Check the summary and verify that the workloads or applications you selected have been updated with forecasted values.

When you are finished, the data you selected is populated into your active growth plan as shown in Figure 51 on page 179. You can also save this data and view it in graphs using Performance Assurance Analyzer. (See the Visualizer documentation for Performance Assurance Analyzer for details of viewing data in graphs.)
Figure 51  Growth plan populated with Forecast results

<table>
<thead>
<tr>
<th>Application</th>
<th>Q01</th>
<th>Q02</th>
<th>Q03</th>
<th>Q04</th>
</tr>
</thead>
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<td>BDYDBCL</td>
<td>-2.3%</td>
<td>-2.3%</td>
<td>-2.4%</td>
<td>-2.4%</td>
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<td>DEBUTIL</td>
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<td>-32.3%</td>
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</tr>
<tr>
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<td>16.5%</td>
<td>14.2%</td>
</tr>
<tr>
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<td>29.6%</td>
<td>22.8%</td>
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</tr>
<tr>
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<td>18.1%</td>
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<tr>
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<td>-39.0%</td>
<td>-28.1%</td>
<td>-21.9%</td>
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<tr>
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<td>0%</td>
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<td>0%</td>
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<td>-44.8%</td>
<td>-30.9%</td>
<td>-23.6%</td>
</tr>
<tr>
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<td>2.8%</td>
<td>2.8%</td>
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<td>-2.0%</td>
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<tr>
<td>DG2RSAF</td>
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<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
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<td>-0.8%</td>
<td>-0.8%</td>
<td>-0.8%</td>
</tr>
<tr>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>DHC1TSDB</td>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
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<td>0%</td>
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</tr>
<tr>
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<td>3.1%</td>
<td>3.0%</td>
</tr>
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<td>20.7%</td>
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</tr>
<tr>
<td>DHH1UTIL</td>
<td>23.3%</td>
<td>18.9%</td>
<td>15.9%</td>
<td>13.7%</td>
</tr>
<tr>
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<td>-36.5%</td>
<td>-26.7%</td>
<td>-21.1%</td>
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<tr>
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<td>-21.7%</td>
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<td>15.5%</td>
<td>13.4%</td>
</tr>
<tr>
<td>MD6MVS</td>
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<td>6.6%</td>
<td>6.2%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>
Editing a growth plan

After you have a growth plan, whether you created it from a current scenario or from historical data, you can edit it at any time by making changes to growth percentages or transaction values within a time period or periods. You can cut, copy, paste, and move growth percentages or transactions. After saving the growth plan changes, you can apply the growth plan to any scenario in the Console. The following is a summary of all the possible tasks that you can perform by right-clicking in the Growth Plan Editor and opening the context menu:

- **Move** - remove one or more values from one location and place it in another by dragging and dropping them. The source cell value changes to a zero. In addition, you can move values from a growth plan to any product that supports Comma Separated Value (CSV) or tab delimited formats.

- **Cut and paste** - same as Move but you use the cut and paste menu commands to remove a value from one cell and place it in another.

- **Copy** - copy a value for replication elsewhere in the growth plan or to any product supporting CSV or tab delimited formats. The value in the cell you copied from remains the same.

- **Change Value** - edit the selected value.

- **Clear Contents** - delete the selected value. If you don’t enter a value, the default of zero is used.

**NOTE**
Whenever you adjust the growth percentage of a workload, all the logical system growth percentages on which the workload runs are also updated by the same percentage.
You can perform these additional tasks only when you select a time period column.

- **Insert Period** - insert a new time period to the left of the currently selected time period.

- **Delete Period** - delete the selected time period. You are always prompted before deleting a time period.

- **Rename Period** - rename the selected time period.

- **Edit Annotation** - add an annotation to the selected time period.

- **Delete Annotation** - delete the current time period.

- **View Period Value** - display or hide a time period’s global value. By changing this value, you can globally change all the values in a selected time period.

Table 1 provides a quick reference for the tasks described in the previous section.

### Table 1  Table of Growth Plan Editor tasks (part 1 of 2)

<table>
<thead>
<tr>
<th>Task</th>
<th>How to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Move</strong></td>
<td>Select one or more cells and point to the border of the selection. When the cursor changes shape, hold down the mouse and drag the cells to the new destination by releasing the mouse button.</td>
</tr>
<tr>
<td><strong>Cut</strong></td>
<td>Right-click one or more cells and choose <strong>Context =&gt; Cut</strong>. A yellow and black marquee rotates around the selected cells and remains there until another cut operation is done.</td>
</tr>
<tr>
<td><strong>Copy</strong></td>
<td>Right-click one or more cells and choose <strong>Context =&gt; Copy</strong>. A black and white marquee rotates around the selected cells and remains there until another copy operation is done.</td>
</tr>
<tr>
<td><strong>Paste</strong></td>
<td>Right-click one or more cells and choose <strong>Context =&gt; Paste</strong>. The new data is inserted into the adjacent cells.</td>
</tr>
<tr>
<td><strong>Change Value</strong></td>
<td>Right-click a cell and choose <strong>Context =&gt; Change Value</strong>. Type a new value in the dialog box that opens and click <strong>OK</strong>.</td>
</tr>
<tr>
<td><strong>Clear Contents</strong></td>
<td>Right-click a cell and choose <strong>Context =&gt; Clear Contents</strong>. The cell reverts to the zero value.</td>
</tr>
<tr>
<td><strong>Insert Period</strong></td>
<td>Right-click a time period title and choose <strong>Context =&gt; Insert Period</strong>. A new time period is inserted to the left of the selected time period with the generic “New Period” title.</td>
</tr>
<tr>
<td><strong>Delete Period</strong></td>
<td>Right-click a time period and choose <strong>Context =&gt; Delete Period</strong>. A warning message lets you know that changing a time period might cause referenced scenarios to deliver warning messages during scenario evaluation. To continue, click <strong>Yes</strong>. The time period is deleted.</td>
</tr>
</tbody>
</table>
Table 1  Table of Growth Plan Editor tasks  (part 2 of 2)

<table>
<thead>
<tr>
<th>Task</th>
<th>How to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rename Period</td>
<td>Right-click a time period title and choose <strong>Context =&gt; Rename Period</strong>. A warning message lets you know that changing a time period might cause referenced scenarios to deliver warning messages during scenario evaluation. To continue, click <strong>Yes</strong>. The current title is highlighted allowing you to type a new title.</td>
</tr>
<tr>
<td>Edit Annotation</td>
<td>A red marker in a time period title denotes the presence of an annotation. To edit the annotation, right-click the time period title and choose <strong>Context =&gt; Edit Annotation</strong>. The annotation pane opens letting you edit the text of the existing annotation.</td>
</tr>
<tr>
<td>Delete Annotation</td>
<td>Right-click a time period title and choose <strong>Context =&gt; Delete Annotation</strong>. The selected time period is deleted.</td>
</tr>
<tr>
<td>View Period Value</td>
<td>Right-click a time period title and choose <strong>Context =&gt; View Period Value</strong>. When selected, this option allows you to view the global value for the selected time period. The default value is zero.</td>
</tr>
</tbody>
</table>

**To open an existing growth plan**

Use the following procedure to open an existing growth plan.

1. Select a scenario in the Scenario Explorer tree.

2. Click the **Growth Plan Editor** to open the Growth Plan Editor window, displaying the names of available growth plans in the Available Growth Plans pane.

3. Click a name listed under Available Growth Plans to display the workloads, logical systems, and time periods for the selected growth plan.

**To drag and drop values**

Use the following procedure to drag and drop values.

1. Click a cell (or group of contiguously selected cells) to select one or more values.

   **NOTE**
   You can only drag multiple values if they are selected contiguously.

2. Move the cursor to the edge of the cell until the cursor changes shape.

3. Hold the mouse button and drag the cell to the location to which you want to apply the growth percentage or transaction.
4 Release the mouse button.

The new value is removed from its original system location (or copied if you pressed CTRL) and updated in the destination system.

---

**NOTE**

To copy the cell to the new location, press CTRL while dragging. The standard dragging procedure moves the values without copying them.

---

If you make changes to the value of a parent workload system, the children values are also updated.

---

**To drag values into a program on your taskbar**

Use the following procedure to drag values into a program on your taskbar.

1 Drag the cell or cells to the program icon located on your taskbar.

2 Without releasing your mouse button, hover your cursor over the program icon until the program opens.

---

**NOTE**

You can drag values to any product that supports CSV or tab delimited formats.

---

3 After the program has activated, release your mouse button in the location where you want to insert the values.

**To copy and paste values**

Use the following procedure to copy and past values.

1 Right-click a cell that you want to copy and choose Context => Copy.

A black and white marquee rotates around the selected cell and remains there until another task is completed.

2 Right-click a destination cell and choose Paste from the menu to paste the value in the new location.
Copying and pasting multiple cells

You can also copy and paste multiple values into one or more cells using the following guidelines:

- If you copy a selection of cells and attempt to paste them into a single cell, the Growth Plan Editor automatically pastes all the originally selected cells into the equivalent number of cells in the destination area overlaying the cells in the new location according to the source selection.

- If you copy a selection of cells and attempt to paste into a smaller area of cells, the Growth Plan Editor pastes according to best fit. The rule is that pasting is prioritized for values positioned in the left upper most quadrant of the source selection.

- If the destination range of cells into which you are pasting is larger than the source range of cells, the cells are duplicated according to the left to right, up, down sequence until the entire range of destination cells are filled.

**NOTE**
If you select cells, and then collapse the view of their associated children, a dithered border appears around the selected cells to alert you that there are hidden child cells there. If you drag this selection to another area, these hidden cells are moved into the destination location as normal.

**To change a value**

Use the following procedure to change values.

1. Right-click a cell and choose **Context => Change Value**.

2. Type a new value in the dialog box that opens.

3. Click **OK**.

**To clear contents of a value**

Right-click a cell and choose **Context => Clear Contents** to set the cell to zero.
Inserting and deleting time periods

You can add time periods to an existing growth plan. The maximum number of time periods in a growth plan is 48.

To add time periods to a growth plan

Right-click a time period, and choose Context => Insert Period to add a new column to the left of the selected time period representing a new time period.

To create a name for a new time period

1 Double-click the New Period column heading at the top of the time period to highlight the column heading.
2 Click Yes in the warning message.
3 Type a new time period name.

To delete a time period

1 Right-click a time period and choose Context => Delete Period.
2 Click Yes in the warning message.
3 Click Save in the toolbar to save your changes.

To rename a time period

1 Right-click a time period and choose Context => Rename Period. Alternatively, double click the time period.
2 Click Yes in the warning message that displays.
3 Type a new name for the time period over the highlighted old name.

Changing column headings

The default column headings in the Growth Plan Editor window display

- rows arranged by workload
- time-period column headings with numbered quarter names (for example, Q01, Q02) that are empty for newly added periods
To change the row arrangement from workload view to system view, click **View by System**. To revert back to workload view, click **View by Workload**.

**Adding an annotation to a time period**

You can add an annotation to any time period. Once an annotation is created, a red marker appears in the header of the time period. If you hover over this red marker with your mouse, you can view a context box that displays the text of the annotation that was created.

1. Right-click at the top of a time period with which you want to associate an annotation and select **Context => Edit Annotation** to open an annotation box.

2. Type the textual annotation that you want to associate with this time period.

3. When you have finished typing your annotation, click anywhere in the growth plan to automatically save the annotation.

A red marker appears in the top right hand corner of the time period name indicating that an annotation has been created for this time period.

**Editing an existing annotation**

Use the following procedure to edit an existing annotation.

1. Right-click the time period that you want to edit, and choose **Context => Edit Annotation** to display the text of the original annotation in the annotation box.

2. Edit the annotation as desired.

3. Click anywhere in the growth plan to save your changes.

**Deleting an annotation**

Right-click the time period that you want to delete, and choose **Context => Delete Annotation** to delete the annotation and remove the red indicator from the time period.
Setting percentage values for growth

Using the Growth Plan Editor, you set percentage values that determine how much each workload or application associated with a logical system grows or shrinks. The value you enter for the percentage of growth can be positive or negative.

For example, the workload PRD_BATM might run on three logical systems: BMCC, BMCD, and BMCK. You can set separate growth percentages for the workload on each system. These growth percentages can also differ from time period to time period, so that if your growth plan included four time periods, you could set multiple different growth percentages for the workload.

You can set the growth percentages individually, establishing a separate individual value for any workload on any logical system in any time period.

You can also set a single value for the percentage of growth in each of the following groupings:

- entire growth plan
- entire time period
- entire workload, over one time period, across all logical systems it runs on
- all workloads on an entire logical system, over one time period or across all time periods
- single or multiple applications if available for the data

You can change all values in a time period by the same percentage, and then change individual percentage values for workloads within the time period.

When you finish setting percentage values, do one of the following:

- If you are not ready to apply the growth plan to the selected scenario, close the Growth Plan Editor.
- If you are ready to apply the growth plan to the selected scenario, follow the procedure in “Applying a growth plan” on page 194.

**Setting a Percentage of Growth for the Entire Growth Plan**

If you want to find out the effect of all your workloads growing by a given percentage over one or more time periods, you can designate a single percentage value for the entire plan.

1. With a growth plan selected in the Growth Plan Editor window, right-click the top left percentage value, and choose Context => Change Value.

2. Type a percentage value in the Change Value dialog box.
3 Click **OK** to update the growth plan to show a consistent percentage of growth across all periods in the growth plan.

4 Click **Save** to save your changes.

**Setting the percentage of growth for an entire time period**

Use the following procedure to set a single percentage of growth for an entire time period.

1 With a growth plan selected in the Growth Plan Editor window, right-click the percentage value above the column for the time period you want to modify, and choose **Context => Change Value**.

2 Type the new value in the Change Value dialog box, and click **OK** to set all values in the selected time period to the designated percentage.

3 Click **Save** to save your changes.

**Setting the percentage of growth for an entire workload, over one time period**

Use the following procedure to set the percentage of growth for an entire workload, over one time period, across all logical systems it runs on.

1 With a growth plan selected in the Growth Plan Editor window, locate the workload and the time period for which you want to set the value. Use the vertical and horizontal scroll bars, if necessary.

2 Right-click to select the value at the intersection of the desired workload row and the desired time period column, and choose **Context => Change Value**.

3 Type a new value in the Change Value dialog box, and click **OK** to display the new value in the chosen time period for all logical systems that the workload runs on.

4 Click **Save** to save your changes.

**NOTE**

You can switch to workload view by clicking **View by Workload**.
Setting the percentage of growth for an entire logical system, over one time period

Use the following procedure to set the percentage of growth for an entire logical system, over one time period.

1. With a growth plan selected in the Growth Plan Editor window, click View by System to toggle to system view.

2. Locate the logical system and the time period for which you want to set the value.

3. Right-click to select the value at the intersection of the desired logical system row and the desired time period column, and choose Context => Change Value.

4. Type a value in the Change Value dialog box, and click OK to display the new value in the chosen time period for all workloads running on the logical system.

5. Click Save to save your changes.

Setting the percentage of growth for all the workloads in an entire logical system

Use the following procedure to set the percentage of growth for all workloads in an entire logical system.

1. Click the logical system for which you want to set the value.

   All the corresponding workloads for the selected logical system are automatically highlighted.

2. Type a value in the Change Value dialog box and click OK.

3. Click Save to save your changes.

Setting individual values

Use the following procedure to set an individual value for one workload running on a particular logical system during one time period.

---

**NOTE**

You can use either the workload view or the system view for this procedure.
With a growth plan selected in the Growth Plan Editor, locate the workload, logical system, and the time period for which you want to set the value. Repeat steps 2 and 3 from the previous section.

**Importing and exporting a growth plan**

The Import/Export feature lets you save a growth plan to another location or export or import a file in another program such as Excel into an existing growth plan. This feature utilizes an easy-to-use wizard. You can move between screens in the wizard by clicking Next or Back.

**Exporting a growth plan**

Use the following procedure to export a growth plan.

1. Select the growth plan from the Scenario Explorer that you want to export.

2. Click **Import/Export** at the top of the Growth Plan Editor window to open the Import/Export Wizard with the Export growth plan action highlighted.

3. Click **Next** to open the Export to a File screen.

4. Type a destination folder name where the text file is to be saved in the **Save exported file as** field, or click **Browse** to search for a folder manually.

5. Click **Next**.

6. Select a field delimiter from the displayed list. This selection determines how the columns and rows of data are organized in the destination spreadsheet.

7. Click **Next**.

8. Click **Yes** or **No** by the row and column label options to include the respective labels in the exported data.

9. Click **Next** to open the Verify Selections screen displaying a summary of the selections that you made in the preceding Wizard screens.

10. Click **Finish** to save the data and complete the data export procedure.
Importing a growth plan

Use the following procedure to import a growth plan.

1. Select a growth plan into which you want to import data.

2. Click **Import/Export** at the top of the Growth Plan Editor window to open the Import/Export Wizard.

3. Click **Import growth plan values from a text file** in the action pane.

4. Click **Next** to open the Import a File screen.

5. Type the name of the file that you want to import, or search for it manually using **Browse**.

6. Click **Next** to open the next dialog.

7. Select either **Delimited** to use standard delimiters, such as commas or tabs between fields or **Fixed width**, which allows you to manually specify column separation. The default is Delimited.

   — If you select **Delimited**, you open the following dialog box. You can see what the display will look like in the Data Preview pane.
If you select **Fixed width**, you open the following dialog box:
A Follow the instructions in the pane to Create, Delete, or Move a column break. Use the ruler as a guide.

B Click Next.

The following dialog box opens after you complete either the Delimited or Fixed width option.

8 Select label-matching options:

- **Import directly without row label matching** - select whether the data is imported directly into the first row and column of the growth plan, thereby omitting the row or column labels.

- **Match row labels when importing** - select whether the data is imported into the growth plan only after the row and column labels have been added.

- **First column contains row labels** - select whether the first column of your imported data will include a row label.

- **First row contains column labels** - select whether the first row of your imported data will include a column label.
Applying a growth plan

9 Click Next to open the Verify Selections screen where you can check all of your selections before submitting them.

10 Click Finish to complete the data import.

**NOTE**
If after exporting a growth plan, you choose to import it back again, you must be consistent in selecting the same growth type that you used when exporting the plan; Workload Growth for export and import, or Application Growth for export and import.

**Applying a growth plan**

After you have created a growth plan, you must apply it to a scenario before you can evaluate its effects. You can apply a growth plan to any scenario that you select in the Scenario Explorer tree.

You can apply all periods of the growth plan to a scenario, or you can select individual periods to apply.

If you apply a growth plan to a scenario that includes workloads or logical systems that were not present in the original scenario on which the growth plan was developed, those additional workloads or logical systems are not affected by the growth plan unless they are part of a time period for which all values have been changed. For example, if the growth plan increases all values in one time period by five percent, any new workloads in that time period are also increased by five percent.

If you apply a growth plan to a scenario that does not include some of the workloads or logical systems for which you have specified growth rates, those growth rates are ignored.

1 In the Growth Plan Editor, click **Apply** to open the Apply Growth Plan Periods dialog box.
Applying a growth plan

Figure 52  Apply Growth Plan Periods dialog box

2  Click the check boxes that correspond to the growth periods that you want to apply the growth plan to.

3  Click OK to apply the growth percentages to the time periods that you selected for growth in the growth plan.

A red check mark appears next to the updated growth plan name in the left hand column of the Growth Plan Editor.

4  Right-click the scenario name in the Scenario Explorer tree pane and choose Save Changes.

5  To view the effects of the growth plan, click Refresh or evaluate the scenario by clicking Evaluate. (If automatic refreshing is disabled, you receive a message above the workspace letting you know that you need to refresh the scenario.)

When the evaluation is complete, the utilization figures for the final applied time period of the growth plan appear in the physical system boxes in the workspace. For example, if you applied periods Q1, Q2, Q3, and Q4, the utilization data for Q4 would appear in the workspace and you are prompted to select a method for viewing the evaluation results in Performance Explorer, Graph Explorer, Report Explorer, or Graphlet Explorer.

**NOTE**

For more information on evaluating scenarios, see the “Evaluating scenarios” on page 200.
Using the Change Description List

The Change Description List replaces the workspace or child node view of the Scenario Explorer whenever you click the Changes View button.

Figure 53  Change Description List

![Change Description List](image)

**TIP**

You can apply all the time periods in a growth plan to the scenario, and then use the Change Description List to insert workload moves, CPU upgrades, or other changes between time periods.

To open or close the Change Description List pane when a scenario is selected, click the Changes View button at the bottom of the Scenario Explorer window.

To view the child node list for the current scenario, click the Child Node View at the bottom of the Scenario Explorer workspace.

The top part of the Change Description List shows all the changes you have made to the scenario. In the bottom pane, changes related to the Best Case or Worst Case saturation level of system processors are shown.

At any given time, only one Best Case or Worst Case saturation level change is recorded in the lower pane. If no changes are made, the default condition is that the saturation level in the baseline data is maintained. See “Choosing processor evaluation options” on page 202 for details about the processor saturation levels.
You can use the Change Description List to

- delete a change
- rearrange the order of scenario changes, except for changes related to processor type (general purpose, zIIP, or zAAP)

**NOTE**

When you delete or move a change, make sure that you delete or move all associated changes as well.

**Viewing change details**

Some of the changes that you make provide additional details that you can view in the Changes View. To view details for a change

1. Click the word **Details** to the right of the change as shown in Figure 54.

**Figure 54  Changes with details**

This opens the Details dialog box, which shows you more detail about the change.

As shown in Figure 55 on page 198, there are two buttons at the top of the dialog box that give you the options of expanding or collapsing the list of detailed changes.
Deleting a change

2 When you have finished viewing the details, click Close.

Figure 55 Details dialog box

Deleting a change

Use the following procedure to delete a change you have made in a scenario.

1 In the Change Description List, click to select the change that you want to delete.

2 Click Delete on the toolbar above the list.
Rearranging the order of scenario changes

The order of the changes you make to a scenario can sometimes affect the results of the scenario when evaluated. You can reorder any changes in the top part of the display. (Changes related to processor saturation levels in the lower part of the display cannot be ordered. There is never more than one entry there.)

1. In the top part of the Change Description List, click to select the change you want to move up or down in the list.

2. On the toolbar above the list, click the up arrow or the down arrow to move the change higher or lower in the list, respectively.

3. Save your changes by right-clicking the scenario name in the Scenario Explorer tree and choosing Save Changes or click Save on the window toolbar.

NOTE
If you delete (undo) the entry in the bottom part of the display, the default condition is that the saturation level of the baseline data is maintained.

NOTE
You can also rearrange the order of change descriptions using drag and drop. Once you begin dragging the change description, a red arrow appears indicating where the change description will be dropped.

Previewing CPU utilization for a growth plan

When you make a change to a growth plan, you can use the Refresh button on the workspace toolbar to calculate the effect your change will have on CPU utilization.

The new CPU utilization percentages are displayed next to the names growth plans.

It is not necessary to evaluate the growth in order to use Refresh. If you want to adjust the growth plan until you have achieved the desired utilization rate, keep making changes to the growth plan and check the effect by clicking Refresh.
Setting automatic or manual refreshing

By default, Performance Predictor is set to **Manual Refreshing**, which means that to refresh, you must click the **Refresh** button. The only time you really have to refresh is when you apply growth to a scenario or make a change (reorder or remove a change) to an item in the Changes List.

If you change the setting to **Automatic Refreshing**, the CPU utilization figures are automatically updated whenever you make a change in the workspace. You do not need to press **Refresh**. However, there is a slight delay after each change in the workspace as CPU utilization figures are updated.

To set automatic or manual refreshing of CPU utilization figures, click the down arrow to the right of **Refresh**, and from the menu choose either

- **Automatic Refreshing**
- **Manual Refreshing**

**NOTE**

When **Manual Refreshing** is selected, a banner message is displayed just below the workspace toolbar when you need to refresh.

Evaluating scenarios

When you evaluate a scenario, all the changes you made to the physical and logical systems in the scenario are applied to recalculate the performance data for the baseline period with which the scenario is associated.

You can evaluate the scenario against

- a single baseline
- multiple baselines, using the Evaluation Wizard

Evaluating the scenario against multiple baselines lets you see the effects your changes have during time periods where system activity is greater or less than the baseline period from which the scenario is created.

The evaluation results depend on where you place the scenario in the Scenario Explorer tree, and which baselines you evaluate it against, as follows:

- If you place a scenario under another scenario, it becomes a child of the parent scenario above it on the tree. The child scenario automatically inherits any changes that were made in the parent scenario.
If you evaluate a scenario against any baseline other than the baseline you created the scenario under, some of the data might not be available. If workloads and systems running during the original baseline were not running during the new baseline, the evaluation process ignores the missing data.

Once you have evaluated the scenario, you can view the results in the Performance Explorer, Graph Explorer, Graphlet Explorer, and Report Explorer.

You can make the same changes to an evaluated scenario that you can to a scenario that has not been evaluated: move workloads, modify physical and logical systems, and add growth plans. However, you must then re-evaluate the scenario to get valid results.

1. Right-click a scenario name in the Scenario Explorer tree and from the menu choose either

   - **Scenario Evaluation => Evaluate Scenario** to evaluate the scenario against a single baseline
   - **Scenario Evaluation => Evaluation Wizard** to evaluate the scenario against multiple baselines using the wizard. (Follow the instructions in the wizard, using the Select Baseline dialog box to select multiple baselines.)

   **NOTE**

   Both of the preceding operations can be performed using Scenario Explorer Navigation Tree toolbar buttons.

   The information bar above the workspace toolbar indicates the progress of the evaluation. When the evaluation is complete

   - a blue check mark appears next to the scenario name in the tree
   - CPU utilization percentages are updated in the workspace

2. When the Evaluation Complete dialog box opens, do one of the following:

   - Click the appropriate link to view the results in the Performance Explorer, Graph Explorer, Graphlet Explorer, and Report Explorer.

   The selected tool window displays the results for the scenario/baseline combination that is highlighted in the Scenario Explorer tree.
Choosing processor evaluation options

To view the results for other baselines you evaluated the scenario against, use the

— Select Input dialog box in the Graph Explorer and the Graphlet Explorer
— Reporting Wizard in the Report Explorer
— Data Selection pane in Performance Explorer

■ Click Cancel to close the dialog box.

