Control-M Managed File Transfer
9.0.18
Setup Guide

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• Find the most current information about BMC products
• Search a database for issues similar to yours and possible solutions
• Order or download product documentation
• Download products and maintenance
• Report an issue or ask a question
• Subscribe to receive proactive e-mail alerts when new product notices are released
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  • License number and password (trial or permanent)
• Operating system and environment information
  • Machine type
  • Operating system type, version, and service pack or other maintenance level such as PUT or PTF
  • 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
• Commands and options that you used
• Messages received (and the time and date that you received them)
  • Product error messages
  • Messages from the operating system, such as file system full
  • Messages from related software

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Control-M Managed File Transfer Setup

Control-M Managed File Transfer (MFT) is an FTP/SFTP client and server solution that enables you to watch and transfer files from a local host to a remote host, a remote host to a local host, or a remote host to another remote host. You can also monitor and track the traffic load, file status, and active connections of all file transfers in Control-M.

To set up Control-M MFT, you need to do the following:

- Install Control-M/EM 9.0.18 or higher, as described in Control-M/EM 9.0.18 Release Notes.
- Install Control-M/Server 9.0.18 or higher, as described in the Control-M 9.0.18 Release Notes.
- Install Control-M Managed File Transfer, as described in Control-M Managed File Transfer installation (on page 7).
- Deploy and update Control-M MFT on your Control-M Agents from the CCM, as described in Deploying Control-M MFT (on page 10).
- Configure a built-in File Transfer Server that supports FTP/S and SFTP protocols with Windows, PAM or LDAP authentication, as described in Configuring the File Transfer Server (on page 12).
- Transfer files between internal Control-M users and external business partners, as described in Control-M MFT Enterprise B2B (on page 16).

Control-M Managed File Transfer installation

The following procedures describe how to install Control-M Managed File Transfer (MFT) on a Control-M/EM server on UNIX and Windows:

- Installing Control-M MFT on Windows (on page 8)
- Installing Control-M MFT on UNIX (on page 9)

The installation copies the MFT packages repository for each OS to EM_HOME/Client_Updates. The packages are used to deploy MFT to multiple Control-M/Agents, as described in Deploying Control-M MFT (on page 10).
Installing Control-M MFT on Windows

This procedure describes how to install Control-M MFT on a Control-M/EM server on Windows.

**Before you begin**

- Ensure that the database server that contains the Control-M/EM database is up and running.
- Download the MFT installation files (see Product Distribution in the Control-M Managed File Transfer Release Notes).

➢ To install MFT on Windows:

1. From the Control-M MFT Deployment Package CD, double-click the `setup.exe` file.
   The Control-M Managed File Transfer Deployment Package 9.0.18 wizard appears.

2. Do one of the following:
   - **Interactive install**: Follow the on-screen instructions until the installation is complete.
   - **Automatic install**: Create a parameter file and then run the automatic install in a non-interactive mode, as follows:
     a. Follow the on-screen instructions until the Summary window.
     b. Click Generate and select the location to create the XML parameter file.
     c. Click Yes to quit the installation.
        A confirmation message appears.
     d. Click Yes.
     e. Copy the automatic installation parameters file to a network location that is accessible to all computers where you want to perform an automatic installation.
     f. Log in using a user ID that has Administrator permissions on the current computer.
     g. Ensure that the installation DVD is still in the DVD drive, and run the installation script, as follows:
        ```
        <source_path>\Setup.exe -silent <xml_path>|<filename.xml>
        ```
        The installation log can be found at the following location:
        ```
        <installFolder>\BMCI NSTALL\log\BMC_Control-M_Managed_File_Transfer_Install_<date-time>.log
        ```

3. Click Done.
Installing Control-M MFT on UNIX

This procedure describes how to install Control-M MFT on a Control-M/EM server on UNIX.

**Before you begin**

- Ensure that the database server that contains the Control-M/EM database is up and running.
- Download the MFT installation files (see Product Distribution in the Control-M Managed File Transfer Release Notes).

➢ To install MFT on UNIX:

1. Mount the installation CD from the root user and log off the root user before continuing with the installation.
2. Log in to the Control-M/EM account.

   **NOTE:** If you are using the GUI, set the environment variable `DISPLAY` to value `<hostName>:0.0`. It is not necessary to set `DISPLAY` for console mode or silent mode. (For more information, see Setting environment variables in UNIX.)