Choosing processor evaluation options

You can choose how much of your work is executed on zIIP, zAAP, or GCP processors by accessing a dialog box from the Evaluation Options workspace toolbar button.

After you open the dialog, click the type of evaluation you want to perform:

■ Best Case - as much work as possible will be routed to zIIP and zAAP processors on your system, up to the percentage cap (out of 100%) that you specify. Spillover jobs, that request execution after the cap is reached, are routed to the general processor for completion.

■ Worst Case - most of the work will be executed by the general processor, with only a minimal percentage that you specify (out of 100%) going to zIIP and zAAP processors. Spillover jobs, that request execution beyond the percent you specify for the zIIP and zAAP processors are routed to the general processor for completion.

■ Maintain current profile - maintaining the current profile is the default. All jobs are processed exactly as indicated by the baseline data. When this option is selected, all edit boxes are disabled.

After choosing either the Best Case or the Worst Case option, you need to add the percentage levels in the edit boxes for each processor type as follows:

1 In the Advanced Options section, find the Maximum Utilization Percent field.

2 Enter the maximum percent of total processing that you want performed on each of the processor types shown, zIIP and zAAP.

Any leftover percentage out of 100% (total zIIP and zAAP) spills over to the GCP processor. In Figure 56 on page 203, up to 95% of the zIIP processor can be utilized and up to 95% of the zAAP processor. If job requests exceed the 95% capacity of these processors, leftover jobs (up to 5%) are executed by the general processor.
3 In the Maximum Proportion section, enter a value specifying the proportion of eligible work that you want to execute on each process type. A value of 0 means that none of the work will execute and a decimal value up to 1.0 indicates the percent of total work that executes.

For example, 0.95 for the zIIP and zAAP processors means that nearly all of the eligible work can execute on either system. This amount of work cannot exceed 95% of either processor’s utilization capacity. Any spillover from the zIIP and zAAP values will be executed by the general processor.

4 Click OK.

The results of the values you enter can be seen in reports after you perform evaluations of the baseline data.

**NOTE**

The most recent change that you make to these evaluation option values is logged in the bottom pane of the Changes View screen. If you delete that entry, or if you never change the values, the defaults from the baseline data, which happen to be the Maintain Case values are shown instead.
Viewing evaluation results

You can use the Performance Explorer, Graph Explorer, Graphlet Explorer, and Report Explorer to view the results for any evaluated scenario selected in the Scenario Explorer tree.

1 In the Scenario Explorer tree, click to select an evaluated scenario. An evaluated scenario has a blue check mark next to its name.

2 On the toolbar above the workspace, click one of the following:

- Switch to Graph Explorer
- Switch to Report Explorer
- Switch to Graphlet Explorer
- Switch to Performance Explorer

If the scenario that you are viewing has multiple growth plan results, you are prompted to select a specific growth plan to view using a dialog box in the Graph Explorer or Graphlet Explorer.

**TIP**

To quickly compare your scenario performance results to baseline performance, launch the Report Explorer. The Performances Changes Summary report displays by default.
Making changes to an evaluated scenario

After you have evaluated a scenario, you can continue to make changes to it. You can also use the Change Description List to delete or reorder previous changes.

When you make changes to an evaluated scenario, you must evaluate it again before you can view the results. A message appears next to the scenario name in the Scenario Explorer tree prompting you to re-evaluate the scenario.

TIP
Rather than adding changes to an evaluated scenario, you can create a child scenario on the scenario tree and add the changes to the child scenario. The child scenario inherits all the changes in its parent scenario. This preserves the original scenario results and provides faster refresh time for the scenario. For more information, see “About scenarios” on page 94.

Printing a view

To print the current view in the workspace, right-click in the workspace but outside of any physical or logical system boxes and choose Print from the menu.

TIP
You can drag the boxes in the workspace to rearrange them so that they do not overlap when you print the contents of the pane.

Using Normal View and Print Layout View

In the bottom left-hand corner of the Scenario Explorer workspace, next to the horizontal scroll bar, are two buttons:

- Normal View
- Print Layout View

Clicking Normal View shows the arrangement of systems and workloads in the workspace as they appear by default. There are no page breaks and you will have a continuous scroll page from the first to the last object displayed.

If you click the Print Layout View button, you will notice light page perforations to indicate what will be printed on each page, should you decide to print the current workspace. You can switch between the Normal View and the Print Layout View by clicking between these two buttons.
Chapter 7

Viewing reports

This chapter explains how to view and navigate through Performance Predictor reports. This chapter presents the following topics:

- Report overview .......................................................... 208
  - Special terms ......................................................... 209
  - Changing display settings of reports ......................... 209
  - Color coding in reports ........................................... 211
- Key reports ............................................................... 212
  - Viewing the Daily Health Check Summary report ........ 213
  - Viewing the Performance Changes Summary report ...... 215
  - Viewing configuration and performance reports .......... 216
  - Comparing reports .................................................. 217
- List of all available reports ........................................ 217
  - Notes on scenario reports ........................................ 219
  - Notes on scenario reports with growth plans ............ 220
  - Notes on reports for baselines ................................ 220
- Opening Report Explorer ............................................ 221
  - Report Explorer toolbar buttons .............................. 222
  - Report pane context menu ....................................... 223
  - Navigation pane menu ............................................ 224
  - Generating and viewing reports ............................... 224
  - Creating report profiles ........................................ 225
- Using the Performance Predictor portal ......................... 234
  - Opening Performance Predictor portal ...................... 234
  - Publishing reports to Performance Predictor portal ...... 236
  - Selecting and loading reports in the portal ............... 238
  - Viewing reports in the main portal viewing page ......... 241
Report overview

Universal Information Exchange processes a SMF/RMF or CMF data set that has been collecting data from your z/OS environment. During processing, the UIE separates the data into preset intervals. The default interval is one hour every 24 hour period. Discussions in this manual are based on that default interval.

The data collector organizes the information into XML files that are made available on your Windows system. You can access the following information:

- A Daily Health Check Summary report that shows the performance of each workload over the entire day, for each hour it was running. If your z/OS environment is running in Goal Mode, the Daily Health Check Summary report compares the hourly performance against the goals you set.

- 24 hourly baselines, each of which contains multiple reports with average figures. The following report types are available for various objects in the baseline such as the systems, storage devices, workloads applications and coupling facilities:
  - Configuration
  - Performance Detail
  - Top Analysis

After you have this baseline data on your PPM system and you create "What-if" scenario models from it, you can view those resulting reports, as well. Refer to Appendix B, “Contents of reports,” for a description of the contents of each report.

There are two basic tools you will use to access these reports:

- **Report Explorer** - View all the reports, baseline or scenario, or a subset of significant reports that you define using the Report Explorer Profile Editor. You can also use Report Explorer to publish reports to the Performance Predictor portal. Access through Report Explorer is described in this chapter.

- **Performance Predictor portal** - View and save published reports for future reference. Access through Performance Predictor portal is described in this chapter.
There is another tool, called **Performance Explorer**, that you can use to create custom reports from baselines and scenario results. Using Performance Explorer, you can select specific objects from one or more baselines or scenarios for comparison in different reports or to merge them into a single report. Performance Explorer is described in Chapter 9, “Using Performance Explorer.”

---

**TIP**

Each reporting tool has a link to the other reporting tools. You can view the same baseline and scenarios that you select in Report Explorer in the other reporting tools by clicking one of the other tools in the workspace toolbar.

---

**Special terms**

In addition to the numeric data in each report, Performance Predictor reports include the following special terms.

**Table 2 Special terms used in reports**

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>not applicable or not available</td>
</tr>
<tr>
<td>saturated</td>
<td>response time is undetermined and very long</td>
</tr>
<tr>
<td>used</td>
<td>how much CPU capacity is used</td>
</tr>
<tr>
<td>free</td>
<td>how much CPU capacity remains</td>
</tr>
<tr>
<td>extra</td>
<td>how much additional CPU capacity would be required to accomplish the task</td>
</tr>
</tbody>
</table>
As shown in the figure, you have three categories of options:

- Nightly Options
- General options
- Interactive Options

Each category offers a different selection of settings. Interactive options are report generation options, which are described in the following list, used while generating reports within the PPM console. Nightly options are also report generation options, but are used during the nightly automation, manual data populate, and data pull (using the baseline browser) processes. Nightly options exclude the ShowScenarioSteps, ShowScenarioAnnotations, and ShowGrowthAnnotations options.

- Generate Dynamic Reports: If True, dynamic reports where you can re-sort data are generated as opposed to static reports, where no changes are allowed.

- MetricDisplayStyle: You can choose long or short metric names that you define in Performance Explorer. Or, you can revert to the Classic name of the metric, which has been used in prior versions of Performance Predictor.
- **ReportStyleSheet**: *MVP Default* is the default setting. If you want a different style used for reports, click on the button that appears at the right edge of the selection box and choose from one of the other styles offered in the dialog box that opens.

- **ShowGrowthAnnotations** and **ShowScenarioAnnotations**: If *True*, will display any annotation associated with growth plans or scenarios in all “What-If” reports. If *False*, will display annotations only in the Operation Description Summary Report.

- **ShowScenarioSteps**: If *True*, shows the changes that you made, step-by-step, for scenarios in each “What-If” report. If *False*, displays the changes only in the Operation Description Summary Report.

- **TopReportNumber**: Lets you specify the number of items to display in a “Top Analysis” report. For example, if you have a value of 10, you would display the *Top 10 Physical Systems by Utilization* in all reports of that type.

The General category of settings include:

- **HistoryListLength**: Lets you specify how many items can be in the Go Back and Go Forward list of reports previously viewed.

- **SaveStateOnShutdown**: Saves the state of the current Report Explorer session, so that when you next open the tool, it will open to the current report. The default for this setting is *False*, which means the state is not saved. To save the state, you must change it to *True*.

---

**NOTE**

When you select a setting in the Settings dialog box, a definition of that setting appears at the bottom of the settings pane.

---

**Color coding in reports**

Reports in Performance Predictor frequently use color-coding to distinguish between good performance (green) and bad performance (red). This way, you can quickly scroll through a report, stopping only when you see a red icon or red numbering.

In scenario reports, red numbering highlights results that are worse than the baseline results for the same category, while green numbering highlights results that show improvement over the baseline for the same category.
Key reports

Performance Predictor generates hundreds of pages of reports for each hourly baseline and “What-If” scenario. These reports provide information you can use to track specific problems and compare possible solutions.

However, you might never need to review the entire body of information. A daily review of key summary reports is often sufficient to ensure the health of your z/OS environment.

If you want a quick overview of your environment’s performance, first review the Daily Health Check Summary report (see “Viewing the Daily Health Check Summary report” on page 213). This report is extremely useful if your z/OS environment is running in goal mode. You can see immediately when and where your system has performance problems relative to the goals you have set.

If you want to look deeper, pick one or more hours of peak system usage (for example, the hours when large batch jobs run), and use the Performance Predictor portal to scan the following reports for the selected time period or use the Performance Explorer to create customized reports, where you can selectively choose the details you want to see:

- Top Workload Analysis Report
- Top Coupling Facility Analysis Report
- Top Tape Analysis Report
- Top Disk Analysis Report
- Top System Analysis Report
- Top Application Analysis Report
- Top Storage System Analysis Report
- Top Storage Group Analysis Report
- Application Performance Details Report
- Application Configuration Report

If these reports show that the z/OS environment is meeting the service level objectives and you do not need to fine tune it, no further action is required.

However, if you see something in the reports that concerns you, or you have other reasons to believe that you are not getting peak performance, you might want to look more closely at the hourly baseline reports. These reports contain hyperlinks where you can drill down to the desired level of information.

Links are also available for you to navigate to other tools to view the baseline information with Performance Explorer, Graph Explorer, or the Graphlet Explorer. In Scenario Explorer, you can create scenarios to solve any problems you have found.
After creating such scenarios, you can publish reports for them to the web, where others in your organization can view them (see “Publishing reports to Performance Predictor portal” on page 236).

**NOTE**
Wherever utilization is saturated in a scenario, the scenario report specifies how much extra capacity is necessary to bring utilization below the saturation level.

### Viewing the Daily Health Check Summary report

The Daily Health Check Summary report is a baseline report and usually the first report you start with. View the Daily Health Check Summary report for any day by using the

- Reporting Wizard toolbar button in the Report Explorer
- procedure that is described in “Selecting and loading reports in the portal” on page 238 to view the report on your web browser

**NOTE**
To view Daily Health Check Summary reports for other dates, click the here hyperlink in the Daily Health Check Summary Report status pane, and select a date from the calendar that opens.

An example of the Daily Health Check Summary report is shown in Figure 58 on page 214.
Figure 58  Daily Health Check Summary report

Health Check - Daily Health Check Summary Report

<table>
<thead>
<tr>
<th>Report Description</th>
<th>Daily Baseline performance health check summary, including availability of performance data collection, and summary of performance health check for the running workloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>2002/09/16; 00:00 - 2002/09/16; 23:00 - Duration: 60</td>
</tr>
<tr>
<td>Creation Time</td>
<td>08/21/2006, 13:03</td>
</tr>
<tr>
<td>Creation Location</td>
<td>By the user account demo from XYZDEMO-BOS-50 (190.158.1.101)</td>
</tr>
</tbody>
</table>

Overall Performance Status Summary

| Report Description | Daily Baseline data availability and overall performance status chart                                                                 |

Overall Performance Status of the Baseline data of date: 2002/09/16; 00:00 - 2002/09/16; 23:00 - Duration: 60

<table>
<thead>
<tr>
<th>Interval</th>
<th>06:00</th>
<th>07:00</th>
<th>08:00</th>
<th>09:00</th>
<th>10:00</th>
<th>11:00</th>
<th>12:00</th>
<th>13:00</th>
<th>14:00</th>
<th>15:00</th>
<th>16:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Check Indicator</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
</tbody>
</table>

*Back to Baseline Performance Data Status Chart*
Performance status icons on Daily Summary

The Daily Health Check Summary report uses the following performance status icons:

- Green arrow--**Performance OK** signifies that the specified workload or system met performance goals. This arrow points upward.

- Red arrow--**Performance Warning** signifies that at least one workload did not meet performance goals. This arrow points downward.

The definitions for the icons can vary slightly, depending on whether they are describing the performance of a single workload, of all workloads on a logical or physical system, or of all workloads during a specific hour. If a specified workload is not running, the report box is grey (empty).

Daily Health Check Summary subreports

The Daily Health Check Summary report includes the following subreports:

- Overall Performance Status Summary
- Workload Activity Summary
- Workload Detail History

**TIP**

If the Overall Performance Status Summary shows that performance problems occurred during a particular hour, you might want to view the baseline report for that hour in Performance Predictor portal. See “Selecting and loading reports in the portal” on page 238.

Viewing the Performance Changes Summary report

After you create a scenario, you might be interested in seeing how its results measure up against the results for the related baseline. Use the Performance Changes Summary report for this comparison.

The Performance Changes Summary report uses color-coded numbering to compare the performance results of the scenario to the baseline in various categories (described in Appendix B, “Contents of reports.”)

You can quickly scan the report, looking for areas of improved performance (noted in green) and areas of degraded performance (noted in red).
To compare baseline and scenario results, the Performance Changes Summary calculates the “ratio relative to baseline” showing how the results for a particular scenario have changed relative to the baseline.

- A ratio of one indicates no difference between the baseline and scenario results.
- A ratio of greater than one, displayed in red numbering, indicates that the scenario result is worse than the related baseline result.
- A ratio of less than one, displayed in green numbering, indicates that the scenario result is better than the related baseline result.

After examining the Performance Changes Summary report, you might want to view the other reports for the scenario, all of which are listed in the navigation pane of the Report Explorer.

**TIP**

It might also be helpful to compare the results in the Performance Changes Summary report to the related results in the Daily Health Check Summary report. For example, you might find that a workload that shows degraded performance in the Performance Changes Summary report is still well within the goals listed for it in the Daily Health Check Summary report.

For information about Performance Changes Summary contents and subreports, see Appendix B, “Contents of reports.”

### Viewing configuration and performance reports

In addition to the Daily Health Check Summary and Performance Changes Summary reports from which you start, Performance Predictor also prepares the following categories of reports:

- Top Analysis reports for systems, disks, tapes, workloads, coupling facilities, storage systems, storage groups, and applications
- Configuration/Runtime summary report
- Configuration reports for systems, disks, tapes, workloads, coupling facilities, storage systems, storage groups, and applications
- Performance detail reports for systems, disks, tapes, workloads, coupling facilities, storage systems, storage groups, and applications
- Operation Description Summary report (available only for scenarios)
- Growth Plan trending reports
The Top Analysis reports detail which z/OS components have the worst performance for the selected baseline or scenario. The configuration and performance detail reports provide a closer look at specific components.

**Comparing reports**

To compare objects and metrics from different baselines or scenarios:

- select what you want to compare and view the results side-by-side in different windows using the Open in New Window button on the Report Explorer toolbar
- merge metrics for the objects into a single report by using the Performance Explorer, as described in Chapter 9, “Using Performance Explorer”
- use Performance Changes Summary reports to compare system performance in a given scenario against the related baseline
- open two separate windows in the Performance Predictor portal to compare reports; see “Opening Performance Predictor portal” on page 234

**List of all available reports**

Table 3 describes all the reports that are available in Performance Predictor and whether a report is available for baselines, scenarios, or scenarios with growth plans. After viewing the basic reports, you may want to view some of these other reports for more specific information.

The general description of report contents in this table can help you decide which reports you need to access for what information. Refer to Appendix B, “Contents of reports” for more in-depth descriptions of each report.

**Table 3 Reports available in Performance Predictor (part 1 of 3)**

<table>
<thead>
<tr>
<th>Report</th>
<th>General description</th>
<th>Available for</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Baselines</td>
<td>Scenarios</td>
<td>Scenarios with growth plans</td>
<td></td>
</tr>
<tr>
<td>Daily Health Check Summary</td>
<td>compares workload performance to Goal Mode objectives</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Performance Changes Summary</td>
<td>compares scenario results to baseline results</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Operation Description Summary</td>
<td>describes elements of scenario</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>
Table 3  Reports available in Performance Predictor (part 2 of 3)

<table>
<thead>
<tr>
<th>Report</th>
<th>General description</th>
<th>Available for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration/Runtime Summary</td>
<td>lists total configuration of system elements. Also shows the number of Storage Systems and Storage Groups present in the data</td>
<td>Baselines  yes Scenarios yes Scenarios with growth plans yes</td>
</tr>
<tr>
<td>Top System Analysis</td>
<td>lists physical and logical systems with highest utilization</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Top Disk Analysis</td>
<td>lists disks with highest utilization and other metrics</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Top Tape Analysis</td>
<td>lists tapes with highest utilization and other metrics</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Top Workload Analysis</td>
<td>lists workloads with highest utilization and other metrics</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Top Application Analysis</td>
<td>lists the applications in the baseline with the highest arrival rates and other metrics</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Top Coupling Facility Analysis</td>
<td>lists coupling facilities with highest request rate and other metrics</td>
<td>yes no no</td>
</tr>
<tr>
<td>System Performance Details</td>
<td>shows utilization details for each physical and logical system</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Disk Performance Details</td>
<td>shows utilization and other metrics for each disk</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Tape Performance Details</td>
<td>shows utilization and other metrics for each tape</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Workload Performance Details</td>
<td>shows response time and other metrics for each workload</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Coupling Facility Performance Details</td>
<td>shows utilization and other metrics</td>
<td>yes no no</td>
</tr>
<tr>
<td>Application Performance Details</td>
<td>shows details of the arrival rate and other metrics for each application</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>System Configuration</td>
<td>shows processor model, and other metrics</td>
<td>yes yes yes</td>
</tr>
<tr>
<td>Disk Configuration</td>
<td>shows number of disks and other metrics</td>
<td>yes yes yes</td>
</tr>
</tbody>
</table>
With the exception of the Daily Health Check Summary and Coupling Facility reports, all the reports that describe the hourly baselines are also available to describe performance for each scenario. (See Table 3 on page 217 for a full list of available reports and Appendix B, “Contents of reports,” for a discussion of their contents.)
Notes on scenario reports with growth plans

In addition, the scenario results include the

- Performance Changes Summary report
- Operation Description Summary report

**NOTE**
If you think that you might want to view a scenario report in the future, publish it to Performance Predictor portal. If you delete a scenario or its related baseline, you will not be able to regenerate the reports for it.

Notes on scenario reports with growth plans

When a scenario includes a growth plan, a range of reports is available for each period of the growth plan.

**NOTE**

All Coupling Facility reports are *not* available for scenarios and for scenarios with growth plans.

The System Performance Growth Summary and Workload Performance Growth Summary reports are available only for growth plans. (See “Growth plan trending reports” on page 361.) They are used for comparison with baseline information and for trending analysis. Table 3 on page 217 lists the reports available for growth plans and other types.

Notes on reports for baselines

The Daily Health Check Summary availability is displayed in the **Daily Health Check Status** pane. This area is updated whenever a new Daily Health Check Summary report is available and shows the availability of health check reports for the past five days.

When you manually download baselines, you can also generate reports for them in the Report Explorer. After you have generated a baseline report in the Report Explorer, you can publish it to Performance Predictor portal.
Opening Report Explorer

From the Tools List pane, click Report Explorer to open the Report Explorer. See Figure 59.

Figure 59  Report Explorer

The main features you will use in Report Explorer are summarized in the following tables. If no reports are displayed when you open Report Explorer, click where prompted under Available options to run the Report Explorer Wizard. (Use the Select Input dialog as described in “Selecting data” on page 274.)
Report Explorer toolbar buttons

Table 4 shows all of the toolbar buttons available to you in Report Explorer. Button graphics are displayed in the Help.

Table 4  Report Explorer toolbar buttons

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Report Generation Wizard</td>
<td>Opens the Report Wizard that guides you through the steps to customize your own report generation.</td>
</tr>
<tr>
<td>Publish Reports</td>
<td>Publishes a report or group of reports to the Performance Predictor portal.</td>
</tr>
<tr>
<td>Report Profile Editor</td>
<td>Lets you define personalized profiles of reports for report generation.</td>
</tr>
<tr>
<td>Delete subgroup/report</td>
<td>Deletes a report or group of reports under a given node in the report tree.</td>
</tr>
<tr>
<td>Stop the current report generation</td>
<td>Lets you stop producing a group of reports that are in the process of being generated.</td>
</tr>
<tr>
<td>Go Back</td>
<td>Return to a report that was already viewed. You can go back through all previously viewed reports that are currently in the navigation tree. You cannot navigate to a previously-viewed report that has been deleted. Click the down arrow to display a list of the previously viewed reports.</td>
</tr>
<tr>
<td>Go Forward</td>
<td>Proceed to the next report in a series of already viewed reports that are currently in the navigation tree. You cannot navigate to a previously-viewed report that has been deleted. Click the down arrow to display a list of the previously viewed reports.</td>
</tr>
<tr>
<td>Performance Predictor portal</td>
<td>Opens the Performance Predictor portal in a new web browser window.</td>
</tr>
<tr>
<td>Copy selection to Clipboard</td>
<td>Copies the contents of the current report to the clipboard, where you can then copy it to an external program.</td>
</tr>
<tr>
<td>Open in New Window</td>
<td>Opens the current report in a new web browser window.</td>
</tr>
</tbody>
</table>
In addition to the toolbar buttons, there are some additional features that you can access using context menus. By right-clicking anywhere in the report pane (the right-hand side of the window, where report contents are displayed), you can select the menu options described in Table 5.

### Table 5  Report pane menu items

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select All</td>
<td>selects all text in the current report</td>
</tr>
<tr>
<td>Clear selection</td>
<td>clears selected text</td>
</tr>
<tr>
<td>Copy</td>
<td>copies selected text to the clipboard so you can paste it into any other product</td>
</tr>
<tr>
<td>Go back</td>
<td>returns to a report that was already viewed</td>
</tr>
<tr>
<td>Go forward</td>
<td>proceeds to the next report in a series of already viewed reports</td>
</tr>
<tr>
<td>Find in this report</td>
<td>searches for a word or phrase in the current report</td>
</tr>
<tr>
<td>Open in new window</td>
<td>opens the current report in a new web browser window</td>
</tr>
<tr>
<td>Print</td>
<td>prints the current report</td>
</tr>
</tbody>
</table>
Navigation pane menu

There is also a navigation pane context menu. To open this menu, right-click anywhere in the Navigation pane on the left side of the Report Explorer window. The navigation pane menu items are described in Table 6.

Table 6  Navigation pane menu items

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Wizard</td>
<td>Opens the Report Wizard that guides you through the steps to customize your own report generation. See the “Generating and viewing reports” section for a description of this section.</td>
</tr>
<tr>
<td>Publish Report</td>
<td>Publishes the selected report or group of reports. The reports are published to the Performance Predictor portal and can be viewed in your web browser.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the currently selected report or group.</td>
</tr>
</tbody>
</table>

Generating and viewing reports

1  Do one of the following steps:

- To view reports for a baseline, scenario, or a recent Daily Health Check Summary report, click Run Report Generation Wizard and follow the instructions in the wizard.

- To view the reports for the evaluated scenario selected in the Scenario Explorer tree, follow the procedure in “Viewing evaluation results” on page 204.

- To view reports from the other PPM tools, click on the Report Explorer link in the other tool’s tool bar. Report Explorer will open and begin generating reports for the data you were viewing.

2  When the list of available reports appears in the navigation pane, click the name of the report you want to display it in the report pane.
Creating report profiles

The Report Profile Editor lets you specify preferred subsets of reports called report profiles. Using the Report Profile Editor, you can indicate the reports that you want to see regularly as a named set and generate them at a later time. You can

- use the default profiles for the Report Generation Sets
- define your own Profile containing only those reports that you want to view

The default report profiles are described in Table 7 on page 228.

To open the Report Profile Editor from Report Explorer toolbar, click Report Profile Editor.

The Report Profile Editor window opens. Help is displayed by default when you first open the Report Profile Editor.

Figure 60 Report Profile Editor window
Defining a new report profile

1 Click New on the toolbar or right-click in the Available Profiles pane and choose New to open the New Profile dialog box.

Figure 61 New Profile dialog box

2 Type the name of the new report profile that you are defining in the Profile Name field and an optional description in the Description field.

3 Click Associate to display the available report generation sets that you can associate with your report profile in the expanded New Profile dialog box.

Figure 62 Associating reports sets with a profile

4 To associate report sets with your profile, click the report set check boxes adjacent to each report set.
Click **OK** to close the New Profile dialog box and display the new profile that you defined in the Available Profiles list of the Report Profile Editor.

A report set can be associated with *only* one profile. Therefore, when you change the association here, you remove its previous association.

5 Click **OK** to close the New Profile dialog box and display the new profile that you defined in the Available Profiles list of the Report Profile Editor.

The report sets that you associated with the profile are represented by icons that are located under the new profile name in the Available Profiles pane.

**Figure 63**   **New profile as displayed in the Available Profiles List**

![New profile as displayed in the Available Profiles List](image)

**NOTE**

If you closed the Available Profiles pane and want to reopen it again, click the down arrow on the banner located below the toolbar. Click the push pin to keep the Available Profiles pane open.
Creating report profiles

To dissociate report sets from a user-defined report profile:

1. Select a report profile in the Available Profiles list.

2. Drag and drop the report set icon you want disassociated from the profile into one of the other report profiles, for example, Baseline Reports Profile, Daily Reports Profile or any user-defined profile.

This action dissociates the report sets from the user-defined report profile. You can also click Associate on the toolbar and re-associate report sets with other profiles or their defaults.

**NOTE**

You can move your cursor over a report set icon at any time to display a description about that report set. For a description of the default report profiles, refer to Table 7.

<table>
<thead>
<tr>
<th>Report Profile Type</th>
<th>Generated for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Reports Profile</td>
<td>baseline data</td>
</tr>
<tr>
<td>Growth Plan Reports Profile</td>
<td>individual growth plan period results</td>
</tr>
<tr>
<td>Growth Plan Summary Reports Profile</td>
<td>scenarios that contain growth plans</td>
</tr>
<tr>
<td>Nightly Reports Profile</td>
<td>all automatic report generations including, overnight processing, manual data populate, and using the baseline browser to download baselines</td>
</tr>
<tr>
<td>Scenario Reports Profile</td>
<td>scenario results data</td>
</tr>
<tr>
<td>Daily Report Profile</td>
<td>an entire day</td>
</tr>
</tbody>
</table>

### Associating a profile and a report set

You can click the Associate button to view existing report sets, to associate a report profile with report sets, or to reset all report sets to their default report profile.
1 In the Toolbar, click Associate to open the Associate Report Set dialog box.

Figure 64  Associate Report Set dialog box

2 Select a report profile by clicking a report set.

3 Select a profile from the drop down menu that appears.

   You can only associate one report profile per report set.

4 Check the message area at the bottom of the dialog to see if any problems will arise from your selection of the profiles cannot be associated with your report set. If you need a description of the profiles in the message, click Descriptions.

5 Click OK to complete your selection or Defaults to reset all selections to their default associations.

   **NOTE**

   You can display a description of a report set in the top part of the dialog box by hovering your cursor over a report set name.
Associating individual reports to a report profile

You can associate individual reports with a *user-defined* report profile by dragging and dropping the reports or using the Add and Remove buttons in the Report Profile Workspace (Figure 65).

1. Select a user-defined report profile in the Available Profiles pane.

2. Select the reports that you want to add in the Available Reports list, and either click **Add** or drag and drop them into the Selected Reports list.

**NOTE**

Default Report Profiles cannot be modified.

---

**Figure 65  Report Profile Workspace**

![Report Profile Workspace](image)
Reports that appear in the Selected Reports list are assigned to the current report profile. You can generate these reports at a later time.

---

**NOTE**
If you attempt to add a report that cannot be generated by one or more of the associated report sets, a red X appears adjacent to the report name. This indicates that the report cannot be generated in the current report profile. The report tool tip also displays the same message.

You can select multiple reports simultaneously by using the **SHIFT** and **CTRL** keys.

To change the order in which selected reports are generated, use the **Move Up** or **Move Down** buttons. You can also drag and drop a selected report to change its order in the list.

You can select all the reports in the available reports list by clicking **Select All** or clear your report selection by clicking **Clear All**.

---

### Removing individual reports from a report profile

1. Click a report profile that you want to modify in the Available Profiles list.

2. In the Report Profile Workspace, select the reports that you want to remove in the Selected Reports list, and either click **Remove** or drag and drop them into the Available Reports list.

---

**NOTE**
You cannot modify the Default Report Profiles

The reports are removed from the Selected Reports list and returned to the Available Reports list.

To save a report profile, click **Save** on the toolbar.

### Saving a report profile using a different name

1. Select a report profile in the Available Profiles list.

2. Click **Save As** on the toolbar or from the context menu to open the Save As dialog box.
Figure 66  Save As dialog box

3 Type a new name for the report profile in the Profile Name field.

4 Click OK to save the report profile to a new name but without the associated report sets.

**NOTE**
The report sets that were associated with the original report profile are absent in the copied report profile because report sets cannot be associated with multiple report profiles. To associate report sets, click Associate.

Undoing all changes made to a report profile

1 Click Reload.

A message reminds you that this action causes changes that you made to the selected report profile to be lost.

2 Perform one of the following steps:

- To accept, click Yes.

- To cancel and leave the report profile unchanged, click No.

If you clicked Yes, the selected report profile is returned to its original saved state before it was modified.
Deleting a report profile

1 Select the report profile in the Available Profiles list, and click **Delete** located in the main toolbar or choose **Delete** from the context menu.

**NOTE**
You cannot delete Default Report Profiles.

If the report profile that you are deleting contains associated report sets, a message warns you that deleting the profile causes these report sets to be reset to their defaults.

2 Click **Yes** to delete the report profile or click **No** to cancel this deletion.

Renaming a report profile

1 Select the report profile that you want to rename.

**NOTE**
You cannot rename the default report profiles.

2 Click **Rename** on the main toolbar or right-click the report profile that you want to rename in the Available Profiles pane, and choose **Rename** from the context menu.

The Rename dialog box opens.

**Figure 67 Rename dialog box**

3 Type a new profile name in the **New Profile Name** field.

4 Click **OK** to update the Report Profile Editor with the new profile name.
Using the Performance Predictor portal

Performance Predictor portal, which runs in your web browser, lets you view all available baseline reports and any scenario reports you have published. The typical sequence for using the portal is as follows:

1. Publish the reports from Report Explorer to the portal.
2. Open your web browser.
3. On the portal, select and load the reports you want to view.
4. View the reports.

Opening Performance Predictor portal

There are two ways to open the portal:

- from Report Explorer
- from the web browser

Opening the portal from Report Explorer

To open Performance Predictor portal from Report Explorer, click the link under Available Options, if offered, or click the Performance Predictor portal toolbar button.
NOTE

If you have not configured the Performance Predictor portal, a message prompts you to do so now. To configure the portal, click Yes in response to the prompt and complete the fields in the Web Configuration dialog box that opens. For information on how to configure your portal, refer to the Help in the console or see the BMC Performance Predictor for Mainframes Getting Started Guide.

If you change the portal type from ASP to JSP or visa versa when you are configuring the portal, you must re-generate any current reports in Report Explorer prior to publishing them. ASP-generated reports will not format properly on a JSP portal and JSP-generated reports will not format properly on an ASP portal.

If your web portal is configured, the Performance Predictor portal Available Report Selection page opens in your web browser. It is a basic information page as shown in the following figure.

Figure 68  Opening the Portal
Opening the portal directly from the web browser

Use the following procedure to open Performance Predictor portal from your web browser.

1. Open your internet browser.

2. In the browser’s address pane, type the path for your designated web server, including the server name and virtual directory name that you entered when you configured the web server. Use the format:
   http://server_name:port_number/virtual_directory_name

   **TIP**
   To review your web server configuration, on the Performance Predictor menu bar choose Utilities => Web Publishing Configuration.

3. Click Go to open the Performance Predictor portal home page in your web browser (see Figure 69 on page 237).

Publishing reports to Performance Predictor portal

You can publish reports to the portal as follows:

1. With scenario or baseline reports loaded in the Report Explorer (see “Generating and viewing reports” on page 224), click a report name in the navigation pane of the Report Explorer to select the report you want to publish.

2. Click the Publish Reports button in the navigation pane to publish the report to Performance Predictor portal so that you can view it in your web browser.

   To view the published report, follow the procedure in “Selecting and loading reports in the portal” on page 238.

   **NOTE**
   There is a checkbox in Manual Data Population (Chapter 4, “Populating the namespace by using other methods”) that lets you automatically publish reports to the portal if it is checked and you are connected to a portal.
Publishing multiple reports concurrently

You can publish multiple reports at the same time by selecting reports individually in the Report Publishing dialog box.

1. Click the “parent” branch within the tree as shown in Figure 69.

**Figure 69  Baseline root display**

![Baseline root display](image)

2. With the Baseline Reports branch in the tree selected, click **Publish Reports** to open the Report Publishing dialog box, displaying a list of all the available reports.

**Figure 70  Report Publishing dialog box**

![Report Publishing dialog box](image)
For each report that you want to publish, click the appropriate option box, and then click OK.

The selected reports are published to Performance Predictor portal and can be viewed in your web browser.

**Selecting and loading reports in the portal**

You use the Report Loader to select the reports that you want and then load them so that you can view them. You can select Baseline reports or Scenario reports as described in the following two sections.

**Selecting baseline reports in the portal**

Use the following procedure to select a baseline report in Performance Predictor portal.
1. In the Performance Predictor portal, on the Available Report Selection page, click Select Reports to open the Report Loader calendar.

**Figure 71  Report Loader calendar**

2. Click the arrows to the right or left of the month name to navigate to the desired month and year where reports are located. The arrows to the far right and left, with termination points, are for navigating to a different year. The inside arrows navigate ahead or back to a different month.

   A folder icon next to a date represents a baseline report, a paper icon represents a scenario report as shown for September 15 in **Figure 71**.

3. To select a baseline report for a specific date, click the associated folder in the calendar.

   The Performance Predictor portal pane next to the calendar displays a list of all of the baselines in that folder along with the time they were generated and the interval used. (You can change the sort order of this list by clicking the column heading.)

4. View the baselines listed and click the button in the Use column to select the one you want.
Selecting and loading reports in the portal

5 Click **Load Reports**. The main portal viewing page on which you view the reports opens as shown in Figure 73 on page 242.

**Selecting scenario reports in the portal**

Use the following procedure to select a scenario report in Performance Predictor portal.

1 In the Performance Predictor portal, click the **Available Report Selection** tab on the Home page to open the Report Loader calendar.

**Figure 72  Scenario selection in the calendar**

2 Click the arrows to the right or left of the month name to navigate to the desired month and year where reports are located. The arrows to the far right and left, with termination points, are for navigating to a different year. The inside arrows navigate ahead or back to a different month.

A folder icon next to a date represents a baseline report, a paper icon represents a scenario report as shown for September 15 in Figure 72.

3 To select a scenario report for a specific date, click the associated paper icon in the calendar that contains the report. This is highlighted in the previous figure.
4 The Performance Predictor portal pane next to the calendar displays a list of all of the scenarios for that folder, as well as the time and interval they represent. If a growth plan is associated with the scenario, it is listed, along with the period to which it applies, in the Growth/Period column, as shown in the previous figure.

5 View the scenarios listed and click the button in the Use column for the one you want to select.

6 Click Load Reports. The main portal viewing page on which you view the reports opens as shown in Figure 73 on page 242.

Viewing reports in the main portal viewing page

When you click Load Reports in the MVP Report Loader selection calendar, the main portal viewing page shown in Figure 73 on page 242 opens to display the reports for the interval you selected.
In the left-most column of this page is a list of all reports associated with the baseline, study, scenario you selected. You can click on any of those reports to view it instead of the one you are currently viewing. The report that is currently displayed is highlighted in the list. The date, time, interval, and full scenario name (when applicable) of the report are displayed above the active report. (You may have to scroll to see all of this information if you are not viewing the page at maximum size.) You can also drill down on the various links in the report itself for additional information.

**Deleting reports from Performance Predictor portal**

To delete a report from the Performance Predictor portal, refer to “Deleting objects in Namespace Manager” on page 307.
Using the Graph Explorer

This chapter explains how and when to use the Graph Explorer to view data from baselines and scenarios. This chapter presents the following topics:

Graph Explorer overview .................................................. 244
Opening the Graph Explorer window .................................. 245
Accessing data ................................................................. 246
Using the Graph Explorer Wizard ....................................... 247
Using the Select Input dialog box ....................................... 247
Loading a scenario from the Scenario Explorer ....................... 249
Selecting metrics for a data type ....................................... 249
Selecting data views from the navigation tree ......................... 252
Example of navigating in the tree ...................................... 254
Contents of each data view .............................................. 255
Viewing metrics ............................................................... 257
Displaying a metric value for a data element within a graph ........ 258
Highlighting a row of data .............................................. 259
Customizing the appearance ............................................. 259
Printing, copying, and changing view of graphs ..................... 261
Using the Graph Explorer you can examine performance statistics in an array of full-color, multidimensional charts and graphs.

Starting with data from a single baseline or scenario, or from multiple baselines and scenarios, you can use the Graph Explorer to

- view data using different chart views that you can customize
- focus on data for
  - physical systems
  - logical systems
  - coupling facilities
  - applications
  - workloads
  - disks
  - tapes
  - storage systems
  - storage groups
- select the metrics for each data type that you want to see
- hover over an individual data entry to see the value of that entry and highlight the relative size of other entries in the same row (see Figure 74)

**Figure 74  Hovering cursor highlights relative size of data**
■ print graphs and charts
■ copy graphs and charts to the clipboard

Opening the Graph Explorer window

To view the Graph Explorer window, choose Tools => Graph Explorer.

The Graph Explorer does not contain scenario or baseline data until you select the data (see “Accessing data” on page 246). Figure 75 shows the Graph Explorer with data displayed.

Figure 75  Graph Explorer
Accessing data

Before you can use the Graph Explorer, you must choose the data that you want to view. You can view data for one or more hourly baselines or scenarios and select the metrics that you want to see for each data type.

You access the baseline and scenario data by

- using the Graph Explorer Wizard to select one or more baselines or scenarios and a customized data set (see “Using the Graph Explorer Wizard” on page 247)
- using the Select Input dialog box to select one or more baselines or scenarios from the calendar

  Sample baselines can be found at September 15, 2006.

- loading a scenario from the Scenario Explorer (see “Selecting data views from the navigation tree” on page 252)

When the Graph Explorer contains no data, you are prompted to open either the Graph Explorer Wizard or the Select Input dialog box when you open the tool.

Select the metrics you want to see for each data type using either

- Graph Explorer Wizard (see “Using the Graph Explorer Wizard” on page 247)
- the Metrics filter button on the workspace toolbar (see “Selecting metrics for a data type” on page 249).
Using the Graph Explorer Wizard

The Graph Explorer Wizard lets you select one or more baselines or scenarios and then customize your view of the data. Using the wizard, you specify:

- which baseline intervals to use as source data for the graph
- which of the available metrics you want to see for an object type (for example, physical and logical systems)

1 To open the Graph Explorer Wizard, do one of the following actions:
   - Click Invoke Graph Explorer Wizard.
   - Click the hyperlink to open the Graph Explorer Wizard.

2 Follow the instructions in the wizard.

   If necessary, see “Using the Select Input dialog box” for instructions on selecting baselines and scenarios while using the wizard and “Selecting metrics for a data type” on page 249 for instructions on selecting metrics for each data type.

   When you finish with the wizard, the selected data is displayed in the Graph Explorer.

Using the Select Input dialog box

The Select Input dialog box lets you choose any combination of hourly baselines, scenarios, and scenario growth plan periods for viewing in the Graph Explorer. The following procedure describes how to use this dialog box:

1 Do one of the following actions to open the Select Input dialog box (see Figure 76 on page 248).
   - Click Select Input.
   - Click the hyperlink to display input data.
Using the Select Input dialog box

Figure 76  Selecting input

2 From the calendar display on the left-hand side of the Select Input dialog box, either click Sample Data to display sample data included with the product, or select the following:

— The day for which you want to view baselines or scenarios. By default, the current day is displayed. (To return to the current day, click Today.)
— The arrow to the right of Today, if needed, to advance the month being displayed.
— The double arrow to the right of Today, if needed, to advance the year for the display.
— The arrow to the left of Today, if needed, to see the previous month.
— The double arrow to the left of Today, if needed, to see the previous year.

3 From the list of baselines and scenarios that displays on the right-hand side of the dialog box, select the ones you want.

Baselines are displayed at the top of the pane and, when available, scenarios and studies are listed at the bottom of the pane. Any scenario with invalid evaluation results appears with a red flag next to its name.

4 Click OK.
The selected data remains in the Graph Explorer until you load a different baseline or scenario into the Graph Explorer.

NOTE
You can also clear the data from view by clicking the Remove from View button in the Navigation pane toolbar.

Loading a scenario from the Scenario Explorer

Use the following procedure to load a scenario into the Graph Explorer from the Scenario Explorer.

1. In the Scenario Explorer, select an evaluated scenario. An evaluated scenario with valid results has a blue check mark next to its name in the Scenario Explorer tree.

2. On the Scenario Explorer toolbar, click the Switch to Graph Explorer to make the data from the selected scenario available in the Graph Explorer.

The selected scenario remains in the Graph Explorer until you load a different baseline or scenario into the Graph Explorer or exit Performance Predictor.

NOTE
You can also clear the data from view by clicking Remove from View.

Selecting metrics for a data type

You can select which metrics you want to see on your graphs for each data type using the Metrics Filter dialog box.

Use either of the following options to open the Metrics Filter:

- click the Metrics Filter toolbar button
- run the Graph Explorer Wizard

The Metrics Filter dialog displays a tree of data types in the left pane and the metrics for the data type you have selected in the right pane, along with a description of the currently selected metric at the bottom of the right pane.
Each metric has a check box that you can select or deselect. The selections you make are shown in all graphs for that data type. If you need to change your selection, use the Metrics Filter toolbar button.

**NOTE**
The Metrics Filter opens to the object that is selected in the Graph Explorer navigation tree. You can then navigate to other objects once the Filter is open.

Figure 77  Metrics Filter dialog
There are four buttons on the Metrics Filter toolbar that can help make metrics selection quicker:

**Table 8  Metric Selection toolbar buttons**

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Select all of the metrics." /></td>
<td>Select all of the metrics.</td>
</tr>
<tr>
<td><img src="image" alt="Clear all of the metrics." /></td>
<td>Clear all of the metrics.</td>
</tr>
<tr>
<td><img src="image" alt="Return to the default selection of metrics." /></td>
<td>Return to the default selection of metrics.</td>
</tr>
<tr>
<td><img src="image" alt="Select all metrics that are not currently selected and clear those that are." /></td>
<td>Select all metrics that are not currently selected and clear those that are.</td>
</tr>
</tbody>
</table>

If you want to edit any of the metric names, go to the Data Dictionary Editor “Viewing and editing metrics” on page 40.
Selecting data views from the navigation tree

Using the navigation tree in Graph Explorer, you can view the details of each of the following data type objects in Graph Explorer:

- Physical systems
- Logical systems
- Coupling facilities (structure data available for baselines only)
- Applications
- Workloads
- Disks
- Tapes
- Storage system
- Storage group

The full navigation tree is displayed to the left of the graph workspace when you load a baseline or scenario into the Graph Explorer (see Figure 78 on page 253).
Figure 78  Full navigation tree

To drill down in the navigation tree of the Graph Explorer, double-click any name that is next to a plus sign, or an icon with a down arrow. The tree expands to show the contents of the contained object.
Example of navigating in the tree

Click the Logical Systems item in the navigation tree to expand the view and display a list of all logical systems, as shown in Figure 79.

Figure 79  Logical systems expanded

In Figure 80 on page 255, the logical systems for which more information is available are marked with a down arrow and a plus sign. For example, click the BMCC logical system to open that object and view the associated processors, workloads, coupling facilities, disks, and tapes.
Any object in the navigation tree that has a plus sign next to it means that you can drill down further by double-clicking it, for example, the Processors, Workloads, Coupling Facilities, Disks, and Tapes items in the figure. The absence of a plus sign or down arrow next to a workload name indicates that you have reached the maximum drill down point in the tree.

## Contents of each data view

Each data view in the Graph Explorer gives you a different perspective on the baseline or scenario. Table 9 describes the contents of each view.

### Table 9  Contents of data views in Graph Explorer  (part 1 of 2)

<table>
<thead>
<tr>
<th>View</th>
<th>Displays</th>
</tr>
</thead>
</table>
| Physical Systems      | ■ graph and list of all physical systems  
                         ■ all logical systems on each physical system  
                         ■ list of processors on a physical system  
                         ■ type of processors on a physical system |
| Logical Systems       | ■ graph and list of all logical systems  
                         ■ all processors, workloads, coupling facilities, disks, and tapes on a logical systems  
                         ■ type of processors on a logical system |
| Coupling Facility     | (Coupling facility structure data available only for baselines.)  
                         ■ graph and list of each coupling facility  
                         ■ list of each logical system using a given coupling facility  
                         ■ activities of all logical systems using a given coupling facility  
                         ■ all system structures on a given coupling facility |
| Applications          | ■ graph and list of all applications |
Table 9   Contents of data views in Graph Explorer (part 2 of 2)

<table>
<thead>
<tr>
<th>View</th>
<th>Displays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>■ graph and list of all workloads</td>
</tr>
<tr>
<td></td>
<td>■ all logical systems each workload runs on</td>
</tr>
<tr>
<td></td>
<td>■ each workload’s performance on all logical systems it runs on</td>
</tr>
<tr>
<td></td>
<td>■ list of processors on which a workload runs</td>
</tr>
<tr>
<td></td>
<td>■ type of processors on which a workload runs</td>
</tr>
<tr>
<td>Disk</td>
<td>■ graph and list of all disks</td>
</tr>
<tr>
<td></td>
<td>■ all logical systems each disk runs on</td>
</tr>
<tr>
<td></td>
<td>■ each disk’s performance on all logical systems on which it runs</td>
</tr>
<tr>
<td>Tape</td>
<td>■ graph and list of all tapes</td>
</tr>
<tr>
<td></td>
<td>■ all logical systems each tape runs on</td>
</tr>
<tr>
<td></td>
<td>■ each tape’s performance on all logical systems on which it runs</td>
</tr>
<tr>
<td>Storage System</td>
<td>■ graph and list of all cache metrics</td>
</tr>
<tr>
<td></td>
<td>■ all space available metrics</td>
</tr>
<tr>
<td></td>
<td>■ all activity metrics</td>
</tr>
<tr>
<td>Storage Group</td>
<td>■ graph and list of all cache metrics</td>
</tr>
<tr>
<td></td>
<td>■ all space available metrics</td>
</tr>
<tr>
<td></td>
<td>■ all activity metrics</td>
</tr>
</tbody>
</table>
As already mentioned “Selecting metrics for a data type” on page 249, you can select which metrics you want to have displayed for each view. Every data element in a graph measures a component of your z/OS environment using a particular metric. For example, the red bars shown in the graph in Figure 81 display values for the metric Util for five physical systems in the September 15, 18:00 baseline.

The background scale provides a quick visual comparison. However, because the metrics differ for each type of measurement (one metric might be the number of MIPS, while another might be a percentage of utilization), the numbers on the scale do not always indicate the actual measured values.
Displaying a metric value for a data element within a graph

To determine the measured value of a particular data element, place your cursor over the bar or chart representation for that data element. A small window pops up with a display of the value for the data element.

For example, in Figure 82, the hovering cursor displays 81.88 as the Util value for physical system PRODCICS. This value is also highlighted in the list and table below the graph.

**Figure 82  Hovering cursor displays metric value**

![Graph showing data elements with hovering cursor](image)

**NOTE**

To display the table of data shown in Figure 82, set the DataBrowser function to **True** in the Settings dialog (described in “Customizing the appearance” on page 259).
Highlighting a row of data

When the data elements in a row are very small, or obscured by other rows of data, you can hover the cursor to highlight the entire row while you display a particular metric value.

To highlight a row of data, place your cursor over a bar in that row.

The bars for the selected row maintain their color, while the bars for other rows are grayed out. The value for the data element your cursor is hovering over is displayed.

Customizing the appearance

You can customize the appearance of your graph display using the Settings function. This function is available in several ways:

1. Right-click in the graph pane and choose Settings.
2. Click the Settings button on the Performance Predictor console.

The Settings dialog appears as shown in Figure 83 on page 260.
In this dialog, if you expand **Chart Settings** and **Settings**, you can choose **Appearance**. The Appearance option contains parameters that you can modify to change the color and other miscellaneous details for the following areas of the graph:

- Header
- Legend
- Footer
- Body

One setting for the Body of the graph that you might find particularly useful is setting the **DataBrowser** value to **True**. This setting provides a summary table of values at the bottom of the chart as shown in Figure 82 on page 258.

With the **General** option, you can specify short or long metric names in the graph and also whether or not you want the state of the tool saved between sessions. The default for saving the session state is **True**, which means it will be saved.

**NOTE**

Custom changes that you make persist across different sessions of Graph Explorer.
Printing, copying, and changing view of graphs

You can print, copy, and change the view of graphs from full to proportional view using the Context menu or using the buttons in the Toolbar.

To copy a displayed graph to your Windows clipboard, right-click in the graph pane, and choose Copy. Alternatively, click Copy on the Toolbar. You can then paste the graph to a graphics tool for editing.

To print a displayed graph, right-click in the graph pane, and choose Print. Alternatively, click Print on the Performance Predictor Toolbar.

To change the view of a displayed graph to proportional from a full view or reverse it back to full view, right-click in the graph pane, and choose Proportional or Full, depending on which view you want. Alternatively, click one of these options on the Toolbar.
Printing, copying, and changing view of graphs
Chapter 9 Using Performance Explorer

This chapter describes how to use Performance Explorer to create customized reports using a selected set of information and how to compare the detailed metrics of objects from different baselines and scenarios. This chapter presents the following topics:

Overview .................................................. 264
Opening Performance Explorer .............................. 265
  Using the workspace context menu ....................... 267
Displaying reports ......................................... 268
Changing display settings .................................. 269
Selecting data ................................................ 274
  Reusing the contents of a report ........................ 276
  Copying reports to the clipboard ......................... 276
  Removing baselines or scenarios ......................... 277
  Sorting the order of baselines and scenarios .......... 277
Selecting objects ......................................... 278
Selecting metrics ......................................... 279
  Selecting a metric ...................................... 281
Creating reports ........................................... 282
  Generating a new report ................................ 282
  Generating a summary report ......................... 283
  Refreshing an active report ......................... 283
  Creating a blank report ............................... 284
Saving and opening favorite reports .................... 284
  Saving a favorite report ............................... 284
  Opening favorite reports .............................. 285
  Editing reports from the favorites list ............... 285
Switching to another tool ................................ 286
Overview

Performance Explorer is a Performance Predictor tool that enables you to create and edit reports from one or more baselines and scenarios. You can create a report that contains selected objects and customizable metrics from the same or different baselines and scenarios.