3. Type the following command:
   ```
   <cdPath>/setup.sh
   ```
4. Follow the on-screen instructions until the installation is complete.

Uninstalling Control-M MFT from Windows

This procedure describes how to uninstall Control-M MFT from Windows.

➢ To uninstall MFT from Windows:

1. From the **Start** menu, select **Control Panel**.
2. Double-click **Programs and Features**.
3. Select **Control-M Managed File Transfer Deployment Package 9.0.18**, and click **Uninstall**.
4. Click **OK** to continue.

Control-M MFT is successfully removed from your computer.

Uninstalling Control-M MFT from UNIX

This procedure describes how to uninstall Control-M MFT from UNIX.

➢ To uninstall MFT from UNIX:

1. Log in as a Control-M user.
2. Navigate to the following directory:
   ```
   <InstallFolder>/BMCINSTALL/uninstall/DRAFP.9.0.18
   ```
3. Type one of the following commands:
   ```
   Interactive uninstall: ./uninstall.sh
   ```
Deploying Control-M MFT

This procedure describes how to transfer MFT installation packages to existing Control-M/Agents and install or upgrade Control-M MFT on UNIX or Windows.

**NOTE:** You can only deploy MFT 9.0.18 on Control-M for AFT 8.2.00 and higher or Control-M MFT 9.0.00 and higher.

**NOTE:** You cannot upgrade more than one MFT activity on the same Windows computer simultaneously.

➢ **To deploy Control-M MFT:**

1. From the **Manage** tab, select **Deployment**. The **Deployment** window appears.

2. Click **New Activity > Managed File Transfer > Install/Upgrade**. The **MFT Upgrade/ Install** window appears.

3. Do the following:

   a. In the **Activity Name** field, type a name for this activity.

   b. In the **Description** field, describe the purpose of this activity (optional).

   c. In the **E-Mail Notification Address** field, type the email address(es) that you want to receive notifications about this activity (optional).

      To receive email notification, you need to define the email server parameters, as described in SMTP parameters.

4. Select one of the following:

   - **Send MFT to Control-M Agent(s):** Transfers the MFT installation package to specific Control-M/Agent computers. After the package is transferred, you can manually start the upgrade process, at any time, from the **Agent Deployment** window or upgrade with CLI, as described in ccmcli.

   - **Send and Install MFT to Control-M Agent(s):** Transfers the MFT installation package to specific Control-M/Agent computers and begins the upgrade process automatically.

**NOTE:**

- The Control-M MFT installation package is deleted after a successful upgrade. If the upgrade failed, then the installation package remains on the Control-M/Agent computer until the next successful upgrade.

- The MFT installation package remains on the Control-M/Server computer for 30 days. If you want to change this setting, define the Control-M/Server **AD_RETAIN_PACKAGES**, as described in Defining Control-M/Server system parameters.

5. **Click Next.**

6. Select the Control-M/Agent(s) to deploy Control-M MFT.
NOTE: If you selected a Control-M/Agent on Windows that is set to Logon as User, you need to define the Run As User for each Control-M/Agent.

7. Depending on which method you selected, click **Transfer** or **Upgrade**.

   The transfer process starts and progress messages appear in the right pane of the deployment activity. To view and troubleshoot the internal stages of the upgrade, click **Log** from the **Agent Deployment** window. If you selected to transfer the installation package, you can upgrade or install Control-M MFT any time after the transfer is complete. A job runs on the Control-M/Agent(s) to verify that it upgraded successfully.

### Rolling back Control-M MFT

This procedure describes how to roll back Control-M MFT from multiple Control-M/Agents. You can only roll back Control-M MFT if it was upgraded with the Deployment tool.

This procedure must be done within a defined period based on the **AD_GA_RETAIN_DAYS** system parameter, as described in Control-M/Agent deployment parameters.

#### Before you begin

- Verify that all jobs on the selected Control-M/Agents have ended. If jobs are still running during the rollback, they might fail.

  ➢ **To roll back Control-M MFT:**

1. From the **Manage** tab, select **Deployment**.

   The **Deployment** window appears.

2. Click **New Activity > Manage File Transfer > Rollback**.

   The **MFT Rollback** window appears.