You can change the name of metrics and their descriptions using the Data Dictionary Editor, if you choose. When you do this, the new values for those metrics are propagated to all reports you create in Performance Explorer and the other Performance Predictor tools. You can also select which objects (physical systems, logical systems, workloads, applications, devices, storage groups and systems, and Coupling Facilities) and metrics for those objects you want to view. These options enable you to compare metric values and trends over periods of time or in relation to “What if...” changes compiled in scenario evaluations.

If you create a report that contains objects you would like to use in a different report, you can generate the new report by using your original as a starting point.

Typical operations for Performance Explorer and a possible order in which you might perform them are as follows:

1. open Performance Explorer
2. optionally, use the console Settings button if you want to make changes to the defaults of how report charts appear in Performance Explorer
3. select data
4. select objects
5. review the metrics and decide which ones to select
6. create the individual reports or a summary report
7. optionally, copy a report to the clipboard for export to an external program, for example, Microsoft Excel

These operations are described in detail in this chapter.
Opening Performance Explorer

Do \textit{one} of the following actions to open Performance Explorer:

- Click the Performance Explorer icon in the console Tools List.
- Click Performance Explorer in the console toolbar.
- Choose Performance Explorer from the console Tools menu.
- Click the Performance Explorer button in the toolbar of one of the other tools.

When Performance Explorer opens, it displays the previously saved state, shown by opening to a summary report in Figure 84 on page 266. (The first time you open Performance Explorer, the Data Selection pane is blank.)
Any report windows in Performance Explorer that you do not explicitly close are restored to their current state when you next open Performance Explorer, even if you shut down your system and reboot.

**WARNING**

If you close a report window, it is deleted and cannot be retrieved unless you have saved it in your Favorites list, as described in “Saving and opening favorite reports” on page 284.
Using the workspace context menu

Table 10 shows the items that are in the workspace context menu when you right-click on a report in the Performance Explorer workspace.

**Table 10** Performance Explorer workspace context menu

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refresh</td>
<td>Refreshes the active report.</td>
</tr>
<tr>
<td>Select All</td>
<td>Selects all text in the current report.</td>
</tr>
<tr>
<td>Clear Selection</td>
<td>Deselects selected text.</td>
</tr>
<tr>
<td>Copy</td>
<td>Copies selected text to the clip board letting you paste into another product.</td>
</tr>
<tr>
<td>Find in this report</td>
<td>Searches for a word, or phrase in the current report. The selected word is highlighted in the report if it is found.</td>
</tr>
<tr>
<td>Print</td>
<td>Prints the active report.</td>
</tr>
</tbody>
</table>
Displaying reports

Table 11 shows the buttons that you can use to control the display of reports you generate in the Performance Explorer workspace. The first four are in the workspace toolbar, and the last button in the table is the Maximize button in the right-hand corner of each report window.

**Table 11  Display buttons**

<table>
<thead>
<tr>
<th>Description</th>
<th>Button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cascade</td>
<td><img src="image" alt="Cascade" /> Displays reports in cascade form.</td>
</tr>
<tr>
<td>Tile Horizontal</td>
<td><img src="image" alt="Tile Horizontal" /> Displays reports one on top of another.</td>
</tr>
<tr>
<td>Tile Vertical</td>
<td><img src="image" alt="Tile Vertical" /> Displays reports side by side.</td>
</tr>
<tr>
<td>Close All</td>
<td><img src="image" alt="Close All" /> Closes all report windows.</td>
</tr>
<tr>
<td>Maximize</td>
<td><img src="image" alt="Maximize" /> When clicked, maximizes that report in the workspace. Tabs at the bottom of the workspace can then be used to navigate all open reports.</td>
</tr>
</tbody>
</table>
Changing display settings

Before you create a report in Performance Explorer, you can specify what the charts in it will look like. This is totally optional, as you can use the default settings.

If you do want to customize chart settings, you do this using the Settings option from the Performance Predictor console toolbar or console File menu.

When you click Settings from Performance Explorer, the Settings dialog box opens with a display similar to the following:

As shown in the figure, selecting an item in the right-hand working pane causes a description of that setting to appear in a box at the bottom of the pane. In the figure, the setting ChartHeight is selected and described.

For Performance Explorer, you can specify general settings for the report, how the combined summary chart showing multiple metrics will look and how the individual charts for each metric will look.
**General settings**

The General settings enable you to specify

- chart display options, such as the height of the charts, whether the baseline time and date, and study/scenario names are shown, and the path length of the study/scenario names

- report generation options, such as whether long or short metric names will be used, the maximum number of metrics displayed in a report and whether charts and tables will be shown

**Individual settings**

The individual charts show only values for a single metric. You can trend how this metric changes over time. You can select a variety of options regarding the appearance of individual charts.

**Combined settings**

The Combined chart summarizes the values of all the metrics for the data specified. Using this chart, you can compare how the metric values trend over time and in relation to each other. You can select a variety of options regarding the appearance of individual charts.

**Reviewing and changing settings**

For General settings, click **General** and then select the value you want for each setting. **Report Chart Display Options** and **Report Generation Options** have values that you can type over, or in some cases, a drop-down box becomes active when you select the setting. By clicking the down arrow next to the value, you can select a value from the box.

For Combined or Individual settings:

1. Click the plus sign in the checkbox next to **Combined** or **Individual**, if necessary, to expand it.

2. Click the plus sign in the checkbox next to **Appearance**, if necessary, to expand it.

3. Click one of the options under **Appearance** to review or change how the body of the chart will appear.
Example of reviewing and changing settings

The following example shows the settings that can be changed when you choose the Body option under Appearance for either combined or individual charts and reports.

1. Click Body.

2. To change the color of the body of the chart, click Color.
   - Click the down arrow next to the current color to open a selection list.
   - Click the color you want.

3. To display a grid of the data values for the chart, choose True from the drop down box next to the setting DataBrowser. If you do not want this display, the value should be False.

4. To change the font characteristics of the text in the chart, click the plus sign in the checkbox next to Font to expand your list of options.

   Then, either change values next to an item by typing over the existing value, by using a drop-down box selection, or by clicking the box with the ellipsis (...) just right of the current font name. Clicking the ellipsis opens a Font dialog box where you can make changes. (Not all options are available in the separate Font dialog box.)

5. Click Palette to select a new color scheme from the drop-down box for the chart or report.

6. Click PointLabels to display or not display the value of each data point in the chart or report. A False value from the drop-down box means that the data point values will not be displayed. True causes the values to be displayed.

7. Click RescaleonHover to rescale the axis point of the chart when you hover the mouse cursor over a particular data point.

8. Scheme and Show Border offer additional options for color pattern and border display on your charts and reports. Change those values to one of the options in their drop-down boxes, if you choose.

9. To change the visible points, click VisiblePoints. Visible points are the number of points that are visible on the chart without scrolling.

Next, you can change the way the X Axis appears in charts and reports.
Changing display settings

1 To specify new settings for the X Axis, click the plus sign in the checkbox next to XAxis.

2 If you click on the plus sign next to the Grid option, you get a list of settings that you can change on the X Axis in grid displays.

3 To change the rotation of the text on the X Axis, click Rotation and type the new rotation value over the existing value.

4 Click Staggered to stagger the X Axis labels.

To change settings for the left Y Axis of your charts and reports:

1 Click the plus sign in the checkbox next to YAxisLeft.

2 Click Auto to False if you want the Min and Max values used to scale the Y axis.

3 Click 2D or 3D to select the chart style and select the chart type from the drop-down list box.

4 If you want to display multi-stacked area and bar charts, you can change the Cluster value.

5 YAxisLeft also lets you change Grid values, and Interlaced and Stacked values. Clicking on any of these settings, shows if there is a drop-down box of options and gives a description of what the value means.

When you have finished making all your changes to the Body settings

1 Click Apply.

2 Continue in a similar manner to review the Header, Footer, and Legend. Make changes for these elements in the same way as you did for the Body. The setting called Location refers to where you want the element to appear in relation to the body of the chart, for example, at the top, bottom, left, or right of the body. You select this value using a drop-down list.

3 Click OK when you are done to close the Performance Explorer Settings dialog box. (Settings are specific to each tool.)
### Settings display buttons

There are three buttons at the top of the Settings dialog box that you can use as described in the following table to view the display in that dialog in various ways.

<table>
<thead>
<tr>
<th>![Icon]</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Sorts the list of settings by category.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Sorts the list of settings in alphabetical order.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Show the properties of the selected item.</td>
</tr>
</tbody>
</table>
Selecting data

Before you create reports to view metrics for baselines or scenarios, you need to select the baselines and scenarios you want in the report. You do this in the Data Selection pane. When you open Performance Explorer the first time, the Data Selection pane appears as shown in Figure 85.

**Figure 85  Data Selection Pane**

1 Click where indicated under Available options to select input data.

This action opens the Select Input calendar dialog.
2 From the calendar display on the left-hand side of the Select Input dialog box, either click Sample Data to display sample data included with the product, or select from the following:

— The day for which you want to view baselines or scenarios. By default, the current day is displayed. (To return to the current day, click Today.)
— The arrow to the right of Today, if needed, to advance the month being displayed.
— The double arrow to the right of Today, if needed, to advance the year for the display.
— The arrow to the left of Today, if needed, to see the previous month.
— The double arrow to the left of Today, if needed, to see the previous year.

3 From the list of baselines and scenarios that displays on the right-hand side of the dialog box, select the ones you want. (Baselines are displayed at the top of the pane and, when available, scenarios and studies are listed at the bottom of the pane.)
4 Click OK.

---

**NOTE**

Each reporting tool has a hyperlink to the other reporting tools. You can view the same baselines and scenarios that you select in Performance Explorer in the other reporting tools by clicking the toolbar button for one of the other tools in the workspace toolbar.

---

**Reusing the contents of a report**

As an alternative to selecting data from the Select Input calendar in Performance Explorer, you can use the contents of an active report in the workspace for a new report, as follows:

1. With the active report that you want to use as a starting point displayed in the Performance Explorer workspace, click Generate New Report. This opens a new report with the contents of the active report.

2. Enter a unique name for the new report. (This feature is not case-sensitive, but does remember the case you use when specifying the name.) The new report is displayed with the new name. The report from which it was taken remains separate and unchanged.

3. Edit the new report as needed.

4. Click Refresh Active Report to update the new report with any changes.

---

**NOTE**

You can edit any active report (add or remove baselines and scenarios, or modify object, and metric selection) and click Refresh Active Report. This updates the report with your new changes.

---

**Copying reports to the clipboard**

You can use the toolbar button on the workspace or the Copy item in the workspace context menu to copy the contents of the workspace report to the clipboard. Once on the clipboard, you can paste it into another product, if you choose.
Removing baselines or scenarios

If you change your mind about a particular baseline or scenario that you have selected in the Data Selection pane, you can remove one or more selected items by clicking the Remove button at the top of the pane.

**NOTE**
This feature is also available if you right-click and open the context menu in the Data Selection pane.

You can also remove all of the data input items in the Data Selection pane by clicking the Remove All button.

Sorting the order of baselines and scenarios

You can sort the order in which baselines and scenarios appear in the Data Selection pane.

1. Click the baseline you want to move to select it.

2. Click the up arrow to move the selection upward, one place for each click, or click the down arrow to move it downward in the same manner.
For example, in the figure, the baseline for 9/15/2006 03:00 has been selected and can move up or down in the list depending on which arrow is clicked.

**NOTE**

This sorting feature is also available if you right-click and open the context menu in the Data Selection pane.

If you prefer, you can click one of the headers in the Data Selection pane, for example, **Date** or **Time** to sort the entries.

### Selecting objects

When you select a baseline or scenario, every object (physical systems, logical systems, workloads, applications, devices, storage groups and systems, and Coupling Facilities) associated with that baseline or scenario is listed in the Object Selection pane, which is just under the Data Selection pane.

**NOTE**

If you change a baseline or scenario as the source of your objects, you receive a message at the top of the Data Selection pane (shown in Figure 87 on page 280) advising you to click the **Refresh** button to update the object pane.
You select the objects you want in the report from the Object Selection pane. (If an object appears in multiple baselines or scenarios you have selected, it appears only once in the pane.)

Performance is related to the total amount of data in the objects you select. If you select every object in the list, a report is not generated because there are too many metrics to display. You can adjust the MaxMetrics setting, as described in “Changing display settings” on page 269, to increase or decrease the number of metrics that are generated.

**NOTE**

If you click on an object heading itself, for example Physical Systems, you will not see any metrics in the Metrics pane. You must click the name of a specific physical system to see its metrics.

---

**Selecting metrics**

Once you have selected the data and objects that you want for your report, a list of metrics for the selected objects appears in the Metric Selection pane at the bottom of the Performance Explorer window as shown in Figure 87 on page 280. This pane can be pinned open or unpinned to expand the space for other panes, using the small push-pin icon in the upper right-hand corner of the pane.
Figure 87  Metric Selection display

<table>
<thead>
<tr>
<th>Name</th>
<th>Short Display Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Size</td>
<td>Available Size</td>
</tr>
<tr>
<td>CSA Size</td>
<td>CSA Size</td>
</tr>
<tr>
<td>Expanded Storage Size</td>
<td>Expanded Storage Size</td>
</tr>
<tr>
<td>Latent Demand Probability</td>
<td>Latent Demand Probability</td>
</tr>
<tr>
<td>Logical System Name</td>
<td>Logical System Name</td>
</tr>
<tr>
<td>MSU Utilization</td>
<td>MSU Util</td>
</tr>
<tr>
<td>Operating System</td>
<td>Operating System</td>
</tr>
<tr>
<td>Partition Name</td>
<td>Partition Name</td>
</tr>
<tr>
<td>Performance Rating</td>
<td>Total MIPS</td>
</tr>
<tr>
<td>Performance Utilization</td>
<td>MIPS</td>
</tr>
<tr>
<td>Physical Utilization Ratio</td>
<td>Physical Utilization Ratio</td>
</tr>
<tr>
<td>Region and SWA Size</td>
<td>Region and SWA Size</td>
</tr>
<tr>
<td>Storage Size</td>
<td>Storage Size</td>
</tr>
<tr>
<td>Sysplex Name</td>
<td>Sysplex Name</td>
</tr>
<tr>
<td>Total Paging Rate</td>
<td>Total Paging Rate</td>
</tr>
<tr>
<td>Utilization</td>
<td>Util</td>
</tr>
<tr>
<td>VMGuest</td>
<td>VMGuest</td>
</tr>
<tr>
<td>Wait Completion</td>
<td>Wait Completion</td>
</tr>
</tbody>
</table>
Selecting a metric

In the initial display, some important metrics for a particular object might be selected (checkmarked) by default. If you do not want all of the metrics selected for an object to appear in your report, you can clear the ones that you want to leave out as follows:

1. Click an object (not the label denoting a group of objects) to see a complete list of its metrics.

2. Clear any metric that you do not want in your report.

   Click any unchecked metric to add it to the report. To help speed up this process, there are several toolbar buttons in the Metric Selection pane that can help.

<table>
<thead>
<tr>
<th>Table 12 Metric Selection toolbar buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Button</td>
</tr>
<tr>
<td><img src="image" alt="Select all" /></td>
</tr>
<tr>
<td><img src="image" alt="Clear all" /></td>
</tr>
<tr>
<td><img src="image" alt="Return default" /></td>
</tr>
<tr>
<td><img src="image" alt="Select not current" /></td>
</tr>
</tbody>
</table>

**NOTE**
If you want to edit the name or description of any metric, you can do that using the Data Dictionary Editor. This utility is available from the console toolbar and Utilities menu and provides online Help.
Creating reports

Now that you have set up your display options and selected the data objects and associated metrics that you want in each report, it is time to create the report. You have four options for creating reports as shown in the following table:

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generate New Report</td>
<td>Generates a new report either from scratch or based on any currently active data in the workspace.</td>
</tr>
<tr>
<td>Generate Summary Report</td>
<td>Generates a summary report for all of the intervals you have specified.</td>
</tr>
<tr>
<td>Refresh Active Report</td>
<td>Updates the active report with any changes you have made.</td>
</tr>
<tr>
<td>Create Blank Report</td>
<td>Creates a new report from scratch.</td>
</tr>
</tbody>
</table>

Generating a new report

Use the Generate New Report button to create a new report either from scratch or using data that is currently active in the workspace for another report. When another report is active, this function generates a new report with the contents of the active report, but allows you to specify a different name. You wind up with two reports: the active report and a new report with the same contents and a new name.

To generate a new report,


   You are prompted to enter the name of the report.

2. Type the name of the new report.

3. Click OK.
Generating a summary report

The summary report enables you to drill down and view performance metrics for various objects in the intervals that you have specified. For example, using the drill-down feature, you can view the logical systems within the physical systems, and the workloads that run on each of them. You can see how the workloads are distributed on the logical systems and the level of resources they consume, as well as how their performance rates in relation to each other. This information might alert you to a workload running on an over-utilized system and the fact that you have an under-utilized system available to which you could move that workload, thereby better balancing your data for performance. After determining that a move of the workload is indicated, you could then go to Scenario Explorer and try out the change.

This is but one example, there are many others. As you drill down in this report, you might find that your systems are working well and require no change at all at this time.

To generate a summary report,

1 Select one or more intervals in the Data Selection pane as described in “Selecting data” on page 274.

2 Click Generate Summary Report. (It does not matter whether you have an active report in the workspace or not.)

   You are prompted to enter the name of the report.

3 Type the name of the new report.

4 Click OK.

   A message displays that the report is being created.

5 Click on any hyperlinked text to drill down to the object beneath it.

Refreshing an active report

Use the Refresh Active Report button to refresh the data in the currently active report in your workspace. For example, you may have added a scenario with new objects and metrics.

To refresh an active report, click Refresh Active Report.
Creating a blank report

Use the Create Blank Report button to create a new report from scratch. That is, you are not using the contents of any active report in the workspace as a starting point.

To create a blank report,

1. Click Create Blank Report. (It does not matter whether you have an active report in the workspace or not.)

   You are prompted to enter the name of the report.

2. Type the name of the new report.

3. Click OK.

Saving and opening favorite reports

After you close a report window, that report is gone unless you save it to the Favorites list. (If you do not close a report window, it remains in the Performance Explorer workspace in the same state that you left it the next time you open Performance Explorer, even if you have shut your system down and restarted.)

Saving a favorite report

Use the following steps to select any report and add it to a list of Favorites that you can easily access:

1. Click the Favorites button at the top of the Data Selection pane. (You might have to scroll to see this button.)

2. Click Add Report.

   A message box will tell you if the report was successfully added.
Opening favorite reports

To open favorite reports you have saved:

1. Click the **Favorites** button at the top of the pane. (You might have to scroll to see this button.)

2. Click the report you want to open. You can use standard windows selection methods (Ctrl and Shift keys) to select multiple reports at once.

3. Click the **Open** button. (See the following table.) The report will open in the same state it was in when you saved it to the Favorites list.

**Favorite pane buttons**

The Favorites pane has three buttons, as shown in the following table:

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️ Open</td>
<td>Opens the report or reports you have selected.</td>
</tr>
<tr>
<td>✗ Delete</td>
<td>Deletes from the Favorites list the report or reports you have selected.</td>
</tr>
<tr>
<td>✚ Add Report</td>
<td>Add a report to the Favorites list.</td>
</tr>
</tbody>
</table>

**Editing reports from the favorites list**

After you have saved a favorite, you can open it and edit it. You can overwrite the existing report with your edits or save the original and create a new report with the edits.

**To overwrite the existing version of report:**

1. After you have saved a report as a favorite, open it and make edits.

2. Click **Refresh Active Report**.

3. Click **Add Report** in the Favorites pane to add it back to the Favorites list. The original version of the report in the Favorites list is overwritten with this updated version.
Switching to another tool

To keep the original in the Favorites list and create a new version:

1. After you have saved a report as a favorite, open it and make edits.

2. Click Generate New Report.

3. Give the new report a unique name, different from the original report.

4. Click Add Report in the Favorites pane to add the new version of the report to the Favorites list. Your original version is retained as a favorite, unchanged by your edits.

Switching to another tool

You can easily switch to another Performance Predictor tool to view the same intervals that you have been working with in the Data Selection pane using toolbar buttons in the Performance Explorer workspace toolbar.

Table 13  Linking to another Performance Predictor tool

<table>
<thead>
<tr>
<th>Toolbar Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Graph Explorer" /></td>
<td>Launches Graph Explorer to view results of a selected interval.</td>
</tr>
<tr>
<td><img src="image" alt="Report Explorer" /></td>
<td>Launches Report Explorer to view results of a selected interval.</td>
</tr>
<tr>
<td><img src="image" alt="Graphlet Explorer" /></td>
<td>Launches Graphlet Explorer to view results of a selected interval.</td>
</tr>
</tbody>
</table>
Chapter 10 Using the Graphlet Explorer

This chapter explains how and when to use the Graphlet Explorer to view data from baselines and scenarios. This chapter presents the following topics:

Graphlet Explorer overview ................................................................. 288
  Navigating views ................................................................. 288
  Graphlet Explorer display methods ............................................... 290
  Changing display settings ......................................................... 292
  Opening the Graphlet Explorer window ........................................ 296
Accessing baselines and scenarios .................................................. 297
  Using the Select Input dialog box ............................................... 297
  Loading a Scenario from the other tools ....................................... 299
Using the toolbar buttons ............................................................... 299
  Using navigation history to go forward or backward ...................... 300
  Using the Find feature within a report ...................................... 301
  Opening a report in a new window ........................................... 301
  Removing a baseline from view ............................................... 302
  Changing the view of the working pane ...................................... 302
Graphlet Explorer overview

Graphlet Explorer gives you quick access to reports and graphs that display baseline and scenario information for a variety of data objects. Graphlet Explorer generates reports and graphs at the following levels:

- Physical system view - reports about all the logical systems running on a physical system
- Logical system view - reports about each individual logical system and its affiliated workloads and system processor types
- Workload view - reports the details for that workload
- Application view - reports details about the workloads, subsystems, and logical systems on which that application runs
- Storage System view - reports details about the logical systems used for storage
- Storage Group view - reports storage group performance information
- Coupling Facility view - reports details about coupling facilities and their structures

For details about the contents of these reports and graphs, see Appendix C, “Contents of Graphlet views.”

Navigating views

Graphlet Explorer focuses mainly on workload performance. From most views in the Graphlet Explorer, you can drill down to see data for a particular workload running on a given logical system. You can then drill down further to see data for each device used by the workload. Navigation guides for drilling down through the levels can be found in Table 28 on page 371.
Navigating views

You navigate through the various charts and tables in the following ways:

- clicking objects in the navigation tree on the left side of the Graphlet Explorer tool window
- drilling down from objects in the working pane
- choosing Go Backward and Forward arrow buttons from the toolbar of the working pane. For each arrow button, you can select from a history of the charts and tables that you recently visited.

**To expand and drill down on objects, use the following options:**

- Double-click an object, or click the adjacent plus sign (+) in the navigation tree to show all the objects it contains. Click an object to view its information in the working pane.

- Click an object’s name or icon in the navigation tree to display details of the selected object without expanding the list of contained objects.

- Click an underlined object name in the working pane to drill down and see details of that object.

**Tips**

Use the following tips when working with the Graphlet Explorer.

- If you place your cursor over a logical system when in the Physical view, a small window opens that displays information about the respective system.

- Clicking the plus sign (+) adjacent to a view name shows all objects in that view, for example, all systems or all workloads.

- If you are unable to drill down on an object in a Graphlet Explorer display, and that object does not appear in the navigation tree, it means that either the object did not contain any data in the XML file or the data equaled zero.
Graphlet Explorer display methods

The Graphlet Explorer uses a variety of display methods:

- boxes that display CPU and operating system information
- coupling facility views (for baselines) that display structure relationships and other information such as type of structure, access rates, and response times upon drilling down (See Figure 88.)

Figure 88 Coupling facility view
- tables that display a variety about information on the operating system, logical systems, workloads, devices, storage systems, coupling facilities and structures (see Figure 89)

**Figure 89  Workload view**

- pie charts that display values for GCP service, GCP wait, I/O service, and I/O wait for each workload on each logical system (Figure 90 on page 292)
Changing display settings

Before you create a report in Graphlet Explorer, you can optionally specify what the charts in it will look like or you can use the default settings.

If you do want to customize chart settings, use the Settings option from the console toolbar or console File menu.
When you click **Settings** from Graphlet Explorer, the Settings dialog box opens with a display similar to the following:

**Figure 91  Graphlet Explorer Settings dialog box**

As shown in the figure, selecting an item in the right-hand working pane causes a description of that setting to appear in a box at the bottom of the pane. In the figure, the setting **Color** is selected and described.

For Graphlet Explorer, you can specify a general setting for the charts, and settings that determine the appearance of the charts.
General setting

The General setting enables you to specify whether long or short metric names will be used or whether the classic (original default) name will be used in the charts and also specify whether or not you want the state of the tool saved between sessions. The default for saving the session state is True, which means it will be saved.

Appearance settings

The following example shows the settings you can change when you choose the Body option under Appearance.

1. Click Body.

2. To change the color of the body of the chart, click Color.

   A. Click the down arrow next to the current color to open a selection list.

   B. Click the color you want.

3. To display a grid of the data values for the chart, choose True from the drop down box next to the setting DataBrowser. If you do not want this display, the value should be False.

4. To change the font characteristics of the text in the chart, click the plus sign in the checkbox next to Font to expand your list of options.

   Then, either change values next to an item by typing over the existing value, by using a drop-down box selection, or by clicking the box with the ellipsis just right of the current font name. Clicking the three periods opens a Font dialog where you can make changes. (Not all options are available in the separate Font dialog box.)

5. Click Palette to select a new color scheme from the drop-down box for the chart or report.

6. Click PointLabels to display or not display the value of each data point in the chart or report. A False value from the drop-down box means that the data point values will not be displayed. True causes the values to be displayed.

7. Click RescaleonHover to rescale the axis when you hover the mouse cursor over a particular data point.

8. Scheme and Show Border offer additional options for color pattern and border display on your charts and reports. Change those values to one of the options in their drop-down boxes, if you choose.

9. To change the visible points, click VisiblePoints. Visible points are the number of points that are visible on the chart without scrolling.
Next, you can change the way the X Axis appears in charts and reports.

1. To specify new settings for the X Axis, click the plus sign in the checkbox next to XAxis.

2. If you click on the plus sign next to the Grid option, you get a list of settings that you can change on the X Axis in grid displays.

3. To change the rotation of the text on the X Axis, click Rotation and type the new rotation value over the existing value.

4. Click Staggered to stagger the X Axis labels.

To change settings for the left Y Axis of your charts and reports:

1. Click the plus sign in the checkbox next to YAxisLeft.

2. Click Auto to False if you want the Min and Max values used to scale the Y axis.

3. Click 2D or 3D to select the chart style and select the chart type from the drop-down list box.

4. If you want to display multi-stacked area and bar charts, you can change the Cluster value.

5. YAxisLeft also lets you change Grid values, and Interlaced and Stacked values. Clicking on any of these settings, shows if there is a drop-down box of options and gives a description of what the value means.

When you have finished making all your changes to the Body settings

1. Click Apply.

2. Continue in a similar manner to review the Header, Footer, and Legend. Make changes for these elements in the same way as you did for the Body. The setting called Location refers to where you want the element to appear in relation to the body of the chart, for example, at the top, bottom, left, or right of the body. You select this value using a drop-down list.

3. Click OK when you are done to close the Graphlet Explorer Settings dialog box. (Settings are specific to each tool.)
Opening the Graphlet Explorer window

To open the Graphlet Explorer window, choose **Tools => Graphlet Explorer**.

The Graphlet Explorer does not contain scenario or baseline data until you access that data (see “Accessing baselines and scenarios” on page 297). Figure 92 shows data displayed in the Graphlet Explorer.

Figure 92  Graphlet Explorer window
Accessing baselines and scenarios

Before you can use the Graphlet Explorer, you must choose the data you want to view.

**NOTE**
You can view data from one or more baselines or scenarios in the navigation tree.

To access baseline and scenario data:

- load one or more baselines or scenarios from the Select Input dialog box
- load data passed from Scenario Explorer, Performance Explorer, Report Explorer or Graph Explorer

**TIP**
For ease of viewing, undock the Graphlet Explorer and maximize the window.

Using the Select Input dialog box

Use the following procedure to open the Select Input dialog box to choose baseline or scenario data.

1. Click Select Input to open the Select Input dialog box (see Figure 93 on page 298).
2 From the calendar display on the left-hand side of the Select Input dialog box, either click **Sample Data** to display sample data included with the product, or select the following:

- The day for which you want to view baselines or scenarios. By default, the current day is displayed. (To return to the current day, click **Today**.)
- The arrow to the right of Today, if needed, to advance the month being displayed.
- The double arrow to the right of Today, if needed, to advance the year for the display.
- The arrow to the left of Today, if needed, to see the previous month.
- The double arrow to the left of Today, if needed, to see the previous year.

3 From the list of baselines and scenarios that displays on the right-hand side of the dialog box, select the ones you want. (Baselines are displayed at the top of the pane and, when available, scenarios and studies are listed at the bottom of the pane. Any scenario with invalid evaluation results appears with a red flag next to its name.)
4 Click OK to display the selected data in the Graphlet Explorer.

---

**NOTE**

A scenario icon next to a baseline check box indicates that scenario results are available for that baseline.

---

### Loading a Scenario from the other tools

Use the following procedure to load a scenario into the Graphlet Explorer from the Performance Predictor tools.

1. In the tool in which you are working, select an evaluated scenario. (An evaluated scenario with valid results has a blue check mark next to its name in the Scenario Explorer tree.)

2. On the tool’s toolbar, click **Graphlet Explorer**.

3. Open the Graphlet Explorer to display the selected scenario in the Graphlet Explorer.

### Using the toolbar buttons

Graphlet Explorer has the following toolbar buttons, which are located just beneath the title bar:

<table>
<thead>
<tr>
<th>Toolbar name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select input</td>
<td>Select the baseline or scenario that you want to work with.</td>
</tr>
<tr>
<td>Remove from view</td>
<td>Remove the baseline or scenario from view, but not from the namespace.</td>
</tr>
<tr>
<td>Go Back</td>
<td>Move back to a previously viewed report or graph.</td>
</tr>
<tr>
<td>Go Forward</td>
<td>Move forward to a previously viewed report or graph.</td>
</tr>
<tr>
<td>Open in new window</td>
<td>Open a new window to view reports or graphs.</td>
</tr>
</tbody>
</table>
Using navigation history to go forward or backward

Go Forward and Go Backward, located on the upper-left toolbar of the Graphlet working pane let you go backward or forward through a maximum of 100 most recent view nodes that you visited in the hierarchy tree. When you have reached the beginning or the end of the viewing history, the respective navigation button becomes grayed denoting that you have reached the last view in the navigation history, or have reached the limit of navigation in that specific direction.

**NOTE**

Selecting a view node in the navigation tree, or drilling down in the tree automatically cancels the forward navigation history causing the Go Forward button to become disabled.

To advance one node forward within a particular view, click Go Forward.

To return one node backward within a particular view, click Go Backward.
Using the Find feature within a report

The Graphlet Explorer contains a useful tool that allows you to search for specific strings of words within a report.

1. Right-click a report, and choose Find in this report or click Find In This Report on the toolbar.

2. Type the text of the word for which you want to search.

3. You can choose the additional search criteria of Match whole word only, and Match case. You can also choose the direction of the search (Up or Down).

4. Click OK to begin the search.

If the word is located, Graphlet Explorer automatically scrolls to that word in the report. If the word is not found, a message informs you that the search is complete.

**TIP**

You can also click the down arrow of each button to view a list of recently viewed nodes. To open a recently viewed node, click the down arrow next to Go Forward or Go Backward and select the relevant node name from the list of nodes.

**NOTE**

This feature is only available for tabular reports, not for graphs.

Opening a report in a new window

This feature lets you view a more expanded view of a selected report inside your internet browser, which makes it easier to view the report.

**NOTE**

Hyperlinks on the original report are not active on the expanded report.

1. With a report open, right-click the graph working pane.

2. Choose Open in new window or click Open In New Window in the toolbar.
An expanded view of the report displays in your default internet browser window.

---

**NOTE**

Opening a report in your browser does not interfere with any other internet browser windows that you may have open at the time.

---

**Removing a baseline from view**

You can choose to remove a baseline and corresponding graphlet data from the current Graphlet Explorer session. This does not delete the baseline.

1. In the navigation tree, click the interval time line located at the root node.

2. Click **Remove from view** in the toolbar.

   The navigation tree and corresponding report data are removed from view, and the select input option replaces the navigation tree.

---

**Changing the view of the working pane**

Using the last two buttons in the Graphlet Explorer working pane toolbar, you can change the view of the chart or table from full pane to a smaller, proportional view.
Using Namespace Manager

This chapter explains how and when to use the Namespace Manager. This chapter presents the following topics:

Namespace Manager overview .................................................. 304
Namespace directory structure .................................................. 305
  Namespace log file .......................................................... 305
Opening the Namespace Manager ............................................. 306
Viewing namespace objects ..................................................... 306
Deleting objects in Namespace Manager .................................... 307
  Rules for deleting objects in the Namespace Manager ............... 308
Managing namespaces .......................................................... 308
  Using UNC paths ........................................................... 309
Changing the default namespace .............................................. 310
Backing up the namespace ..................................................... 311
Restoring a namespace ......................................................... 312
Deleting a namespace .......................................................... 313
Reindexing the summary file ................................................... 314
Copying scenarios and growth plans ........................................ 314
Web Publishing Namespace context menu commands .................. 315
Web portal options ............................................................. 316
Namespace Manager overview

A namespace is a data store in which your Performance Predictor data is saved as the following objects:

- baselines
- studies
- scenarios
- growth plans

Namespace Manager enables you to manage these objects in multiple namespaces. The default namespace is the currently active one where data that you download and change is saved. You can manage the default namespace as follows:

- **Change** - Change the default namespace location
- **Backup** - Copy the contents of the default namespace to a new or existing location
- **Restore** - Copy the contents of a namespace location to the default namespace
- **Delete** - Delete any namespace (except the current default)
- **Reindex summary file** - Recreate the index of all summary files

The Namespace Manager can manage your web portal as follows:

- **Manage web portal** - lets you set up a connection to a web portal. Anonymous users must have permissions to access the new portal.

- **Configure portal** - opens the Web Publishing Configuration dialog box for configuring the web portal.

- **Set as default portal** - specifies the portal to which reports will be published.

- **Remove from view** - removes a particular portal from the Namespace Manager view. You cannot remove the default portal.

In addition, you can also use Namespace Manager to make a copy of a scenario or growth plan.
Namespace directory structure

The default namespace directory structure that is created during installation is as follows:

```
driveletter:\Program Files\PASM\PPM\Namespace\Communication
    DefaultUser
    Global
```

The three directories (Communication, DefaultUser, Global), under the Namespace directory, are what constitutes the namespace. Creating and deleting namespaces involves these three directories only. However, copy operations such as backup and restore will copy ALL directories in the path.

It is best to keep the namespace isolated from other data by always using Namespace as the last node in the directory. It is not a good idea to use a directory structure that contains other data, for example, `C:\Program Files\Windowsupdate`. If you were to back up this namespace, everything in the directory, including the Windowsupdate files, would be copied along with the namespace directories. Specifying `C:\Program Files\Windowsupdate\Namespace`, although still not recommended, would eliminate all of the Windowsupdate files from a backup or restore operation.

Invalid directory specifications

You cannot create a namespace with the following directory specifications:

- A drive letter by itself, for example, C: or E: drives. There has to be at least one directory in the path.
- `driveletter:\Program Files`
- `driveletter:\Windows system directory`

Namespace log file

The namespace maintains a log file in the following location:

```
C:\MAINVIEW\PredictNamespace.log
```

**NOTE**

In past versions, the Namespace log file was maintained on the C: drive as `MessageLog.txt`. 
Opening the Namespace Manager

You open the Namespace Manager from the Utilities menu by choosing Utilities => Namespace Manager. Figure 94 shows the opening window of Namespace Manager. (The embedded online Help panel is hidden in this figure. You can display it to the right of the description, using the Help button.)

Figure 94  Namespace Manager

Viewing namespace objects

There are two types of namespace: the local namespace, where all of your data resides and the web publishing namespace, where all the reports that you publish to the web portal reside. To view information about the objects displayed in the navigation tree in the left pane of the window

1  Click the plus signs and expand the tree.

2  Select the object you want to view.

The information is displayed in the right-hand pane.

Table 14 on page 307 shows the categories of information for the local namespace. In the web publishing namespace, you can only view reports.
Deleting objects in Namespace Manager

Because reports take up disk space, consider deleting unused reports periodically. When you delete baseline reports, the baseline information that is available to the Scenario Explorer is not deleted.

1. Select the object that you want to delete in the right-hand pane.

2. Click **Delete** on the Namespace Manager Toolbar.

A confirmation message explains that deleting the object will remove all selected data from the namespace.

**Figure 95  Delete Namespace Object Confirmation dialog box**

3. To continue with the deletion, click **Yes**. To cancel, click **No**.

<table>
<thead>
<tr>
<th>Object</th>
<th>Information Viewed According To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baselines</td>
<td>date and time</td>
</tr>
<tr>
<td>Studies</td>
<td>study name and description</td>
</tr>
<tr>
<td>Scenarios</td>
<td>scenario name and description</td>
</tr>
<tr>
<td>Growth Plans</td>
<td>growth plan name, number of growth plan periods</td>
</tr>
</tbody>
</table>
Rules for deleting objects in the Namespace Manager

The following rules apply to deleting objects in the Namespace Manager.

- You can delete a growth plan even if it is referenced by a scenario. See “Editing a growth plan” on page 180.

- You cannot delete a study, scenario, or baseline if it is being referenced by any tool in the product.

- If a baseline is deleted, all scenario results for that baseline are also deleted.

Managing namespaces

As mentioned in “Namespace Manager overview” on page 304, there are a number of tasks that you can do to manage a namespace.

- **Change** - Change the default namespace location.
- **Backup** - Copy the contents of the default namespace to a new or existing location.
- **Restore** - Copy the contents of a namespace location to the default namespace.
- **Delete** - Delete any namespace that is not currently the default.
- **Reindex summary file** - Recreate the index of the summary files.

You access these options by right-clicking **Local Namespace** to display the context menu as shown in the following figure.
Using UNC paths

To use network device paths, you need to change the account information under which the Performance Predictor services are running to UNC (Universal Naming Convention). To do this, execute the following steps:

1. On the Performance Predictor main screen, click the File menu and exit Performance Predictor.

2. On the Windows screen, click **Start==>Control Panel==>Administrative Tools==>Services**

3. Click **MVP Namespace Service**.

4. Either choose **Stop** from the Services dialog Action menu or right-click **MVP Namespace Service** and choose **Stop** from the context menu.

5. Click **MVP System Service**.

6. Either choose **Stop** from the Services dialog Action menu or right-click **MVP System Service** and choose **Stop** from the context menu.

7. Change each of these two services to run under a user account, as follows:

   A. Right-click the service and choose **Properties**.

   B. Choose the **Log On** tab.

   C. Click the radio button named **This account**.

   D. Enter the user account and password that you want to use.

   E. Click **OK**.

   F. Repeat steps A through E for the other service.

---

**NOTE**

When managing the namespace, you can locate a namespace on a network device, if you choose. However, before you can do that, you need to set up a user account as described in the following section “Using UNC paths.” If you try to specify a network device without setting up the user account, you will get an error message.
8 Start or Restart each of the two services, as follows:

A Right-click the MVP Namespace Service and click **Start** or **Restart**.

B Right-click the MVP System Service and click **Start** or **Restart**.

**Changing the default namespace**

When you change the default namespace, you make another namespace the active namespace. You can create a new namespace or use an existing one. Any subsequent downloading of data, either manually or in the nightly push from the mainframe system, is stored in this new location.

**To change the default namespace:**

1 Click **Namespace Manager** from the console’s Utilities menu or use the console toolbar button.

2 Right-click **Local Namespace** and choose **Change Namespace** from the context menu.

This opens the following dialog box:

![Change Namespace Location dialog box](image)

3 Enter the name of the new directory. If the directory already exists, you can use the **Browse** button to find it.

4 Click **OK**.

No data is copied from the existing default to the new default namespace using the Change option.
Backing up the namespace

When you back up a namespace, you copy its contents to a different location.

1. Click **Namespace Manager** from the console’s Utilities menu or use the console toolbar button.

2. Right-click **Local Namespace** and choose **Backup** from the context menu.

   This opens the following dialog box:

   ![Backup Namespace dialog box](image)

3. Enter the name of the backup directory or use the **Browse** function to select an existing one.

4. Click the **Overwrite the data in the destination directory** check box if you want to delete all data that may be in the backup location before copying the default namespace data. If you want to merge what is in the current default namespace with what already exists in the backup location, do not check this box.

5. Click the **Delete the source directory** check box if you want to delete all data in the current default namespace after that data is copied to the backup location. If you do this, the backup namespace becomes the new default namespace (deleting the default data, deletes the default namespace). If you do not want the default namespace to change after the backup, do not check this box.

6. Click **OK**.

   A confirmation box will ask if you are sure that you want to complete the operation. If you are, click **OK**, if not, click **NO**.
Restoring a namespace

Restoring a namespace is sort of a backup in reverse, in that you are copying data from a specified location, perhaps your backup location, to the default namespace. As in the backup operation, you have options to delete data in either location using the check boxes provided in the dialog box.

To restore a namespace:

1. Click Namespace Manager from the console’s Utilities menu or use the console toolbar button.

2. Right-click Local Namespace and choose Restore Namespace from the context menu.

   This opens the following dialog box:

   ![Restore Namespace Dialog]

   3. Enter the name of the directory from which you are restoring data or use the Browse function.

   4. Click the Overwrite the data in the destination directory check box if you want to delete all data that may be in the default namespace before copying the data. If you want to merge what is in the current default namespace with what you are copying, do not click this check box.

   5. Click the Delete the source directory check box if you want to delete all data in the restore location after the data is copied to the default namespace. (This deletes the restore namespace after the copy.) If you do not want to delete the restore location after the copy, do not click this check box.
Deleting a namespace

When you delete a namespace, you remove it from the directory. For example, if you delete `C:\Program Files\PASM\PPM\Namespace`, you delete the following three directories from the path:

- Communication
- DefaultUser
- Global

To delete a namespace:

1. Click **Namespace Manager** from the console’s Utilities menu or use the console toolbar button.

2. Right-click **Local Namespace** and choose **Delete Namespace** from the context menu.

   This opens the following dialog box:

3. Enter the name of the namespace you want to delete or use the **Browse** function.

4. Click **OK**.
**Reindexing the summary file**

You can reindex the summary file that lists summaries of data downloaded at specific intervals during the nightly data push. You may want to reindex if you cannot find a particular Daily Health Check Summary or if you have additional summary files that are not in the current index.

To perform the reindexing:

1. Click **Namespace Manager** from the console’s Utilities menu or use the console toolbar button.
2. Right-click **Local Namespace** and choose **Reindex Summary File** from the context menu.

This opens the following dialog box:

![Reindex Summary File dialog box]

3. Click **Yes** to complete the reindexing or **No** to cancel.

**Copying scenarios and growth plans**

You can copy an existing scenario or growth plan that is in the namespace. To perform the copy:

1. Click **Namespace Manager** from the console’s Utilities menu or use the console toolbar button.
2. Click on **Scenarios** or **Growth Plans**, depending on which type of file you want to copy.
3. Right-click a specific scenario or growth plan in the workspace and choose **Copy** from the context menu.

This opens a dialog box that tells you the name of the scenario or growth plan being copied and asks you to enter a name for the copy.
Enter the name of the new scenario or growth plan.

The copy appears immediately in the workspace.

Web Publishing Namespace context menu commands

If you right-click the Web Publishing Namespace folder, the Manage Web Portal option appears. This lets you specify an FTP server name for the web server that you want to connect with and administer. You must type a server name, port number (default is 21), and virtual directory name in the appropriate fields of the File Transfer Protocol Settings dialog box to proceed. Anonymous users must have permissions to access the new portal. When done, click OK.

**NOTE**

If authentication is supported by the FTP server, click the Authentication button and select either Anonymous login or Specify user account information and fill in the user and password information.

Figure 96  File Transfer Protocol dialog box
Web portal options

If you have configured a connection to a web portal, that portal is listed under **Web Publishing Namespace** on the namespace navigation tree. You can have connections to several portals and use the Namespace Manager to manage them.

To manage a defined web portal, right-click the web portal folder in the navigation tree and select one of the following options from the context menu that opens.

- **Configure portal** - opens the Web Configuration dialog box so you can configure the web portal. If you change the portal type from ASP to JSP or visa versa, you must re-generate the reports prior to publishing them. ASP-generated reports will not format properly on a JSP portal and JSP-generated reports will not format properly on an ASP portal.

- **Set as default portal** - specifies the portal to which reports will be published.

- **Remove from view** - removes that particular portal from view so that you no longer can manage it using Namespace Manager. You cannot remove the default portal, so if you have only one defined, you cannot remove it.

Step-by-step information on how to perform each of these actions is described in the Performance Predictor Help under the Namespace section of the Contents.
Using the Hardware Table Editor

This chapter describes how to use the Hardware Table Editor and presents the following topics:

Hardware Table Editor overview ............................................... 318
Viewing CPU information ......................................................... 319
Viewing disk information ........................................................ 321
Viewing tape information ......................................................... 322
Changing data ........................................................................ 323
   Modifying data by cell .......................................................... 323
   Modifying data by row .......................................................... 323
Inserting rows ....................................................................... 325
Hiding and showing rows ......................................................... 325
Reloading data ....................................................................... 326
Updating data ....................................................................... 326
Hardware Table Editor overview

With the Hardware Table Editor, you can view, edit, and save data that is associated with your hardware. Three viewing options, represented by tabs at the bottom of the table, enable you to view CPU, disk, and tape information.

In addition, toolbar buttons provide the options described in Table 15.

Table 15  Hardware Table toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reload</td>
<td>Restores the information in the hardware table to the last saved state.</td>
</tr>
<tr>
<td>Save</td>
<td>Saves the changes to the hardware table since the last save. This button is disabled until you make updates to the table.</td>
</tr>
<tr>
<td>Updates</td>
<td>Updates the hardware table with the most up-to-date data from the BMC Software FTP site.</td>
</tr>
<tr>
<td>Help</td>
<td>Toggles the Help display.</td>
</tr>
<tr>
<td>Hidden</td>
<td>Toggles between displaying and hiding hardware items that you have hidden.</td>
</tr>
</tbody>
</table>

You can access the cell editing context menu only if you have double-clicked to activate in-place editing and right-clicked in a table cell. Table 16 describes the context menu commands.

Table 16  Hardware Table Editor - cell editing context menu

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undo</td>
<td>Cancels the last edit that you performed. Same as keyboard combination, CTRL/Z.</td>
</tr>
<tr>
<td>Cut</td>
<td>Deletes the selected data in the cell.</td>
</tr>
<tr>
<td>Copy</td>
<td>Copies the selected data to the clipboard.</td>
</tr>
<tr>
<td>Paste</td>
<td>Puts the contents of the clipboard into a cell.</td>
</tr>
<tr>
<td>Clear Contents</td>
<td>Clears the contents of the current cell.</td>
</tr>
<tr>
<td>Select All</td>
<td>Selects the contents of the current cell.</td>
</tr>
</tbody>
</table>

For more information about modifying data in the hardware table, refer to “Changing data” on page 323.

You can access the row management context menu only if you right-click in the left column of any Hardware Table view. Table 17 on page 319 describes that menu’s commands.
Viewing CPU information

The **CPU Information** tab at the bottom of the screen displays the default view. Click this tab to display the following information about your hardware:

- **CPU Information** - hardware model numbers
- **Number of Processors** - number of processors in CPU
- **LSPR LOIO-MIX Rating** - type of system and image to which the capacity numbers relate

If you hover the cursor over the LSPR LOIO-MIX Rating column head, you will see a message similar to the following example,

<table>
<thead>
<tr>
<th>LSPR LOIO-MIX Rating</th>
<th>LSPR LOIO-MIX capacity numbers are relative to the zSeries 2084-301 running a single z/OS image</th>
</tr>
</thead>
<tbody>
<tr>
<td>221</td>
<td>236.0, 11585.8, 41.0</td>
</tr>
<tr>
<td>423</td>
<td>450.0, 10891.8, 78.0</td>
</tr>
<tr>
<td>621</td>
<td>547.0, 10430.2, 112.0</td>
</tr>
<tr>
<td>806</td>
<td>835.0, 10081.9, 143.0</td>
</tr>
<tr>
<td>986</td>
<td>1007.0, 9732.4, 173.0</td>
</tr>
<tr>
<td>1157</td>
<td>1167.0, 9384.2, 193.0</td>
</tr>
</tbody>
</table>

For additional information about managing rows, refer to the following sections:

- “Changing data” on page 323
- “Inserting rows” on page 325
- “Hiding and showing rows” on page 325.

---

Table 17  **Hardware Table Editor - row management context menu**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert Row</td>
<td>Depending on which view is shown, displays a dialog box in which you specify data for a new CPU, disk, or tape.</td>
</tr>
<tr>
<td>Modify Row</td>
<td>Depending on which view is shown, displays a dialog box in which you modify data for a new CPU, disk, or tape.</td>
</tr>
<tr>
<td>Hide Row</td>
<td>Hides the selected row.</td>
</tr>
</tbody>
</table>

---
- MIPS Rating - MIPS rate for the CPU
- Hardware Service Units Per Second - rate for the CPU
- Software Pricing MSU Rating - rate for the CPU
- Group Maximum CP - maximum number of processors a Processor Group can have
- Processor Group - an identifying tag used by Performance Predictor during CPU upgrades and downgrades
- Special Purpose CP - special processors that the processor supports

Options are as follows:
- blank
- ZAAP
- ZIIP
- ZAAP,ZIIP

Table 18 shows the Hardware Table Editor with the CPU Information tab selected. (The tabs are at the bottom of the screen, which is not shown in the figure.)

Table 18  Hardware Table Editor - CPU information view

<table>
<thead>
<tr>
<th>CPU Information</th>
<th>Number of Processors</th>
<th>LSPR LOIO-MIX Rating</th>
<th>MIPS Rating</th>
<th>Hardware SU/sec</th>
<th>Software Pricing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-102</td>
<td>1</td>
<td>3.5</td>
<td>177.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-103</td>
<td>1</td>
<td>6.0</td>
<td>265.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-104</td>
<td>1</td>
<td>9.0</td>
<td>443.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-105</td>
<td>1</td>
<td>12.0</td>
<td>620.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-106</td>
<td>1</td>
<td>16.0</td>
<td>798.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-107</td>
<td>1</td>
<td>25.0</td>
<td>1197.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-115</td>
<td>1</td>
<td>29.0</td>
<td>1433.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-116</td>
<td>1</td>
<td>36.0</td>
<td>1769.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-124</td>
<td>2</td>
<td>51.0</td>
<td>1202.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-125</td>
<td>2</td>
<td>54.0</td>
<td>1304.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Viewing disk information

Click the Disk Information tab to view the following information:

- Rotation Time
- Transfer Rate
- Seek Time

Figure 97 on page 321 shows the Hardware Table Editor with the Disk Information tab selected.

Figure 97  Hardware Table Editor - Disk Information view

Using the Hardware Table Editor

The Hardware Table Editor provides three table displays:

- a list of leading CPUs, including the number of central processing units, its performance rating in MIPs, the maximum number of seconds per unit, the number of disks with their respective rotation times, transfer rates, and seek times,

- a list of tape entries with the number of tapes in each table. Objects in each
Viewing tape information

Click the **Tape Information** tab to view transfer rate information.