3. Do the following:
   
   a. In the **Activity Name** field, type a name for this activity.
   
   b. In the **Description** field, describe the purpose of this activity (optional).
   
   c. In the **E-Mail Notification Address** field, type the email address(es) that you want to receive notifications about this activity (optional).

      To receive email notification, you need to define the email server parameters, as described in SMTP parameters.

4. Click **Next**.

5. Select the Control-M/Agent(s) with Control-M MFT to roll back.

6. Click **Rollback**.

   The rollback process begins immediately and Control-M MFT is removed from the Control-M/Agent. To view and troubleshoot the internal stages of the rollback, click **Log** from the **Deployment** window.
Configuring the File Transfer Server

This procedure describes how to configure the File Transfer Server in the CCM, which enables you to transfer files directly from one MFT host to another MFT host, without using an FTP server on a third computer. The File Transfer Server is included on every Control-M/Agent that has Control-M MFT installed, supports both FTP/S and SFTP, and is embedded in the MFT process.

➢ To configure the File Transfer Server:

1. From the CCM, select **Control-M Managed File Transfer** on the host that you want to manage, right-click and select **File Transfer Server**.

   The **File Transfer Server** window appears.

2. Configure the following File Transfer server parameters:
   - File Transfer Server general parameters (on page 13)
   - FTP/FTPS server parameters (on page 14)
   - SFTP server parameters (on page 15)
   - File Transfer Server Authentication parameters (on page 16)

3. Click **Save**.

4. Restart the File Transfer Server by running one of the following commands:
   - **UNIX**: cm/AFT/exe/startb2b.sh
   - **Windows**: cm\AFT\exe\startb2b.sh
# File Transfer Server general parameters

The following table describes File Transfer Server general parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>Defines the hostname where the File Transfer Server is installed</td>
</tr>
<tr>
<td>Home directory</td>
<td>Defines the root path where transferred files are stored.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you want to use a different directory for each logged in user, you must add <code>\${userName}</code> to the path.</td>
</tr>
<tr>
<td></td>
<td><strong>EXAMPLE</strong>: <code>C:\temp\${userName}</code></td>
</tr>
<tr>
<td></td>
<td>Bob connects to the File Transfer Server and uploads the file <code>a.txt</code> to the root directory, the file is saved in <code>C:\temp\Bob\a.txt</code>.</td>
</tr>
<tr>
<td></td>
<td><strong>Default</strong>: <code>&lt;Agent_Home&gt;/CM/AFT/ftshome/${userName}</code></td>
</tr>
<tr>
<td>Multiple login allowed</td>
<td>Determines whether multiple users can connect to the File Transfer Server simultaneously.</td>
</tr>
<tr>
<td>Max. logins</td>
<td>Determines the number of users that can connect to the File Transfer Server simultaneously.</td>
</tr>
<tr>
<td>Max login failures</td>
<td>Determines the maximum number of login attempts before a timeout.</td>
</tr>
<tr>
<td>Delay between failed login attempts</td>
<td>Determines the number of seconds to wait after a login failure before the next attempt.</td>
</tr>
<tr>
<td>Throttling activated</td>
<td>Determines whether to limit number of simultaneous uploads and downloads.</td>
</tr>
<tr>
<td>Max simultaneous uploads</td>
<td>Determines the maximum number of simultaneous uploads</td>
</tr>
<tr>
<td>Max simultaneous downloads</td>
<td>Determines the maximum number of simultaneous downloads</td>
</tr>
</tbody>
</table>
FTP/FTPS server parameters

The following table describes FTP/FTPS server parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable server</td>
<td>Determine whether the File Transfer Server that supports client connection with the FTP/FTPS protocol is enabled</td>
</tr>
<tr>
<td>Port</td>
<td>Determines the port number that the embedded File Transfer Server listens to for FTP/FTPS connections</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> This port is used by clients to connect to the FTP/FTPS server (Default: 1221).</td>
</tr>
<tr>
<td>Authentication</td>
<td>Authenticates the FTP user with one of the following methods:</td>
</tr>
<tr>
<td></td>
<td>- Windows local user</td>
</tr>
<tr>
<td></td>
<td>- LDAP</td>
</tr>
<tr>
<td></td>
<td>- PAM (UNIX only)</td>
</tr>
<tr>
<td>Secured</td>
<td>Determines whether FTPS is enabled</td>
</tr>
<tr>
<td>Keystore file path</td>
<td>Defines the path to the file that contains the server certificate.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> The keystore must be in <strong>PKCS#12</strong> format. If FIPS is enabled, the format must be <strong>BCFKS</strong>.</td>
</tr>
<tr>
<td>Keystore file password</td>
<td>Defines the password of the file that contains the server certificate</td>
</tr>
<tr>
<td>Ciphers</td>
<td>Determines the cipher security settings used for FTPS</td>
</tr>
<tr>
<td>Listen for implicit connections</td>
<td>Determines whether to automatically turn on security after a connection is established between the FTPS client and the Managed File Transfer server.</td>
</tr>
</tbody>
</table>
## SFTP server parameters