**Figure 98** shows the Hardware Table Editor with the **Tape Information** tab selected.

**Using the Hardware Table Editor**

The Hardware Table Editor provides three table directories:

- a list of leading CPU processors each on its performance rating, MIP rating, and its maximum number of units
- a list of disks with their respective rotation transfer rates, and times
- a list of tape entries with their respective transfer rates

Click the indicated tab for each table. Objects in each table...
Changing data

The Hardware Table Editor allows you to change information about CPUs, disks, and tapes. You can do this either by cell or by row. The following sections describe these tasks.

Modifying data by cell

To modify a single cell in the data

1. Double-click a table cell to edit the data.
2. Enter a different value.
3. Press Enter.
4. Repeat as necessary, or click Save to save your changes.

---

NOTE
To save your changes, click Save or Yes at the Save prompt when closing the Hardware Table.

Modifying data by row

To modify an existing row in the Hardware Table

1. Expand the manufacturer and model folders of the CPU, disk, or tape for which you want to modify hardware information.

2. Right-click a processor or device name (as appropriate for your view) that you want to change. The row management context menu displays.
3 From the context menu, select **Modify Row**. The Hardware Table Editor displays a dialog box containing the current data entries for the selected row. The following figures show example dialogs for tape, disk (DASD), and CPU.

![Modify Tape Information](image1)

![Modify DASD Information](image2)

![Modify CPU Information](image3)

4 Modify any field by highlighting and typing the new data. You cannot change a row name.

5 Click **OK**. The Hardware Table displays the updated values.
Inserting rows

The Hardware Table Editor allows you to insert new rows to the Hardware Table. Each new row appears as the last item in the folder you select.

To insert a row in the Hardware Table

1. Expand the manufacturer and model folders of the CPU, disk, or tape for which you want to add hardware information.

2. Right-click a processor or device name (as appropriate for your view) to access the row management context menu.

3. From the context menu, select Insert Row. The Hardware Table Editor displays a dialog box containing a blank field for each column heading in the table.

4. Enter data in the fields.

5. Click OK to add the new processor or device information.

NOTE

To save your changes, click Save or Yes at the Save prompt when closing the Hardware Table.

Hiding and showing rows

The Hardware Table Editor allows you to hide or show existing rows of hardware information.

To hide a row

1. Expand the manufacturer and model folders of the CPU, disk, or tape for which you want to add hardware information.

2. Right-click the processor or device name (as appropriate for your view) of the row that you want to hide.

You can hide all of the processors or devices from a particular manufacturer or a particular model of a manufacturer by right-clicking on the manufacturer name or the model name and choosing Hide All.
Reloading data

There are show options in each right-click menu to permanently remove the *Hide* setting and display the objects again. If you want to just temporarily view hidden objects, use the *Hidden* button in the toolbar.

To save your changes, click **Save** or **Yes** at the Save prompt when closing the Hardware Table.

**NOTE**

An updated hardware table that you download from the BMC Software FTP site may contain items that you have hidden. If so, they will reappear in your table after the download.

### Reloading data

As described in “Hardware Table Editor overview” on page 318, the **Reload** button lets you restore the hardware table to its last saved state. You can reload data only after you have made but not saved changes to the hardware table.

**To reload data**

1. Click **Reload**. The Hardware Table Editor displays a warning message.

2. Do one of the following:
   - Click **Yes** to save the changes you made to the hardware table. If you choose this option, the Hardware Table Editor saves your latest changes instead of reloading the last saved state.
   - Click **No** to discard your changes. The Hardware Table Editor reloads the last saved state of the hardware table.

### Updating data

As described in “Hardware Table Editor overview” on page 318, the **Updates** button lets you synchronize the information in the Hardware Table Editor with the latest hardware information located at the BMC Software FTP site. After you update the hardware table on your Performance Predictor console using the Hardware Table Editor, you will receive a reminder message to update it on the UIE system as well.
To update the data in the Hardware Table Editor

1  Click Updates.

2  If you have unsaved changes in the Hardware Table Editor, a warning message prompts you to save your changes before updating the table with the new data. Do one of the following:

   ■ Click Yes to save your changes and maintain the old data in the Hardware Table Editor.

     If you select Yes, the latest data from the BMC Software FTP site is downloaded.
     If there are differences between the BMC Software FTP data and the Hardware Table, you are prompted to merge the data and update the Hardware Table.

   ■ Click No to update with the newest data located at the BMC Software FTP site.

   **NOTE**

   If the Hardware tables are the same version, no update occurs, and a message is displayed.
Scenario Explorer toolbars and context menus

This appendix describes the two toolbars used in the Scenario Explorer and the workspace context menus and includes the following topics:

- Scenario Explorer tree toolbar .......................................................... 330
- Working pane toolbar ................................................................. 331
- Using the workspace and palette context menus ............................... 332
The Scenario Explorer tree toolbar, located just above the Scenario Explorer tree, has buttons for creating, arranging, and evaluating scenarios.

As described in Table 19, the array of toolbar buttons changes depending on whether you have selected a baseline, a study, or a scenario in the tree.

### Table 19  Scenario Explorer tree toolbar buttons (part 1 of 2)

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Function</th>
<th>Available when</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Scenario Wizard" /></td>
<td>Scenario Wizard</td>
<td>Opens the Scenario Wizard.</td>
<td>at least one baseline is in Scenario Explorer tree</td>
</tr>
<tr>
<td><img src="image" alt="Insert Baseline" /></td>
<td>Insert Baseline</td>
<td>Opens Insert Baseline dialog box for inserting baseline into Scenario Explorer tree.</td>
<td>baseline is selected</td>
</tr>
<tr>
<td><img src="image" alt="Change Baseline" /></td>
<td>Change Baseline</td>
<td>Opens Insert Baseline dialog box for replacing selected baseline.</td>
<td>baseline is selected</td>
</tr>
<tr>
<td><img src="image" alt="New Study" /></td>
<td>New Study</td>
<td>Opens New dialog box for creating new study under selected baseline.</td>
<td>baseline is selected</td>
</tr>
<tr>
<td><img src="image" alt="Insert Study" /></td>
<td>Insert Study</td>
<td>Opens Insert Study dialog box for inserting existing study under selected baseline.</td>
<td>baseline is selected</td>
</tr>
<tr>
<td><img src="image" alt="Remove from View" /></td>
<td>Remove from View</td>
<td>Removes from the Scenario Explorer tree one of the following:</td>
<td>at least one baseline is in Scenario Explorer tree</td>
</tr>
<tr>
<td><img src="image" alt="New Scenario" /></td>
<td>New Scenario</td>
<td>Opens New dialog box for creating new scenario under selected study or scenario.</td>
<td>study or scenario is selected</td>
</tr>
<tr>
<td><img src="image" alt="Insert Scenario" /></td>
<td>Insert Scenario</td>
<td>Opens Insert Scenario dialog box for inserting existing scenario under selected study or scenario.</td>
<td>study or scenario is selected</td>
</tr>
<tr>
<td><img src="image" alt="Annotation window" /></td>
<td>Annotation window</td>
<td>Opens Annotation window for annotating selected study or scenario.</td>
<td>study or scenario is selected</td>
</tr>
</tbody>
</table>
Working pane toolbar

The working pane toolbar is located above the working pane on the right side of the Scenario Explorer. It appears when a scenario is selected in the Scenario Explorer tree.

NOTE

All the Scenario Explorer tree functions performed by toolbar buttons are also available in a context menu that opens when you right-click in the Scenario Explorer tree pane.

NOTE

Some of the toolbar buttons are available only when the scenario has been evaluated.

Table 20 lists the working pane toolbar buttons and describes their functions.

Table 20  Working pane toolbar buttons (part 1 of 2)

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Function</th>
<th>Available when</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Refresh" /></td>
<td>Refresh</td>
<td>Calculates the changes in CPU utilization that result from any changes you made in the Working pane and displays the results in the physical system boxes in the Working pane. (Using the down arrow on the button, set this to work either automatically or manually.)</td>
<td>study or scenario is selected</td>
</tr>
<tr>
<td><img src="image" alt="Growth Plan Editor" /></td>
<td>Growth Plan Editor</td>
<td>Opens the Growth Planner for creating and editing growth plans and applying them to the selected scenario.</td>
<td>scenario is selected</td>
</tr>
</tbody>
</table>
### Using the workspace and palette context menus

There are context menus available when you right-click the mouse in the Systems Palette or in the workspace, as described in this section.

If you right-click in the workspace (not on an object in the workspace), a context menu opens displaying a list of common tasks. Table 21 on page 333 describes these tasks.

#### Table 20 Working pane toolbar buttons (part 2 of 2)

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Add Object to Scenario]</td>
<td>Add Object to Scenario</td>
<td>Launches the wizard for adding new objects or building workloads.</td>
</tr>
<tr>
<td>![Evaluation Options]</td>
<td>Evaluation Options</td>
<td>Choose options for how much work you want to execute on zIIP, zAAP, and general purpose processors</td>
</tr>
<tr>
<td>![Tile all Windows]</td>
<td>Tile all Windows</td>
<td>Displays windows in tile format.</td>
</tr>
<tr>
<td>![Close all Windows]</td>
<td>Close all Windows</td>
<td>Closes all windows in the workspace.</td>
</tr>
<tr>
<td>![Close Selected Windows]</td>
<td>Close Selected Windows</td>
<td>Closes only those windows that you have selected.</td>
</tr>
<tr>
<td>![Collapse all Windows]</td>
<td>Collapse all Windows</td>
<td>Minimizes all windows in the workspace.</td>
</tr>
<tr>
<td>![Switch to Performance Explorer]</td>
<td>Switch to Performance Explorer</td>
<td>Launches Performance Explorer to view results of an evaluated selected scenario.</td>
</tr>
<tr>
<td>![Switch to Graphlet Explorer]</td>
<td>Switch to Graphlet Explorer</td>
<td>Launches Graphlet Explorer to view results of an evaluated selected scenario.</td>
</tr>
<tr>
<td>![Switch to Graph Explorer]</td>
<td>Switch to Graph Explorer</td>
<td>Launches Graph Explorer to view results of an evaluated selected scenario.</td>
</tr>
<tr>
<td>![Color Identify Systems]</td>
<td>Color Identify Systems</td>
<td>Colors systems that have parent/child relationships, the same color.</td>
</tr>
<tr>
<td>![Show System Relationships]</td>
<td>Show System Relationships</td>
<td>Draws arrow-point lines between related objects in the workspace to show how they are related.</td>
</tr>
<tr>
<td>![Show System Palette Window]</td>
<td>Show System Palette Window</td>
<td>Can be used to open and close the System Palette.</td>
</tr>
</tbody>
</table>
Table 21  Workspace context menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>View “Systems Palette” window</td>
<td>Opens the Systems Palette window. This window is described in &quot;About workspace features&quot; on page 112.</td>
</tr>
<tr>
<td>Add Objects to Workspace</td>
<td>Opens the Add Objects window, where you can view and select from all of the objects in the active scenario.</td>
</tr>
<tr>
<td>Create Physical System</td>
<td>Opens the Create Physical System Wizard. This wizard is described in “Create a new physical system” on page 126.</td>
</tr>
<tr>
<td>Create Logical System</td>
<td>Opens the Create Logical System Wizard. This wizard is described in “Creating a new logical system” on page 132.</td>
</tr>
<tr>
<td>Create Device</td>
<td>Opens the Create Device Wizard. This wizard is described in “Creating a new device” on page 139.</td>
</tr>
<tr>
<td>Build Workload</td>
<td>Opens the Build Workload Wizard. This wizard is described in “Building a new workload” on page 145.</td>
</tr>
<tr>
<td>Color Identify Systems</td>
<td>Displays the objects in the workspace using distinct colors for different systems. You can use this menu item or the corresponding toolbar button to turn this feature on and off.</td>
</tr>
<tr>
<td>Show System Relationships</td>
<td>Displays arrow-tipped lines to indicate workspace objects that are related to each other, for example, a logical system within a displayed physical system. You can use this menu item or the corresponding toolbar button to turn this feature on and off.</td>
</tr>
<tr>
<td>Print</td>
<td>Print the current view in the workspace to your default printer.</td>
</tr>
<tr>
<td>Tile Windows</td>
<td>Arrange the physical and logical systems within the workspace so that you can view each system individually.</td>
</tr>
<tr>
<td>Close All Windows</td>
<td>Close all physical and logical systems windows.</td>
</tr>
<tr>
<td>Close Selected Windows</td>
<td>Close the selected physical and logical systems windows.</td>
</tr>
<tr>
<td>Collapse All Windows</td>
<td>Collapse all physical and logical systems windows into a single view of the first physical system.</td>
</tr>
<tr>
<td>Settings</td>
<td>Opens the Settings dialog box, where you can choose color mappings for physical systems in the workspace and also turn various display options for the workspace on or off.</td>
</tr>
</tbody>
</table>

When you right-click a system box in the workspace, a context menu opens displaying a list of additional tasks. Table 22 on page 334 describes the tasks on a physical system context menu.
Table 22  Physical system workspace context menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Systems Palette window</td>
<td>Show the System Palette Window, if not visible.</td>
</tr>
<tr>
<td>Modify Physical System</td>
<td>Open the Modify Physical System dialog box to select a physical system to modify. For more information, see “Modify a physical system” on page 128.</td>
</tr>
<tr>
<td>Modify Logical System Distribution</td>
<td>Open the Modify Logical Systems dialog box to select a physical box to which you can make logical system changes. For more information, see “Modify a physical system” on page 128.</td>
</tr>
<tr>
<td>Move</td>
<td>Move the system box using the keyboard.</td>
</tr>
<tr>
<td>Size</td>
<td>Resize the system box using the keyboard.</td>
</tr>
<tr>
<td>Collapse</td>
<td>Collapse the system box.</td>
</tr>
<tr>
<td>Close</td>
<td>Close the system box.</td>
</tr>
<tr>
<td>Close all children</td>
<td>Closes all objects that are children of the selected object, for example, all logical systems that are in a selected physical system.</td>
</tr>
<tr>
<td>Remove from view</td>
<td>Removes the physical system from the workspace. Once removed from view, you cannot model the system and it will not appear in reports.</td>
</tr>
<tr>
<td>Copy to</td>
<td>Makes a copy of the physical system.</td>
</tr>
<tr>
<td>Rename</td>
<td>Opens a dialog box where you can rename the physical system. The new name is displayed as soon as you close the dialog box.</td>
</tr>
<tr>
<td>Chart Viewer</td>
<td>Opens the Chart Viewer to display the selected system.</td>
</tr>
<tr>
<td>Sort Object List</td>
<td>Sorts the list of objects (systems, devices, or workloads) in the selected system.</td>
</tr>
<tr>
<td>Properties</td>
<td>Display or edit properties of the system box.</td>
</tr>
</tbody>
</table>

If you right-click a physical or logical system name in the Group View of the Systems Palette, a context menu opens displaying a list of additional tasks. Table 23 describes these tasks.

Table 23  Group View -“Systems Palette” context menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Groups</td>
<td>Opens the Manage Groups dialog box, where you can create new groups and delete existing ones, as well as add and remove objects to new and existing groups.</td>
</tr>
<tr>
<td>Add Objects</td>
<td>Opens the Add Object dialog where you can browse node maps of the baseline to select which systems you want to add to the active group.</td>
</tr>
<tr>
<td>Remove Objects</td>
<td>Removes the selected object from the group.</td>
</tr>
</tbody>
</table>
If you right-click a physical system list item in the System View, a context menu opens displaying a list of additional tasks. Table 24 describes these tasks.

Table 24  Physical System list - “Systems Palette” context menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Opens the physical system in the workspace area, if it is not already open.</td>
</tr>
<tr>
<td>Show/Hide CPU Utilization Meter</td>
<td>Change the view of each physical system in the System View to a meter that displays that system’s CPU utilization or Hide that view.</td>
</tr>
<tr>
<td>Remove Physical System</td>
<td>Removes the physical system from the evaluation process. Once removed from view, you cannot model the system and it will not appear in reports.</td>
</tr>
<tr>
<td>Copy Physical System</td>
<td>Makes a copy of the logical system.</td>
</tr>
<tr>
<td>Modify Physical System</td>
<td>You can reconfigure the components in the selected physical system for “What-If” scenarios.</td>
</tr>
<tr>
<td>Rename Physical System</td>
<td>Opens a dialog box where you can rename the physical system. The new name is displayed as soon as you close the dialog box.</td>
</tr>
<tr>
<td>Create Logical System</td>
<td>Create a new logical system in the selected physical system.</td>
</tr>
<tr>
<td>Chart Viewer</td>
<td>Opens the Chart Viewer to display the selected system.</td>
</tr>
<tr>
<td>Sort Object List</td>
<td>Sorts the list of objects (systems, devices, or workloads) in the selected system.</td>
</tr>
<tr>
<td>Properties</td>
<td>Enables you to display or edit properties of the physical system box</td>
</tr>
</tbody>
</table>

If you right-click a logical system list item in either the workspace or in the System View, a context menu opens displaying a list of additional tasks. Table 25 describes these tasks.

Table 25  Logical system list context menu (part 1 of 2)

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Opens the logical system in the workspace area, if it is not already open.</td>
</tr>
<tr>
<td>Remove Logical System</td>
<td>Removes the logical system from the evaluation process. Once removed from view, you cannot model the system and it will not appear in reports.</td>
</tr>
</tbody>
</table>
Using the workspace and palette context menus

Table 25  Logical system list context menu  (part 2 of 2)

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move Logical System to</td>
<td>Moves the logical system to a different physical box.</td>
</tr>
<tr>
<td>Copy Logical System to</td>
<td>Makes a copy of the logical system. This is described in “Copying an existing logical system” on page 138.</td>
</tr>
<tr>
<td>Modify Logical System</td>
<td>Opens the Modify Logical System dialog box so you can modify the selected logical system. For more information, see “Modify a physical system” on page 128.</td>
</tr>
<tr>
<td>Distribution</td>
<td></td>
</tr>
<tr>
<td>Rename Logical System</td>
<td>Opens a dialog box where you can rename the logical system. The new name is displayed as soon as you close the dialog box.</td>
</tr>
<tr>
<td>Build Workload</td>
<td>Opens the Build Workload Wizard. This wizard is described in “Building a new workload” on page 145.</td>
</tr>
<tr>
<td>Chart Viewer</td>
<td>Opens the Chart Viewer to display the selected system.</td>
</tr>
<tr>
<td>Sort Object List</td>
<td>Enables you to sort the selected objects in ascending or descending order.</td>
</tr>
<tr>
<td>Properties</td>
<td>Enables you to display or edit properties of the logical system box.</td>
</tr>
</tbody>
</table>

Table 26  Workload list workspace context menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Opens a display showing the devices that the workload is using and how they are being utilized.</td>
</tr>
<tr>
<td>Remove Workload</td>
<td>Removes the workload system from the evaluation process. Once removed from view, you cannot model the workload and it will not appear in reports.</td>
</tr>
<tr>
<td>Move Workload to</td>
<td>Moves the workload to a different physical or logical system. This is described in &quot;Using workspace wizards&quot; on page 122.</td>
</tr>
<tr>
<td>Copy Workload to</td>
<td>Makes a copy of the logical system. This is described in “Copying an existing logical system” on page 138.</td>
</tr>
<tr>
<td>Rename Workload</td>
<td>Opens a dialog box where you can rename the workload. The new name is displayed as soon as you close the dialog box.</td>
</tr>
<tr>
<td>Manage Devices</td>
<td>Opens the Manage Devices Wizard. This wizard is described in “Managing devices” on page 142.</td>
</tr>
<tr>
<td>Chart Viewer</td>
<td>Opens the Chart Viewer to display the selected system.</td>
</tr>
<tr>
<td>Sort Object List</td>
<td>Sorts the list of objects (systems, devices, or workloads) in the selected system.</td>
</tr>
<tr>
<td>Properties</td>
<td>Enables you to display or edit properties of the workload.</td>
</tr>
</tbody>
</table>
Contents of reports

This appendix lists and describes the contents of Performance Predictor reports and includes the following topics:

Overview ................................................................. 338
Daily Health Check Summary subreports .................................. 338
Performance Changes Summary subreports ................................. 339
Top analysis reports ....................................................... 340
  Top Workload Analysis report ....................................... 341
  Top Coupling Facility Analysis report ............................... 342
  Top Tape Analysis report ............................................ 343
  Top Disk Analysis report ............................................. 344
  Top System Analysis report ......................................... 345
  Top Application Analysis report ................................... 346
  Top Storage System Analysis ....................................... 348
  Top Storage Group Analysis ........................................ 349
Configuration reports .................................................... 350
  Configuration Summary report ..................................... 351
  Coupling Facility Configuration report ............................ 351
  Workload Configuration report ................................... 352
  Tape Configuration report ................................. 352
  Disk Configuration report ....................................... 352
  System Configuration report ..................................... 353
  Application Configuration report ................................ 353
  Storage System Configuration Summary report .................... 353
  Storage Group Configuration Summary report ..................... 354
Performance details reports ............................................ 354
  Workload Performance Details report ............................ 354
  System Performance Details report ................................ 355
  Coupling Facility Performance Details report .................... 356
  Tape Performance Details report ................................ 356
  Disk Performance Details report .................................. 357
  Application Performance Detail report ............................. 357
  Storage System Performance Detail report ......................... 359
  Storage Group Performance Detail report ........................ 360
Operation Description Summary report .................................. 360
Growth plan trending reports ......................................... 361
Overview

This appendix describe all of the Report Explorer reports. The sections are arranged by report types.

**NOTE**
The arrow icon at the top of a column in each report indicates the column on which the data was sorted and the direction of the sort.

Daily Health Check Summary subreports

The Daily Health Check Summary report includes the following subreports:

- Overall Performance Status Summary, displaying one of the following Health Check Indicators for each interval of the UIE run:
  - Green up-arrow, indicating *Performance OK*, all workloads met performance goals
  - Red down-arrow, indicating *Performance Warning*, at least one workload did not meet performance goals
  - Grey box, indicating *Not Running*, no workloads were running
  - N/A, indicating *Not Applicable*, the workloads were not running in Goal Mode

- Workload Activity Summary, showing for each workload over all the intervals of the UIE run, the
  - number of logical systems it was running on
  - performance status (a Performance Warning Icon indicates that at least one occurrence had a bad performance index)
  - number of occurrences (how many times the workload ran)
  - number of occurrences with a bad performance index
  - percentage of occurrences with a bad performance index

**NOTE**
The performance index is a calculation of how well the workload met its defined goal. An index of greater than 1 indicates the workload is missing its goal, while an index of 1 or less indicates the workload is meeting or exceeding its goals.
Performance Changes Summary subreports

The Performance Changes Summary report includes the following subreports:

**Physical System Performance Changes report** - showing for each physical system: CPU utilization percentage as a sum of all processors, performance utilization, and the ratio of CPU and performance utilization to the baseline.

Clicking a physical system name displays the Logical System Performance Changes report for all logical systems on that physical system.

**Logical System Performance Changes report** - showing for each logical system on a particular physical system: CPU utilization percentage as a sum of all processors, performance utilization, and the ratio of CPU and performance utilization to the baseline.

**Workload Performance Changes report** - sorted by workload name, showing for each workload on a particular logical system: its name, the logical system that executed the workload, arrival rate in counts per hour, CPU utilization percentage, performance utilization, workload response time in seconds per transaction (includes Total, CPU, and I/O values), and the ratio relative to the baseline for total workload response, CPU response, I/O response, performance utilization, and arrival rate.
Top analysis reports

**Workload Performance Changes report** - *sorted by logical system name*, showing for each workload on a particular logical system the workload name, arrival rate in counts per hour, CPU utilization percentage, performance utilization, total response time in seconds, CPU response time in seconds, I/O response time in seconds, and the ratio relative to the baseline for total workload response, CPU response, I/O response, performance utilization, and arrival rate.

**NOTE**

In system reports, wherever utilization is saturated in a scenario, the report specifies how much extra capacity is necessary to bring utilization below the saturation level.

For more information on the Performance Changes Summary report, see “Viewing the Performance Changes Summary report” on page 215.

**Top analysis reports**

Report Explorer provides top analysis reports for

- workloads
- coupling facilities (structure data available for baselines only)
- tapes
- disks
- physical and logical systems
- applications
- storage systems and storage groups

Each report lists the worst performers in a variety of categories. You select this number in the Report Explorer Settings dialog box (“Changing display settings of reports” on page 209), using the **TopReportNumber** field. The default is to provide the top 10 worst performers. For example, the top 10 workloads with the highest response times, disks with the highest I/O rates, or logical systems with the highest CPU utilization.
The Top Workload Analysis report includes the following subreports:

**Workload Analysis report** - showing separate tables for the 10 workloads with the highest

- response time
- arrival rate
- performance utilization of general and special processors
- total workload I/O rate

Each table includes the logical system each workload runs on, the arrival rate and response time for each workload, utilization, and the total workload I/O rate. For “What-If” scenarios, this report also shows the **Ratio of Workload Response Time Relative to Baseline** field. Ratios greater than one indicate worse response time than the baseline.

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

**Logical System/Workload Analysis report** - showing separate tables for the 10 workloads with the highest CPU

- response time
- utilization
- performance utilization of general and special processors
- CPU time

Each table includes the **Logical System each Workload Runs On**, **Performance Utilization**, **CPU response time**, **CPU service time** fields. For “What-If” scenarios, this report also shows **Ratio of CPU Response Time Relative to Baseline** and the **Ratio of Performance Utilization Relative to Baseline** fields.

**Workload I/O Analysis report** - showing separate tables for the 10 workloads with the highest device I/O

- response time
- utilization
- service time
- service rate
Each table includes the **Logical System the Workload Runs On**, **Device Name**, **I/O Utilization**, **I/O Response Time in Seconds**, **I/O Rate in Counts per Transaction**, **Service Time in Milliseconds per Transaction**, and **Device Type** fields.

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

### Top Coupling Facility Analysis report

The Top Coupling Facility Analysis report includes the following subreports:

**Coupling Facility Analysis report** - showing separate tables for the coupling facilities with the highest

- synchronous request rates; including **Coupling Facility Name**, **Synchronous Request Rate**, **Sync Request Response Time**, **Asynchronous Request Rate**, **Async Request Response Time**, **Logical System Name**, and **Physical System Name** fields.

- asynchronous request rates; including **Coupling Facility Name**, **Synchronous Request Rate**, **Sync Request Response Time**, **Asynchronous Request Rate**, **Async Request Response Time**, **Logical System Name**, and **Physical System Name** fields.

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

**Coupling Facility Active Structure Analysis report** - showing separate tables for the coupling facility active structures with the highest

- synchronous response times
- asynchronous response times
- synchronous request rates
- asynchronous request rates
All tables include the following fields: Synchronous Request Rate, Sync Request Response Time, Asynchronous Request Rate, Async Request Response Time, Structure Usage, Structure Size, Logical System Name, and Physical System Name.

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

Data on coupling facilities and the structures used is only available in baseline reports.

---

**Top Tape Analysis report**

The Top Tape Analysis report includes the following subreports:

**Tape Analysis report** - showing separate tables for the tapes with the highest total device utilization rates—utilization rates—I/O rates

Each table includes Tape Name, Percentage Of Total Tape Utilization, and Total Tape I/O Rate fields.

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

**Logical System/Tape Analysis report** - showing, by logical system, separate tables for the tapes with highest

tape utilization—I/O rate—response time—service time—connect time—queueing time
Each table includes **Tape Name, Logical System Name, Percentage of Tape Utilization, Logical Tape I/O Rate, I/O Response Time, Effective Tape Service Time, Average I/O Connect Time, and Average I/O Queueing Time** fields.

---

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

---

**Top Disk Analysis report**

The Top Disk Analysis report includes the following subreports:

**Disk Analysis report** - showing separate tables for the disks with the highest

— total disk utilization
— total disk I/O rate

Each table includes **Disk Volume Name, Percentage of Total Disk Utilization, Total Disk I/O Rate, Page Pack** (values Yes, No or N/A) fields. These tables also show the Storage Subsystem and Storage Group names, if applicable, and whether or not there is a Transfer/Delay Overlap.

---

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

---

**Logical System/Disk Analysis report** - showing separate tables for the disks, by logical system, with the highest

— disk utilization
— I/O rate
— response time
— service time
— connect time
— queueing time
— pending time
Each table includes **Disk Name, Logical System Name, Percentage of Disk Utilization, Logical Disk I/O Rate, I/O Response Time, PAV Count, Effective Disk Service Time, Average Disk Connect Time, Average Disk Queueing Time, and Average Disk Pending Time** fields.

---

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

---

**Top System Analysis report**

The Top System Analysis report includes the following subreports:

**Physical System Analysis report** - showing the physical systems with the highest CPU utilization. The report includes **Available Performance Utilization (MIPs), MSU Rating, MSU Utilization, CPU Model, Physical System Name, and Performance Utilization** fields.

**Logical System Analysis report** - showing separate tables for the logical systems with the highest

— CPU utilization
— management utilization

Each table includes the following fields, **Logical System Name, Performance Utilization, Number of Online zAAP Processors, Number of Online zIIP processors, Software MSU Utilization, Number of Online ICF/IFL CPUs, zAAP CPU Utilization (in MIPS), zIIP CPU Utilization (in MIPS), and Physical System Name** fields.

---

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.
Top Application Analysis report

The Top Application Analysis report includes the following subreports:

**Application Analysis Report** - top application performance analysis reports, including arrival rates, and MIPS. This report includes the following tables:

- Arrival Rate
- Performance Utilization
- Measured Response Time
- I/O Rate

These are also the field names included in each report. An additional field that appears only in scenario “What-If” reports is

- Performance Utilization Ratio

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

**Application Subsystem Analysis Report** - top application subsystem performance analysis, including the top utilization in MIPS. This report includes the following tables:

- Performance Utilization
- Measured Response Time
- I/O Rate

These are the fields included in each report as well. An additional field that appears only in Scenario “What-If” reports is

- Performance Utilization Ratio

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.
**Application Logical System Analysis Report** - top application logical system performance analysis, including the top % utilization, utilization in MIPS, CPU service time, and total I/O rate. This report includes the following tables:

- Utilization (%)
- Performance Utilization
- Measured Response Time
- I/O Rate

These are also the field names included in each report. An additional field that appears only in scenario “What-If” reports is

**Performance Utilization Ratio**

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

---

**Application Workload Analysis Report** - top application workload performance analysis, including the top % utilization, MIPS used, total CPU service time, and total I/O rate. This report includes the following tables:

- Utilization Proportion (%)
- Performance Utilization Proportion
- CPU Time Proportion
- I/O Rate Proportion

These are also the field names included in each report. Additional fields that appear only in scenario “What-If” reports are

- CPU Utilization Ratio
- Performance Utilization Ratio

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.
Top Storage System Analysis

The Top Storage System Analysis report lists storage systems by highest service time, I/O Rate and intensity. The following subreports are available in this report:

Top Storage System Performance Analysis Report - which includes the following tables:

— Average Service Time
— I/O Rate

Each table includes the following fields:

— Storage System Name
— Average Service Time
— Effective Service Time Intensity
— Connect Time Intensity
— I/O Rate
— Cache Proportion (baseline reports only)
— Read Proportion (baseline reports only)
— Read Hit Proportion (baseline reports only)
— Write Hit Proportion (baseline reports only)

NOTE
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

Top Storage System Performance on Logical System Report - includes the following tables:

— Average Service Time
— I/O Rate

Each table includes the following fields:

— Storage System Name
— Logical System Name
— Average Service Time
— Effective Service Time Intensity
— Connect Time Intensity
— I/O Rate
— Connect Time (baseline reports only)
— Disconnect Time (baseline reports only)
— Pending Time (baseline reports only)
— Device Busy Delay (baseline reports only)
The Top Storage Group Analysis report lists Storage Systems by highest service time, IO Rate and intensity. The following subreports are available in this report:

**Top Storage Group Performance Analysis Report** - includes the following tables:

- Average Service Time
- I/O Rate

Each table includes the following fields:

- Storage System Name
- Average Service Time
- Effective Service Time Intensity
- Connect Time Intensity
- I/O Rate
- Cache Proportion (baseline reports only)
- Read Proportion (baseline reports only)
- Read Hit Proportion (baseline reports only)
- Write Hit Proportion (baseline reports only).

**NOTE**

Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

**Top Storage Group Performance on Logical System Report** - includes the following tables:

- Average Service Time
- I/O Rate
Each table includes the following fields:

- Storage System Name
- Logical System Name
- Average Service Time
- Effective Service Time Intensity
- Connect Time Intensity
- I/O Rate
- Connect Time (baseline reports only)
- Disconnect Time (baseline reports only)
- Pending Time (baseline reports only)
- Device Busy Delay (baseline reports only)

**NOTE**
Only one table is shown if you are producing dynamic reports. Dynamic reports allow sorting, so individually sorted tables are not needed.

---

### Configuration reports

Report Explorer produces a Configuration Summary report and a set of additional configuration reports on the following components of your z/OS environment:

- coupling facilities
- workloads
- tapes
- disks
- physical and logical systems
- applications
- storage systems and groups

**NOTE**
Coupling Facility reports are only available for baselines.
Configuration Summary report

The Configuration Summary report shows the total number of physical systems, general processors, logical systems, coupling facilities and coupling facility structures (structure data available for baselines only), active disks, active tapes, running applications, running workloads, total number of ICF processors, total number of IFL processors, total number of zAAP processors, total number of zIIP processors, total central storage size in megabytes and extended storage size in megabytes. The report also shows the number of storage systems and storage groups present in the data.

Coupling Facility Configuration report

The Coupling Facility Configuration report includes the following subreports:

**Coupling Facility Configuration Summary report** - showing a list of the physical systems with coupling facilities and how many coupling facilities there are on each system. Click a physical system name to display the related Coupling Facility Logical System Installation report.

**Coupling Facility Logical System Installation reports** - showing information about the coupling facility itself, its name, number of systems using it and the number of structures in use. Click a coupling facility name to display the related Coupling Facility/Logical System Detail report.

**Coupling Facility/Logical System Detail reports** - showing for each coupling facility

— the number of physical links and the number of subchannels defined and used by each logical system

— the name, usage, size in megabytes, and type of each coupling facility structure

**NOTE**

Data on coupling facilities and the structures used is only available in baseline reports.
Workload Configuration report

The Workload Configuration report includes the following subreports:

**Workload Configuration Summary report** - showing the workload’s name, the particular logical system on which the workload is running, and the workload’s CPU service time. Click the name of a logical system to display the Workload Run Mode Configuration report for a particular workload on the selected logical system.

**Workload Run Mode Configuration reports** - showing the run mode, CPU dispatching priority, and priority distribution for each workload on a particular logical system.

Tape Configuration report

The Tape Configuration report includes the following subreports:

**Tape Configuration Summary report** - showing the total number of tape devices and their breakdown by vendor, as well as the types of tape devices. Click a tape name to display the related Tape/Logical System Configuration report.

**Tape/Logical System Configuration reports** - showing the logical system name and logical tape address for each tape and the number of workloads that are using this tape device.

Disk Configuration report

The Disk Configuration report includes the following subreports:

**Disk Configuration Summary report** - showing the total number of disk devices and their breakdown by vendor, the disk types, and the presence or absence of disk cache for each disk volume name and whether a transfer/delay overlap exists. This report also displays whether this device is a paging device (Page Pack Yes, No, N/A) and which storage system or storage group this device belongs to. Click a disk name to display the related Disk/Logical System Configuration report.

**Disk/Logical System Configuration reports** - showing the logical system name and logical disk address for each disk. Also displays if this logical system is using this device for paging Pack Yes, No, N/A) and the number of workloads that are using this device.
System Configuration report

The System Configuration report includes the following subreports:

**Physical System Configuration Summary report** - showing for each physical system: the processor model, number of processors, number of logical systems, whether or not it has a coupling facility running on it, performance rating in MIPS, number of zAAP processors, number of zIIP processors, and partition mode. Also displays the software pricing MSU rating (MSU Rating). Click a physical system name to display the related Physical/Logical System Configuration report.

**Physical/Logical System Configuration report** - showing for each logical system on a given physical system: the partition name, number of shared general processors, number of dedicated general CPUs, number of online zAAP CPUs, number of online zIIP CPUs, number of online ICF/IFL CPUs, memory size in megabytes, expanded storage size in megabytes, operating system type, sysplex name, and wait completion status.

Application Configuration report

The Application Configuration report includes the following subreports:

**Application Configuration Summary Report** - showing the application name, application arrival rate, application performance utilization, total number of subsystems in use, and total number of workloads in use.

**Application Subsystem Configuration Reports** - showing the subsystem type, the logical system running the application, the workload executed on behalf of the application, the workload CPU proportion, and the workload I/O proportion

To view application subsystem configuration details, click an application name.

Storage System Configuration Summary report

The Storage System Configuration Summary Report includes the following subreports:

**Storage System Summary Report** - includes the storage system name, the number of physical devices on the storage system, and the amount of free and used space.
**Storage System on Logical System Configuration Report** - includes the logical system that is using this storage system, the number of logical devices on this storage system used by the logical system, and the number of workloads in the logical system that are using this storage system.

**Storage Group Configuration Summary report**

The Storage Group Configuration Summary Report includes the following subreports:

**Storage Group Summary Report** - includes the storage group name, the number of physical devices on the storage group, and the amount of free and used space.

**Storage Group on Logical System Configuration Report** - includes the logical system that is using this storage group, the number of logical devices on this storage group used by the logical system, and the number of workloads in the logical system that are using this storage group.

**Performance details reports**

Performance details reports enable you to drill down for very specific information about your z/OS environment. Performance details reports are available for baselines and scenarios and cover:

- workloads
- coupling facilities (baselines only)
- tapes
- disks
- physical and logical systems
- applications
- storage systems and storage groups

**Workload Performance Details report**

The Workload Performance Details Report includes the following subreports:

**Overall Workload Performance Report** - showing response time and arrival rate for each workload on a particular logical system. Click a logical system name to view the related Workload Performance Details report.
Workload Performance Details Report - showing the following performance details for each workload on a particular logical system:

— arrival rate, response time, CPU Utilization, Performance Utilization

— (by processor type that the workload uses) CPU response, CPU service time, CPU delay (eligible and actual)

— I/O response time, total I/O service time, and I/O delay

— I/O details, including the name and type of each device used by the workload, and the I/O rate, percentage used by this workload, and response time for the device relative to the workload

For baseline reports only, this report contains a Memory Occupation section with Average Working Set Size and Demand Page-in Rate fields.

System Performance Details report

The System Performance Details report includes the following subreports:

Overall CPU Performance Report - showing CPU utilization percentage, performance utilization, percentage of available CPU capacity, and processor model for each physical system. This report also shows the Number of Processors and Software Pricing MSU (MSU Utilization) fields. Click a physical system name to show the related CPU/Logical System Performance Details report.

CPU/Logical System Performance Details Report - showing logical system name, partition name, percentage of CPU utilization, performance utilization, for each logical system in a given physical system. This report also shows the Number of Online Processors, Operating System and Software Pricing MSU (MSU Utilization) fields. In addition, this report includes a section for baseline data called Memory Details that contains the following fields: Storage Size, Region and SWA Size, Available Size, CSA Size, and Total Paging Rate. The report also shows the number of online zIIP, zAAP, ICF, and IFL processors.

**NOTE**

Wherever utilization is saturated in a scenario, the report specifies how much extra capacity is necessary to bring utilization below the saturation level.
**Coupling Facility Performance Details report**

The Coupling Facility Performance Details report includes the following subreports:

**Overall Performance Information** - for each physical system that contains a coupling facility, includes percentage of CPU utilization, performance utilization, percentage of available CPU capacity, and processor model. Click a physical system name to display the related Coupling Facility Performance Details report.

**Coupling Facility Performance Details** reports - for each coupling facility, including partition name, percentage of CPU utilization, performance utilization, and percentage of management utilization. It also includes the field called **Number of Online Processors**. Click a coupling facility name to display the related Coupling Facility Detail Usage report.

**Coupling Facility Detail Usage** reports - for each coupling facility, showing

— for each logical system using the coupling facility: **Total Sync Request Rate, Total Sync Delayed Request Rate, Total Delay for Sync Request, Total Async Request Rate, Total Async Delayed Request Rate, and Total Delay for Async Request** fields.

— for each active Coupling Facility structure: structure usage and the number of logical systems using the structure. Click a structure name to display the related Coupling Facility Active Structure Detail Usage report.

**Coupling Facility Active Structure Detail Usage** reports - showing, for each structure associated with a Coupling Facility: **The Logical System Using the Coupling Facility, Sync Request Rate, Sync Request Response Time, Async Request Rate, and Async Request Rate Response Time** fields.

**NOTE**

Data on coupling facilities and the structures used is only available in baseline reports.

---

**Tape Performance Details report**

The Tape Performance Details report includes the following subreports:

**Overall Tape Performance Details Report** - showing total utilization percentage and total I/O rate for each tape. Click a tape name to display the related Tape/Logical System Performance Details report.
Tape/Logical System Performance Details reports - showing for each tape by logical system: logical system name, tape utilization percentage, I/O rate, response time, effective service time, average connect time, average queueing time, and average disconnect time.

Disk Performance Details report

The Disk Performance Details report includes the following subreports:

Overall Disk Performance Information - showing total utilization and total I/O rate for each disk and whether a transfer/delay overlap exists. It also includes the field Page Pack (Yes, No, N/A). Click a disk name to display the related Disk/Logical System Runtime Details report.

Disk/Logical System Runtime Details reports - showing for each disk by logical system: logical system name, disk utilization percentage, I/O rate, I/O response time, effective service time, average connect time, average queueing time, average disconnect time, average pending time, PAV count and other system interference delay. It also includes the field Page Pack (Yes, No, N/A).

The report shows in which Storage System or Storage Group the disks belong if the data contains storage information.

Application Performance Detail report

The Application Performance Summary report includes the following subreports:

Application Performance Summary Report - showing the application name, arrival rate, measured response time, performance utilization, and total I/O rate. Also included in the table for this report, for scenario reports only, is a Projected Response Time Change to Baseline section with the following fields:

— CPU and I/O Response Time Ratio
— CPU Response Time Ratio
— I/O Response Time Ratio
Application Performance Details Report - includes the following tables:

— Application Subsystem Detail, showing the following fields:
  — Subsystem Type
  — Subsystem Arrival Rate
  — Measured Response Time
  — Performance Utilization
  — I/O Rate

— Application Logical System Detail, showing the following fields:
  — Subsystem Type
  — Logical System Name
  — Arrival Rate
  — Measured Response Time
  — Utilization (%)
  — Performance Utilization
  — CPU Time
  — I/O Rate

— Application Workload Detail, showing the following fields:
  — Subsystem Type
  — Logical System Name
  — Workload Name
  — Arrival Rate
  — Measured Response Time
  — Utilization Proportion
  — Performance Utilization Proportion
  — CPU Time Proportion
  — I/O Rate Proportion

Also the following, scenario-only fields are available in all three subtables:

— Ratio of MIPS Used relative to baseline
— Projected Response Time Change to Baseline section
— CPU and I/O Response Time Ratio
— CPU Response Time Ratio
— I/O Response Time Ratio

To view performance details, click an application name.
Storage System Performance Detail report

The Storage System Performance Detail Report shows Storage System information including average service time, IO rate and intensity and includes the following two subreports:

**Storage System Performance Summary** - showing the following fields:

- Service Time Intensity
- Connect Time Intensity

Additional fields shown for baselines only

- Cache Proportion
- Read Proportion
- Read Hit Proportion
- Write Hit Proportion

**Logical System Performance Detail for Storage System** - showing the following fields:

- Logical System name
- Service Time
- Service Time Intensity
- Connect Time Intensity
- Total I/O Rate
- Cut I/O Rate
- Unaccounted I/O Rate

Additional fields shown for baseline only

- Connect Time
- Queueing Time
- Disconnect Time
- Pending Time
- Other Delay
Storage Group Performance Detail report

The Storage Group Performance Detail Report shows storage group information including average service time, I/O rate and intensity, and includes the following two subreports:

Storage Group Performance Summary - showing the following fields:

— Service Time Intensity
— Connect Time Intensity

Additional fields shown for baselines only

— Cache Proportion
— Read Proportion
— Read Hit Proportion
— Write Hit Proportion

Logical System Performance Detail for Storage Group - showing the following fields:

— Logical System name
— Service Time
— Service Time Intensity
— Connect Time Intensity
— Total I/O Rate
— Cut I/O Rate
— Unaccounted I/O Rate

Additional fields shown for baselines only

— Connect Time
— Queueing Time
— Disconnect Time Pending Time
— Other Delay

Operation Description Summary report

The Operation Description Summary report is produced only for scenarios. It includes:

- path, annotation and record time for the scenario and the related study
- sequence of steps in scenario
- listing of growth plans, growth periods and their annotations used by the scenario
- list of scenario evaluation options
Growth plan trending reports

The following reports are available only for scenarios with growth plans:

System Growth Summary report - shows CPU configuration, utilization, availability, and MIPS used for physical and logical systems in growth plans

Workload Growth Summary report - shows response time, arrival rate, CPU utilization, and device utilization and response time for workloads in growth plans
Contents of Graphlet views

This appendix lists the contents of Graphlet Explorer views and how to access them. It includes the following topics:

Contents of views ................................................................. 364
Navigating views ................................................................. 371
This table describes all of the Graphlet Explorer views, arranged by object types. The definitions of the metrics can be found in the Data Dictionary. (See “Viewing and editing metrics” on page 40.)

### Table 27  Graphlet views and contents (part 1 of 8)

<table>
<thead>
<tr>
<th>View</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical system view</td>
<td>shows physical system boxes, the systems they contain and their utilization</td>
</tr>
<tr>
<td>Physical system data</td>
<td>CPU model number</td>
</tr>
<tr>
<td></td>
<td>number of processors</td>
</tr>
<tr>
<td></td>
<td>rate</td>
</tr>
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<td></td>
<td>Performance utilization</td>
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<tr>
<td></td>
<td>MSU rating</td>
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<td></td>
<td>MSU utilization</td>
</tr>
<tr>
<td></td>
<td>partition information (see physical system table)</td>
</tr>
<tr>
<td>Physical processor types table</td>
<td>processor type</td>
</tr>
<tr>
<td></td>
<td>processor count</td>
</tr>
<tr>
<td></td>
<td>total eligible work</td>
</tr>
<tr>
<td></td>
<td>performance utilization</td>
</tr>
<tr>
<td></td>
<td>MSU utilization</td>
</tr>
<tr>
<td></td>
<td>management time</td>
</tr>
<tr>
<td>Physical system table and</td>
<td>partition</td>
</tr>
<tr>
<td>Logical system view</td>
<td>operating system version</td>
</tr>
<tr>
<td></td>
<td>sysplex ID</td>
</tr>
<tr>
<td></td>
<td>performance utilization</td>
</tr>
<tr>
<td></td>
<td>MSU utilization</td>
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<tr>
<td>View</td>
<td>Metric</td>
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<td>----------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Logical system data</td>
<td>■ operating system version</td>
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<tr>
<td></td>
<td>■ sysplex ID</td>
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<td></td>
<td>■ performance utilization</td>
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<td></td>
<td>■ MSU utilization</td>
</tr>
<tr>
<td></td>
<td>■ defined capacity</td>
</tr>
<tr>
<td>Logical system table</td>
<td>■ workload</td>
</tr>
<tr>
<td></td>
<td>■ performance utilization</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td></td>
<td>■ arrival rate</td>
</tr>
<tr>
<td></td>
<td>■ CPU service</td>
</tr>
<tr>
<td></td>
<td>■ CPU wait</td>
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<tr>
<td></td>
<td>■ I/O service</td>
</tr>
<tr>
<td></td>
<td>■ I/O wait</td>
</tr>
<tr>
<td>Logical system processor types</td>
<td>■ partition</td>
</tr>
<tr>
<td></td>
<td>■ processor type</td>
</tr>
<tr>
<td></td>
<td>■ shared</td>
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<td></td>
<td>■ dedicated</td>
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<td></td>
<td>■ total eligible work</td>
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<td></td>
<td>■ performance utilization</td>
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<td></td>
<td>■ MSU utilization</td>
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<td></td>
<td>■ management time</td>
</tr>
</tbody>
</table>
### Table 27  Graphlet views and contents (part 3 of 8)

<table>
<thead>
<tr>
<th>View</th>
<th>Metric</th>
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</thead>
<tbody>
<tr>
<td>Logical system devices table</td>
<td>• device name</td>
</tr>
<tr>
<td></td>
<td>• device type</td>
</tr>
<tr>
<td></td>
<td>• workload view count</td>
</tr>
<tr>
<td></td>
<td>• logical system count</td>
</tr>
<tr>
<td></td>
<td>• total device utilization</td>
</tr>
<tr>
<td></td>
<td>• PAV count</td>
</tr>
<tr>
<td></td>
<td>• total device I/O rate</td>
</tr>
<tr>
<td></td>
<td>• storage system name</td>
</tr>
<tr>
<td></td>
<td>• storage group name</td>
</tr>
<tr>
<td></td>
<td>• page device</td>
</tr>
<tr>
<td>System Memory</td>
<td>• partition</td>
</tr>
<tr>
<td></td>
<td>• memory size</td>
</tr>
<tr>
<td></td>
<td>• region and SWA size</td>
</tr>
<tr>
<td></td>
<td>• available size</td>
</tr>
<tr>
<td></td>
<td>• CSA size</td>
</tr>
<tr>
<td></td>
<td>• total paging rate</td>
</tr>
<tr>
<td>System workload devices table</td>
<td>• device name</td>
</tr>
<tr>
<td></td>
<td>• utilization</td>
</tr>
<tr>
<td></td>
<td>• total response time (seconds)</td>
</tr>
<tr>
<td></td>
<td>• PAV count</td>
</tr>
<tr>
<td></td>
<td>• I/O rate per hour</td>
</tr>
<tr>
<td></td>
<td>• storage system name</td>
</tr>
<tr>
<td></td>
<td>• storage group name</td>
</tr>
<tr>
<td></td>
<td>• page device</td>
</tr>
</tbody>
</table>
### Table 27  Graphlet views and contents (part 4 of 8)

<table>
<thead>
<tr>
<th>View</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of workloads view</td>
<td>■ workload name</td>
</tr>
<tr>
<td></td>
<td>■ total transaction rate</td>
</tr>
<tr>
<td></td>
<td>■ performance utilization</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td>Individual workload table</td>
<td>■ partition</td>
</tr>
<tr>
<td></td>
<td>■ operating system version</td>
</tr>
<tr>
<td></td>
<td>■ transaction rate per hour</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td></td>
<td>■ CPU service</td>
</tr>
<tr>
<td></td>
<td>■ CPU wait</td>
</tr>
<tr>
<td></td>
<td>■ I/O service</td>
</tr>
<tr>
<td></td>
<td>■ I/O wait</td>
</tr>
<tr>
<td>Workload pie chart</td>
<td>■ Processor service</td>
</tr>
<tr>
<td></td>
<td>■ Processor wait</td>
</tr>
<tr>
<td></td>
<td>■ I/O service</td>
</tr>
<tr>
<td></td>
<td>■ I/O wait</td>
</tr>
<tr>
<td>Workload devices table</td>
<td>■ device name</td>
</tr>
<tr>
<td></td>
<td>■ device type</td>
</tr>
<tr>
<td></td>
<td>■ workload view count</td>
</tr>
<tr>
<td></td>
<td>■ logical system count</td>
</tr>
<tr>
<td></td>
<td>■ total device utilization</td>
</tr>
<tr>
<td></td>
<td>■ PAV count</td>
</tr>
<tr>
<td></td>
<td>■ total device I/O rate</td>
</tr>
<tr>
<td></td>
<td>■ storage system name</td>
</tr>
<tr>
<td></td>
<td>■ storage group name</td>
</tr>
<tr>
<td></td>
<td>■ page device</td>
</tr>
</tbody>
</table>
### Table 27  Graphlet views and contents (part 5 of 8)