The following table describes SFTP server parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable server</td>
<td>Determines whether the File Transfer Server that supports client connection with SFTP is enabled</td>
</tr>
</tbody>
</table>
| Port               | Determines the port number that the embedded File Transfer Server listens to for SFTP connections  
                      **NOTE:** This port is used by clients to connect to the SFTP server (Default: 1222). |
| Keystore file path | Defines the path to the file that contains the client's certificate.                                                                          |
| Keystore file password | Defines the password for the file that contains the server's certificate.  
                        **NOTE:** The keystore must be in **PKCS#12** format. If FIPS is enabled, the format must be **BCFKS**. |
| Ciphers            | Determines the cipher security settings used for SFTP                                                                                        |
| Known user file path | Defines the path to the file that contains known users by SFTP                                                                                   |
| Authentication     | Authenticates the FTP user with one of the following methods:  
                        - Windows local user  
                        - LDAP  
                        - PAM (**UNIX only**) |
File Transfer Server Authentication parameters

The following table describes File Transfer Server Authentication parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAM (UNIX only)</td>
<td>Authenticates the FTP user with PAM.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: In non-root mode, you can only authenticate the Control-M/Agent user. To authenticate other users, you must run as root.</td>
</tr>
<tr>
<td>Service name</td>
<td>Defines the PAM service name (default password)</td>
</tr>
<tr>
<td>LDAP</td>
<td>Authenticates the FTP user with LDAP</td>
</tr>
<tr>
<td>Admin user</td>
<td>Defines the LDAP Browse user</td>
</tr>
<tr>
<td>Admin password</td>
<td>Defines the LDAP Browse password</td>
</tr>
<tr>
<td>URL</td>
<td>Defines URL address and port of a directory server, the DN of an entry within that server, or the criteria for performing a search within that server</td>
</tr>
<tr>
<td>Base DN</td>
<td>Determines the point from where a server searches for users</td>
</tr>
<tr>
<td>Home Directory</td>
<td>Defines the LDAP Home Directory</td>
</tr>
<tr>
<td>Timeout</td>
<td>Determines the number of minutes to wait before a timeout</td>
</tr>
</tbody>
</table>

Control-M MFT Enterprise B2B

Control-M MFT Enterprise B2B is an MFT add-on that enables you to securely transfer and receive files to and from external users outside of your organization. Internal users can transfer files externally with File Transfer jobs, while external users transfer files to and from your organization via a BMC-provided web application or third-party FTP client.

To use Control-M MFT Enterprise B2B, you need to define external users and virtual folders. Virtual folders are the locations where external users transfer and receive files. Each folder has an incoming sub-folder where files are sent by external users to your organization, and an outgoing sub-folder where files are sent by internal users to external users. Authorizations are applied at the folder level to determine which external users can access the folders. Folders can be configured to define a maximum retention period, and can generate email notifications to associated users when new files are available.

Control-M MFT Enterprise B2B includes the following main components:
Control-M Managed File Transfer Setup Guide

- **MFT Enterprise B2B Hub**: The Hub is the File Transfer Server that is installed with Control-M MFT and is used to manage external file transfers. After MFT Enterprise B2B is enabled, the File Transfer Server configuration is managed in the Hub settings. The Hub allows internal and external users to log in, whereas the File Transfer Server only allows internal users to log in.

- **MFT Enterprise B2B Gateway**: A proxy server that is installed in the DMZ and listens for incoming SFTP, FTPS, and HTTPS connections from external user accounts defined in the MFT B2B Hub. The MFT Enterprise B2B Gateway communicates with the Hub, but does not store any transfer file data.

- **MFT Enterprise B2B File Exchange**: A web application that enables external users to view the contents of their folders, and upload and download files.

Files are transferred between the Hub (File Transfer Server) within your organization, and external users via the Control-M MFT Enterprise B2B Gateway in the DMZ.

To get started with Control-M MFT Enterprise B2B, see Setting up the Control-M MFT Enterprise B2B environment (on page 17).

### Setting up the Control-M MFT Enterprise B2B environment

This procedure describes how to set up the Control-M MFT Enterprise B2B environment.

**Before you begin**

Ensure that you have installed the following:

- Control-M/EM 9.0.18
- Control-M/Server 9.0.18
- Control-M/Agent 9.0.18 or higher

➢ To set up:

1. Install the Control-M MFT Deployment package on a Control-M/EM server 9.0.18, as described in Control-M Managed File Transfer installation (on page 7).
3. Deploy Control-M MFT 9.0.18 to at least one Control-M/Agent.
5. Install Control-M MFT B2B Gateway in the DMZ on a Linux computer, as described in Installing the Control-M MFT Enterprise B2B Gateway on Linux (on page 19).
7. Create External users (on page 22) and Virtual Folders (on page 22).
8. Provide external users with their login credentials (username, password, and port) to the MFT Enterprise B2B File Exchange website or third-party FTP client.
9. Create an SFTP connection profile using the Hub as the host with port 1222, as described in Creating a connection profile (on page 33).
10. Transfer files between external and internal users, as described in Defining a File Transfer job (on page 34).
Installing Control-M MFT Enterprise B2B on Windows

This procedure describes how to install Control-M MFT Enterprise B2B on a Control-M/EM server on Windows.

Before you begin

- Ensure that the database server that contains the Control-M/EM database is up and running.

To install MFT Enterprise B2B on Windows:

1. From the Control-M MFT Enterprise B2B CD, double-click the setup.exe file.
   The Control-M Managed File Transfer B2B wizard appears.

2. Do one of the following:
   - **Interactive install**: Follow the on-screen instructions until the installation is complete.
   - **Automatic install**: Create a parameter file and then run the automatic install in a non-interactive mode, as follows:
     a. Follow the on-screen instructions until the Summary window.
     b. Click Generate and select the location to create the XML parameter file.
     c. Click Yes to quit the installation.
        A confirmation message appears.
     d. Click Yes.
     e. Copy the automatic installation parameters file to a network location that is accessible to all computers where you want to perform an automatic installation.
     f. Log in using a user ID that has Administrator permissions on the current computer.
     g. Ensure that the installation DVD is still in the DVD drive, and run the installation script, as follows:
        
        
        
        
        
4. Click Done.
Installing Control-M MFT Enterprise B2B on UNIX

This procedure describes how to install Control-M MFT Enterprise B2B on a Control-M/EM server on UNIX.

Before you begin

- Ensure that the database server that contains the Control-M/EM database is up and running.

➢ To install MFT Enterprise B2B on UNIX:

1. Mount the installation CD from the root user and log off the root user before continuing with the installation.

2. Log in to the Control-M/EM account.
   
   **NOTE:** If you are using the GUI, set the environment variable `DISPLAY` to value `<hostName>:0.0`. It is not necessary to set `DISPLAY` for console mode or silent mode. (For more information, see Setting environment variables in UNIX.)

3. Type the following command:
   
   `<cdPath>/setup.sh`

4. Follow the on-screen instructions until the installation is complete.

Installing the Control-M MFT Enterprise B2B Gateway on Linux

This procedure describes how to install Control-M MFT Enterprise B2B Gateway on Linux in the DMZ. The Gateway is a proxy server used to transfer files to and from the Control-M MFT Enterprise B2B Hub by external users.

Before you begin


➢ To install MFT Enterprise B2B Gateway on Linux:

1. Mount the installation CD from the root user and log off the root user before continuing with the installation.
   
   **NOTE:** If you are using the GUI, set the environment variable `DISPLAY` to value `<hostName>:0.0`. It is not necessary to set `DISPLAY` for console mode or silent mode. (For more information, see Setting environment variables in UNIX.)

2. Type the following command:
   
   `<cdPath>/setup.sh`

3. Follow the on-screen instructions until the installation is complete.

4. Start up the MFT Enterprise B2B Gateway by running the following command:
   
   `mft-proxy/exe/start-mft-proxy.sh`

   **NOTE:** Verify that the Hub is up before restarting the Gateway.
Uninstalling Control-M MFT Enterprise B2B from Windows

This procedure describes how to uninstall Control-M MFT Enterprise B2B from Windows.