<table>
<thead>
<tr>
<th>View</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual device workloads view table</td>
<td>■ workload</td>
</tr>
<tr>
<td></td>
<td>■ logical system</td>
</tr>
<tr>
<td></td>
<td>■ I/O rate</td>
</tr>
<tr>
<td></td>
<td>■ utilization</td>
</tr>
<tr>
<td></td>
<td>■ PAV count</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td></td>
<td>■ page device</td>
</tr>
<tr>
<td>Workload processor types table</td>
<td>■ partition</td>
</tr>
<tr>
<td></td>
<td>■ MSU utilization</td>
</tr>
<tr>
<td></td>
<td>■ performance utilization</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td>Workload system processor types table</td>
<td>■ partition</td>
</tr>
<tr>
<td></td>
<td>■ processor type</td>
</tr>
<tr>
<td></td>
<td>■ response time (seconds)</td>
</tr>
<tr>
<td></td>
<td>■ service time</td>
</tr>
<tr>
<td></td>
<td>■ total eligible work</td>
</tr>
<tr>
<td></td>
<td>■ performance utilization</td>
</tr>
<tr>
<td></td>
<td>■ MSU utilization</td>
</tr>
<tr>
<td>Workload Memory</td>
<td>■ partition</td>
</tr>
<tr>
<td></td>
<td>■ average working set size</td>
</tr>
<tr>
<td></td>
<td>■ demand page-in rate</td>
</tr>
<tr>
<td>View</td>
<td>Metric</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Application view</td>
<td>■ application</td>
</tr>
<tr>
<td></td>
<td>■ unit of work arrival rate (count/hour)</td>
</tr>
<tr>
<td></td>
<td>■ MIPs used</td>
</tr>
<tr>
<td></td>
<td>■ measured response time (second)</td>
</tr>
<tr>
<td></td>
<td>■ CPU response time ratio</td>
</tr>
<tr>
<td></td>
<td>■ I/O response time ratio</td>
</tr>
<tr>
<td></td>
<td>■ CPU and I/O response time ratio</td>
</tr>
<tr>
<td></td>
<td>■ subsystem count</td>
</tr>
<tr>
<td></td>
<td>■ logical system count</td>
</tr>
<tr>
<td></td>
<td>■ workload view count</td>
</tr>
<tr>
<td>Application pie chart</td>
<td>■ MIPS used by subsystem</td>
</tr>
<tr>
<td>Application subsystems table</td>
<td>■ subsystem</td>
</tr>
<tr>
<td></td>
<td>■ transaction rate</td>
</tr>
<tr>
<td></td>
<td>■ MIPS used</td>
</tr>
<tr>
<td></td>
<td>■ measured response time (second)</td>
</tr>
<tr>
<td>Application - individual subsystem</td>
<td>■ LSYS name</td>
</tr>
<tr>
<td>table</td>
<td>■ LSYS transaction rate</td>
</tr>
<tr>
<td></td>
<td>■ LSYS measured response time (second)</td>
</tr>
<tr>
<td></td>
<td>■ LSYS MIPS used</td>
</tr>
<tr>
<td></td>
<td>■ workload name</td>
</tr>
<tr>
<td></td>
<td>■ workload transaction rate</td>
</tr>
<tr>
<td></td>
<td>■ workload measured response time (second)</td>
</tr>
<tr>
<td></td>
<td>■ percent of workload CPU</td>
</tr>
<tr>
<td></td>
<td>■ percent of workload I/O</td>
</tr>
</tbody>
</table>
### Table 27  Graphlet views and contents (part 7 of 8)

<table>
<thead>
<tr>
<th>View</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage system view</td>
<td>■ storage system name</td>
</tr>
<tr>
<td></td>
<td>■ cache IO proportion</td>
</tr>
<tr>
<td></td>
<td>■ read IO proportion</td>
</tr>
<tr>
<td></td>
<td>■ read hit ratio</td>
</tr>
<tr>
<td></td>
<td>■ write hit ratio</td>
</tr>
<tr>
<td></td>
<td>■ total device count</td>
</tr>
<tr>
<td></td>
<td>■ free gigabytes</td>
</tr>
<tr>
<td></td>
<td>■ used gigabytes</td>
</tr>
<tr>
<td>Storage system logical systems table and</td>
<td>■ partition</td>
</tr>
<tr>
<td>Storage group logical systems table</td>
<td>■ effective service time</td>
</tr>
<tr>
<td></td>
<td>■ service time intensity</td>
</tr>
<tr>
<td></td>
<td>■ path intensity</td>
</tr>
<tr>
<td></td>
<td>■ I/O rate</td>
</tr>
<tr>
<td></td>
<td>■ active device count</td>
</tr>
<tr>
<td>Storage group view</td>
<td>■ storage group name</td>
</tr>
<tr>
<td></td>
<td>■ cache IO proportion</td>
</tr>
<tr>
<td></td>
<td>■ read IO proportion</td>
</tr>
<tr>
<td></td>
<td>■ read hit ratio</td>
</tr>
<tr>
<td></td>
<td>■ write hit ratio</td>
</tr>
<tr>
<td></td>
<td>■ total device count</td>
</tr>
<tr>
<td></td>
<td>■ free gigabytes</td>
</tr>
<tr>
<td></td>
<td>■ used gigabytes</td>
</tr>
<tr>
<td>Coupling facility view</td>
<td>■ chart providing information about all logical systems associated with</td>
</tr>
<tr>
<td></td>
<td>all coupling facilities including interconnections</td>
</tr>
</tbody>
</table>
Table 28 shows how to navigate to each Graphlet view.

Table 28  Navigating views (part 1 of 4)

<table>
<thead>
<tr>
<th>View</th>
<th>In the navigation tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical system</td>
<td>Click Physical system view.</td>
</tr>
<tr>
<td>Physical system data and table</td>
<td>1. Double-click Physical system view to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Click the name of a physical system.</td>
</tr>
<tr>
<td>Physical processor types table</td>
<td>1. Double-click Physical system view to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Click the name of a physical system.</td>
</tr>
<tr>
<td></td>
<td>3. Click Physical processor types.</td>
</tr>
<tr>
<td>Logical system data</td>
<td>1. Click Physical system view.</td>
</tr>
<tr>
<td></td>
<td>2. Hover the cursor over the name of a logical system or click the name of a logical system in the navigation tree.</td>
</tr>
<tr>
<td></td>
<td>The data is at the top of the page.</td>
</tr>
</tbody>
</table>
Table 28  Navigating views (part 2 of 4)

<table>
<thead>
<tr>
<th>View</th>
<th>In the navigation tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical system table</td>
<td>1. Double-click Logical system view to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Click the name of a logical system.</td>
</tr>
<tr>
<td>Logical system processor</td>
<td>1. Double-click Logical system view to expand the tree.</td>
</tr>
<tr>
<td>type table</td>
<td>2. Click System processor types.</td>
</tr>
<tr>
<td>Logical system devices</td>
<td>1. Double-click Logical system view to expand the tree.</td>
</tr>
<tr>
<td>table</td>
<td>2. Click System Devices.</td>
</tr>
<tr>
<td>System workload devices</td>
<td>1. Double-click Workload view to expand the tree.</td>
</tr>
<tr>
<td>table</td>
<td>2. Double-click the workload name.</td>
</tr>
<tr>
<td></td>
<td>3. Double-click the name of a logical system.</td>
</tr>
<tr>
<td></td>
<td>4. Click System devices.</td>
</tr>
<tr>
<td>Table of workloads view</td>
<td>Click Workload view.</td>
</tr>
<tr>
<td>Individual workload table</td>
<td>1. Double-click Workload view to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Click the name of a workload.</td>
</tr>
<tr>
<td>Workload pie chart</td>
<td>1. Double-click Workload view to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Double-click the name of a workload with a down arrow to expand the tree further.</td>
</tr>
<tr>
<td></td>
<td>3. Click the name of a logical system under the workload.</td>
</tr>
<tr>
<td>Workload devices accessed</td>
<td>1. Double-click Workload view to expand the tree.</td>
</tr>
<tr>
<td>by workload table</td>
<td>2. Double-click the name of a workload with a down arrow to expand the tree further.</td>
</tr>
<tr>
<td></td>
<td>3. Click Workload devices.</td>
</tr>
</tbody>
</table>
## Table 28  Navigating views (part 3 of 4)

<table>
<thead>
<tr>
<th>View</th>
<th>In the navigation tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload processor types table</td>
<td>1. Double-click <strong>Workload view</strong> to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Double-click on the workload to expand the list of objects.</td>
</tr>
<tr>
<td></td>
<td>3. Click <strong>Workload processor types</strong>.</td>
</tr>
<tr>
<td>Workload system processor types table</td>
<td>1. Double-click <strong>Workload view</strong> to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Double-click on the workload to expand the list of objects.</td>
</tr>
<tr>
<td></td>
<td>3. Double-click <strong>Workload processor types</strong>.</td>
</tr>
<tr>
<td></td>
<td>4. Click <strong>System processor types</strong>.</td>
</tr>
<tr>
<td>Workload memory</td>
<td>1. Double-click <strong>Workload view</strong> to expand the tree.</td>
</tr>
<tr>
<td></td>
<td>2. Double-click on the workload to expand the list of objects.</td>
</tr>
<tr>
<td></td>
<td>3. Double-click <strong>Workload Memory</strong>.</td>
</tr>
<tr>
<td>Application views</td>
<td>1. Double-click <strong>Application view</strong>.</td>
</tr>
<tr>
<td></td>
<td>2. To view the subsystems that are used by a particular application, click the plus sign (+) next to that application name.</td>
</tr>
<tr>
<td></td>
<td>3. Click <strong>Subsystems</strong> or drill down on the application name in the table.</td>
</tr>
<tr>
<td></td>
<td>4. Drill down on a subsystem name, to view a table of metrics for the logical systems and workloads that are used by that subsystem in the application.</td>
</tr>
<tr>
<td></td>
<td>5. Click the name of the application in the navigation tree to view a pie chart showing the MIPS consumed by each subsystem.</td>
</tr>
<tr>
<td></td>
<td>6. Double-click the name of the subsystem or its slice in the pie chart to access the subsystem view report.</td>
</tr>
<tr>
<td>Storage system view</td>
<td>Double-click <strong>Storage system view</strong>.</td>
</tr>
<tr>
<td>Storage system logical systems table</td>
<td>1. Double-click <strong>Storage system view</strong>.</td>
</tr>
<tr>
<td></td>
<td>2. Click the name of a storage system in the navigation tree or in the view table.</td>
</tr>
</tbody>
</table>
### Table 28  Navigating views (part 4 of 4)

<table>
<thead>
<tr>
<th>View</th>
<th>In the navigation tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage group view</td>
<td>Double-click <strong>Storage group view</strong>.</td>
</tr>
</tbody>
</table>
| Storage group logical systems table | 1. Double-click **Storage group view**.  
2. Click the name of a storage group in the navigation tree or in the view table. |
| Coupling facility view        | Double-click **Coupling facility view**.                                               |
| Coupling facility and physical system view | 1. Double-click **Coupling facility view** to expand the tree.  
2. Click the name of a coupling facility associated with a physical system. |
| Structure view                | 1. In the navigation tree, double-click **Coupling facility view** to expand the tree.  
2. Double-click the name of a coupling facility.  
3. In the working pane, double-click the title bar of a logical system box or, if the logical system contains multiple lists, click the plus sign next to the system name in the navigation tree and choose the list you want to view. |
Index

A
acquiring baseline data 48
Add objects dialog box 163
adding to or overwriting namespace files 67
allocating processors 130
annotating studies and scenarios 105
Annotation window 103, 105
Application Configuration report 219
Application Performance Details report 218
Apply Growth Plan Periods dialog box 195
applying growth plan to scenario 195
Associate Report Set dialog box 229

B
baselines
about 93
adding to or overwriting namespace files 67
browsing for download on demand 55
displaying in Graph Explorer 246, 247
displaying in Graphlet Explorer 297–299
downloading from UIE host 62
inserting into Scenario Explorer Tree 97
inserting with Scenario Wizard 97
manually importing 67
merging into a single model 74
reports for 220
sample 93
selection calendar 239
viewing reports in Mainframe Predictor portal 238

BMC Software, contacting 2
browser, opening Mainframe Predictor portal from 236
building a new workload 145
buttons
Annotation window 330
Change Baseline 330
Changes View 196
Evaluate 195, 331
Graph Explorer metrics selection 251
Graphlet Explorer 299, 332
Growth Plan 331
Growth Plan Editor 166, 182
in the Tool window 43
Insert Baseline 330
Insert Scenario 330
Insert Study 330
New Scenario 330
New Study 330
Performance Explorer 268, 332
Performance Explorer Data Selection 274
Performance Explorer display settings 273
Performance Explorer Favorites 285
Performance Explorer metric selection 281
Properties 331
Refresh 199, 331
Remove from View 330
Report Explorer 332
Scenario Wizard 330
Select Input 247, 297
Subscribe Now 49

C
CDB Profile Editor 35
creating a profile 167
Change Baseline button 330
Change Description List 103, 196, 205
Changes View 91, 196
changing
appearance of graphs 259
connections 54
growth plan column headings 185
order of scenario changes 199
the Graphlet Explorer view 302
the order of a group 162
chart, graph, and report display settings 40
Child Node View 91, 196
child scenarios 205
CMF data 208
color coding in reports 221
configuration reports 350
coupling facility 351
disk 352
system 353
tape 352
with performance 216
workload 352
Configuration Summary report 218, 351
Console
context menus 44
main screen menus 37
toolbar overview 38
copying
an existing logical system 138
an existing physical system 131
an existing workload 152
and pasting growth plan values 183
and pasting multiple growth plan cells 184
the message log 44
coupling facilities viewed in Graphlet Explorer 370
Coupling Facility Configuration report 219, 351
Coupling Facility Performance Details report 218, 356
CPU Information in Hardware Table 319
CPU utilization 199
creating
a group 162
a new device 139
a new logical system 132
a new physical system 126
a New Profile dialog box 53
FTP directories on Mainframe Predictor 63
growth plan 166
new data subscription profile 53
scenarios 101
studies 99
customer support 3
cutting and pasting scenarios and studies 106

D
Daily Health Check Summary report
about 28
availability 217
overview 208
subreports 338
viewing 213
Data Dictionary Editor 264
data rows, highlighting in Graph Explorer 259
Data Subscription
changing connections 54
creating a new profile 53
Publisher Information dialog box 51
removing host name or IP address 52
re-subscribing 54
Subscriptions pane 51
unsubscribing 54
Datasets panel 64
default scenarios and studies 98
Delete Namespace Objects dialog box 307
deleting
reports from Performance Predictor portal 307
scenario changes 198
Description Preview pane 104
description, entering for scenarios or studies 104
designating a web server 27
devices
creating 139
managing 142
dialog boxes
Add Objects 163
Advanced Schedule Options 84
Apply Growth Plan Periods 195
Associate Report Set 229
Create a New Profile 53
Delete Namespace Objects 307
Download Data Set 55
Evaluation Complete 201
File Transfer Protocol 315
Graphlet Settings 293
Import a File 191
Insert Scenario 102
Insert Study 100
Manual Data Population 68
Metrics Filter 250
New Growth Plan 166
New Profile 226
New Scenario 101
New Study 99
NSPopulate 82
Port Numbers 53
Properties 103, 104
Publisher Information 51
Report Explorer Settings 210
Report Publishing 237
Scenario Step Details 198
Scheduled Task Wizard 75
Select Input 97
Select Input, Graph Explorer 247
Select Input, Graphlet Explorer 297
Settings for Graph Explorer 260
Subscribe 51
disabling the Publish feature 63, 64
Disk Configuration report 218, 352
disk information, in Hardware Table 321
Disk Performance Details report 218, 357
displaying
Description Preview pane 104
individual value in Graph Explorer 258
docking and undocking 45
downloading data sets on demand 55
dragging and dropping
growth plan values 182
growth plan values into a program on your taskbar 183

e
editing growth plans 180
electronic documentation 19
Evaluate button 195, 331
evaluating scenarios 200, 205
  changing scenarios after evaluation 205
to view growth plan 195
  viewing results 204
Evaluation Complete dialog box 201
evaluation options 332
  for processor execution 202
Evaluation Wizard 200
example navigating in Graph Explorer 254

F

File Transfer Protocol dialog box 315
flow of information in Performance Predictor 26
Forecast Wizard 35
creating a profile 167
  populating trending points 170
FTP
connections 48
creating virtual directories 63
sample JCL for FTP transfer 66

G

GCP 34, 112
General Status window
description 43
docking and undocking 45
GMT offset 73
Goal Mode 28, 208, 338
Graph Explorer
accessing baselines and scenarios 246
  changing graph settings 259
  displaying individual values 258
loading scenarios from Scenario Explorer 252
navigation tree 245, 252–255
opening 245
overview 244–245
printing, copying, and changing views 261
Select Input dialog box 247
Settings dialog box 260
viewing baseline and scenario data 246
viewing metrics 257–259
Wizard 247
Graphlet Explorer
accessing baselines and scenarios 297–299
button 299, 332
changing display settings 292
changing the working pane view 302
display methods 290
loading scenarios from Scenario Explorer 299
navigation tree 296
navigation views 288
opening 296
opening a new window 301

H

Hardware Table
changing data 323
  hiding and showing rows 325
inserting rows 325
reloading data 326
updating data 326
Hardware Table Editor
context menus 318
overview 318
headings, changing in Growth Planner 185
Help, online 19
highlighting data in Graph Explorer 259
Hostname 52
Namespace Manager
delete button 307
deleting objects 307
opening 306
overview 304
portal operations overview 304
naming conventions for merging XML baseline files 73
navigation tree
   Graph Explorer 252–255
   Graphlet Explorer 288, 296
   Report Explorer 221
New Growth Plan dialog box 166
New Profile dialog box 226
New Scenario button 330
New Scenario dialog box 101
New Study button 330
New Study dialog box 99

O

online Help 19
opening
   Graph Explorer 245
   Graphlet Explorer 296
   Mainframe Predictor portal 234
   Report Explorer 221
   Report Profile Workspace 225
   Scenario Explorer 90
   Scenario Wizard 97
Operation Description Summary report 103, 217, 360
Operation report 360

P

parent components, of scenarios 94
PAV count
   Report Explorer 357
percentages, setting for growth plan 194
Performance Changes Summary report
   availability 217
   subreports 339
   using 215
Performance details reports 354
   about 354
   coupling facility 356
   disk 357
   system 355
   tape 356
   workload 354
Performance Explorer
   button 332
   change display settings 269
   creating a blank report 284
   creating reports 282
   displaying reports 268
   editing favorite reports 285
   generating a new report 282
   generating a summary report 283
   metric selection 281
   opening 265
   overview 264
   refreshing an active report 283
   removing baselines or scenarios 277
   reusing report contents 276
   saving and opening favorite reports 284
   selecting and editing metrics 279
   selecting data 274
   selecting objects 278
   settings 264
   sorting the order of baselines and scenarios 277
   using 263
   workspace context menu 267
performance index 338
Performance Predictor
   information flow 26
   overview of console features 34
   prerequisites 27
   users 31
Performance Predictor portal
   deleting reports 242, 307
   opening 234
   opening from web browser 236
   publishing reports to 236
   selecting and loading reports 238
   using 234
   viewing reports 241
Performance status icons, OK 215
physical systems
   copying 131
   creating 126
   modifying 136
Populate Sample Baselines, use 48, 88
port numbers, changing 53
previewing CPU utilization 199
printing
   contents of scenario Working pane 205
   workspace data 39
product support 3
profile, creating in Data Subscription 53
Properties
   button 331
dialog box 103, 104
Properties dialog box 103
Publisher Information dialog box 51
Publishing reports to Mainframe Predictor portal 236

R

rearranging order of scenario changes 199
Refresh button 112, 199, 331
refreshing CPU utilization figures in Scenario Explorer 200
re-indexing the namespace summary file 314
Remove from View button 330
removing
a group 162
systems and workloads 153
renaming, systems, workloads, and devices 153
Report Explorer
button 332
collection menus 223
navigation tree 221
opening 221
opening profile Workspace 225
Reporting Wizard 213
viewing reports in 224
Report Explorer Settings dialog box 210
Report Profile Editor 225
Report Publishing dialog box 237
Reporting Wizard 213
reports
Application Configuration 219
Application Performance Details 218
available profiles 227
changing display settings 209
color coding in 221
comparing 217
Configuration Summary 218, 351
contents 337–361
Coupling Facility Configuration 219, 351
Coupling Facility Performance Details 218, 356
Daily Health Check Summary 214, 217
default profiles 228
deleting from Performance Predictor portal 307
Disk Configuration 218, 352
Disk Performance Details 218, 357
for baselines 220
for scenarios 219
for scenarios with growth plans 220
key reports to start with 212
list of all available 217
Operation Description Summary 103, 217
overview 208, 208–211
Performance Changes Summary 215, 217
performance index for 238
produced by the Merge option 73
publishing to Mainframe Predictor portal 236
saturation level 213
Storage Group Configuration Summary 219
Storage Group Performance Details 219
Storage System Configuration Summary 219
Storage System Performance Details 219
System Configuration 218, 353
System Growth Summary 219, 361
System Performance Details 218, 355
Tape Configuration 219, 352
Tape Performance Details 218, 356
terminology 209
Top Application Analysis 218
Top Coupling Facility Analysis 218, 342
Top Disk Analysis 218, 344
Top Storage Group Analysis 219
Top Storage System Analysis 219
Top System Analysis 218, 345
Top Tape Analysis 218, 343
Top Workload Analysis 218, 341
using configuration and performance 216
viewing in Report Explorer 224
which tool to use for viewing 221
Workload Configuration 219, 352
Workload Growth Summary 219, 361
Workload Performance Details 218, 354
re-subscribing 54
results, viewing evaluation 204
Root object 163
S
sample baselines 93
saturation 213
scenario changes
deleting 198
rerearranging order of 199
Scenario Explorer
Annotation window 103
Change Description List 103, 196
context menus 332
Description Preview pane 104
Import/Export 30, 190
opening 90
printing contents of Working pane 205
Properties dialog box 104
sorting bar 106
toolbars 329
window 90
working pane 205
working pane toolbar 331
workspace operations 111
Scenario Explorer Tree
about 92
Annotation Window 105
icons 96
inserting baselines 97
inserting existing studies 100
inserting scenarios 101
inserting studies 97
moving scenarios and studies 106
sorting bar 92, 106
toolbar 330
Scenario Step Details dialog box 198
Scenario Wizard
button 330
using 97
scenarios
about 94
annotating 105
applying growth plans 195
child 205
creating 101
cutting and pasting 106
default 98
deleting changes 198
description, entering 104
displaying in Graph Explorer 246
displaying in Graphlet Explorer 297–299
evaluating 200, 205
inheriting properties 94
inserting into Scenario Explorer Tree 101
inserting with Scenario Wizard 97
keeping notes on 103
making changes to evaluated 205
moving 106
overview 90
parent components 94
rearranging order of changes 199
reports for 219
reports with growth plans 220
reusing 94
viewing evaluation results 204
scheduling automatic tasks 74
Select Input button 247, 297
Select Input dialog box
  Graph Explorer 247
  Graphlet Explorer 297
  opening 97
  Performance Explorer 274
selecting
  and clearing console messages 44
growth plan to edit 180
  objects for your groups 162
service level objectives, meeting 28
setting, automatic or manual refreshing 200
Settings option on the Console 209
SMF/RMF data 208
sorting bar, Scenario Explorer Tree 92, 106
sorting console messages 44
Speed Normalization Factor 130
Storage Group Configuration Summary report 219
Storage Group Performance Details report 219
Storage System Configuration Summary report 219
Storage System Performance Details report 219
studies
  about 94
  annotating 105
  creating 99
  cutting and pasting 106
  default 98
  description, entering 104
  inserting existing 100
  inserting into Scenario Explorer Tree 97
inserting new 99
keeping notes on 103
moving 106
subreports
  Daily Health Check Summary 338
  Performance Changes Summary 339
subscribing to a data publisher 48
steps 49
  Subscribe dialog box 51
Subscriptions pane 51
Summary Report, checking time stamps 73
support, customer 3
System Configuration report 218, 353
System Growth Summary report 219, 361
System Memory Workload Table 372
System Performance Details report 218, 355
system view in Growth Planner 186
Systems Palette
  description 91
  group functions 158
T
Tape Configuration report 219, 352
tape information in Hardware Table 322
Tape Performance Details report 218, 356
TARGET file 48
TCP/IP connection 48
technical support 3
time period, inserting and deleting 185
time stamps, merging XML baseline files 72
Tool window 42
tool windows, docking and undocking 45
toolbars
  for Report Explorer 222
  Graph Explorer metrics selection 251
  Hardware Table 318
  Scenario Explorer 330
  Scenario Explorer working pane 331
Tools List 42
Tools Status
  area 42
  General Status 43
  MVP System Service 43
Top 10 analysis reports 340
Top Application Analysis report 218
Top Coupling Facility Analysis report 218, 342
Top Disk Analysis report 218, 344
Top Storage Group Analysis report 219
Top Storage System Analysis report 219
Top System Analysis report 218, 345
Top Tape Analysis report 218, 343
Top Workload Analysis report 218, 341
UIE E2COMM started task 50
UNC paths, using 309
undocking and docking 45
Universal Information Exchange
   about 24
   changing connection to 54
   default collection interval 208
   installation 48
   re-subscribing 54
unsubsribing data publisher 54
users of Performance Predictor 31
utilization metrics
   MIPS values 34
   utilization, previewing CPU 199

View Changes View button 196
viewing
   baseline reports in Mainframe Predictor portal 238
   evaluation results 204
   Hardware Table information 319
   metrics in Graph Explorer 257, 257–259
   reports in Mainframe Predictor portal 234
   reports in Report Explorer 224
   the message log 44
viewing baseline and scenario data
   Graph Explorer 246
   Graphlet Explorer 297–299

web portal
   namespace options 316
   opening from a web browser 236
web server, designating 27
what if...? scenarios. See scenarios
wizards
   Evaluation Wizard 200
   for Scenario Explorer workspace objects 122
   Graph Explorer Wizard 247
   Report Wizard 224
   Scenario Wizard 97
Working pane
   context menu 332
   printing contents 205
   toolbar 331
working with groups 157
Workload Configuration report 219, 352
Workload Growth Summary report 219, 361
Workload Performance Details report 218, 354

workloads
   building a new one 145
   copying an existing one 152
   Growth Planner view 186
   moving 153
   name changes after move 153, 156
   Workspace View 91

XML
files 208
   reports 25
XML baseline files
   having same time stamps 72
   naming conventions for merging 73
   rules and naming conventions for merging 73

z/OS environment
   changing connection to 54
   managing capacity 30
   naming conventions for merging XML baseline files 73
   re-subscribing to 54
   server installation 48
   tracking performance 27
   unsubscribing from 54
zAAP 34, 112, 320
   dynamic MIPS rating 39
   rules to modify models 129
zIIP 34, 112, 320
   dynamic MIPS rating 39
   rules to modify models 129
Notes