➢ To uninstall MFT Enterprise B2B from Windows:

1. From the Start menu, select Control Panel.
2. Double-click Programs and Features.
4. Click OK to continue.
   Control-M MFT Enterprise B2B is successfully removed from your computer.

Uninstalling Control-M MFT Enterprise B2B from UNIX

This procedure describes how to uninstall Control-M MFT Enterprise B2B from UNIX.

➢ To uninstall MFT Enterprise B2B from UNIX:

1. Log in as a Control-M user.
2. Navigate to the following directory:
   <InstallFolder>/BMCI NSTALL/uninstall/DRM2B.9.0.18
3. Type one of the following commands:
   • Interactive uninstall: ./uninstall.sh
   • Automatic uninstall: ./uninstall.sh -silent
   Control-M MFT Enterprise B2B is successfully removed from your computer.

Uninstalling Control-M MFT Enterprise B2B Gateway from Linux

This procedure describes how to uninstall Control-M MFT Enterprise B2B Gateway from Linux.

➢ To uninstall MFT Enterprise B2B Gateway from Linux:

1. Navigate to the following directory:
   <InstallFolder>/BMCI NSTALL/uninstall/DRM2B.9.0.18
2. Type one of the following commands:
   • Interactive uninstall: ./uninstall.sh
   • Automatic uninstall: ./uninstall.sh -silent
   The Control-M MFT Enterprise B2B Gateway is successfully removed from your computer.
Enabling an MFT Enterprise B2B Hub

This procedure describes how to enable an MFT Enterprise B2B Hub, which allows file transfers to and from the Control-M MFT Enterprise B2B Gateway. The MFT Enterprise B2B Hub uses the File Transfer Server to transfer files.

After the Hub is enabled, all File Transfer Server configuration is managed from the Hub Settings (on page 23).

NOTE: You can enable one MFT Enterprise B2B Hub per Control-M/EM server.

➢ To enable an MFT Enterprise B2B Hub:

1. From the Manage tab, click MFT B2B.
   - If the button is disabled, you need to install Control-M MFT B2B, as described in Control-M MFT Enterprise B2B installation.
   - The MFT B2B window appears.
2. Click Add Hub.
3. Do the following:
   a. From the Select B2B hub environment drop-down list, select the host where Control-M MFT is installed.
      - NOTE: You can only select a Control-M MFT 9.0.18 or higher that is installed on a Control-M/Agent 9.0.18 or higher.
   b. In the Gateway Authentication Password field, type the same password you used when you installed the Control-M MFT Enterprise B2B Gateway.
   c. In the Domain Name field, type the domain name of the MFT Enterprise B2B File Exchange website where external users can transfer using HTTP.
      - EXAMPLE: or 172.99.98.77:<HTTP_Port>
   d. In the Company Name field, type the name of your company.
      - This name appears in the MFT Enterprise B2B File Exchange website and the email notification signature.
   e. In the Company Support Email field, type the email address that is used to send and receive email notifications to and from external users.
4. Click Create.
   - The MFT Enterprise B2B Hub is enabled.
Creating external users

This procedure describes how to create MFT Enterprise B2B external users, which enables them to transfer and receive files via the File Exchange website or a third party FTP client.

Before you begin

- Enable an MFT Enterprise B2B Hub, as described in Enabling an MFT Enterprise B2B Hub (on page 21)

To create external users:

1. From the Manage tab, click MFT B2B.
   The MFT B2B window appears.

2. From the Users tab, click +.

3. Do the following:
   a. In the User Name field, type the name of the new external user.
   b. Do one or more of the following:
      o Create a password for the external user.
      o Create an SSH public key (ssh-rsa key format).
   c. In the Email field, type the email address of this user.
   d. In the Phone Number field, type the phone number of the user.
   e. In the Company Name field, type the name of the organization that this user belongs to.
   f. In the Description field, provide a description of this user.

Creating Virtual Folders

This procedure describes how to create MFT Enterprise B2B Virtual Folders. These folders are used to transfer incoming and outgoing files between external and internal users. Authorizations are applied at the folder level that determine which external and internal users can access the folders. Folders can be configured to define a maximum retention period, and can generate email notifications to associated users when new files are available.

Before you begin

- Enable an MFT Enterprise B2B Hub, as described in Enabling an MFT Enterprise B2B Hub (on page 21).

To create Virtual Folders:

1. From the Manage tab, click MFT B2B.
   The MFT B2B window appears.

2. From the Virtual Folders tab, click +.

3. Do the following:
   a. In the Virtual Folder Name field, type the name of the folder.
By default the following sub-folders are automatically created within this folder in the Hub environment:

- **Incoming**: Files sent by external users to your organization.
- **Outgoing**: Files sent by internal users to external users.

b. In the **Size Limit** field, type the maximum number of GB allowed before file uploading is blocked for external and internal users.

**NOTE**: If the value is set to 0, files uploading is unlimited.

c. In the **Retention Time** field, type the maximum number of hours to keep the file, before it is automatically deleted.

**NOTE**: If the value is set to 0, retention is unlimited.

**NOTE**: If a file was uploaded with the SFTP -p option, which preserves file attributes, the file might be deleted. In this case, do not use the -p option or extend the retention, as required.

d. If you want to delete the file after an internal user has downloaded it from an incoming sub-folder, select the **Delete file after downloaded from incoming folder** option (*SFTP only*).

e. In the **Authorized External Users** field, type the names of the external users that you want to have access to this folder.

To notify users that a file is ready for download from the Outgoing sub-folder, select the **Send email notification to allowed users when a new file arrives** checkbox.

f. In the **Allowed Internal Users** field, type the names of internal users that you want to have access to this folder.

For all internal users, type *.

4. Click **Save**.

The folder is created.

### Hub Settings

The Hub settings are pre-configured and are based on the settings you have defined in the File Transfer Server.

The following lists the Hub settings options:

- **General Settings** (on page 24)
- **Authentication Settings** (on page 25)
- **HTTP Settings** (on page 26)
- **SFTP Settings** (on page 27)
- **FTP/S Settings** (on page 28)
- **LDAP and PAM Settings** (on page 30)
- **Notification Settings** (on page 31)
### General Settings

The following table describes the Hub general setting parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hub Name</td>
<td>Defines the logical name of the Hub.</td>
</tr>
<tr>
<td>Home Directory</td>
<td>Defines the root path where transferred files are stored.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you want to use a different directory for each logged in</td>
</tr>
<tr>
<td></td>
<td>internal user, you must add ${userName} to the path.</td>
</tr>
<tr>
<td></td>
<td><strong>EXAMPLE</strong>: C:\temp${userName}</td>
</tr>
<tr>
<td></td>
<td>Bob connects to the File Transfer Server and uploads the file a.txt to</td>
</tr>
<tr>
<td></td>
<td>the root directory, the file is saved in C:\temp\Bob\a.txt.</td>
</tr>
<tr>
<td></td>
<td><strong>Default</strong>: &lt;Agent_Home&gt;/CM/AFT/ftshome/${userName}</td>
</tr>
<tr>
<td>B2B Subfolder</td>
<td>Defines the name of the folder under the home directory that contains all</td>
</tr>
<tr>
<td></td>
<td>the Virtual Folders.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: For internal users, this folder is hidden. Internal user can</td>
</tr>
<tr>
<td></td>
<td>only access the B2B virtual folders by typing the B2B sub-folder under the</td>
</tr>
<tr>
<td></td>
<td>home dir.</td>
</tr>
<tr>
<td></td>
<td><strong>EXAMPLE</strong>: /b2bhome/</td>
</tr>
<tr>
<td>Configuration Port</td>
<td>Determines the port number used to access the Hub for configuration changes.</td>
</tr>
<tr>
<td></td>
<td><strong>Default</strong>: 28080</td>
</tr>
<tr>
<td>Send Audit Logs</td>
<td>Determines whether to generate records to the database.</td>
</tr>
<tr>
<td>Log Level</td>
<td>Determines one of the following log levels for the Hub:</td>
</tr>
<tr>
<td></td>
<td>- ERROR</td>
</tr>
<tr>
<td></td>
<td>- WARN</td>
</tr>
<tr>
<td></td>
<td>- INFO</td>
</tr>
<tr>
<td></td>
<td>- DEBUG</td>
</tr>
<tr>
<td></td>
<td>- TRACE</td>
</tr>
</tbody>
</table>
# Authentication Settings

The following table describes the Hub authentication parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway Authentication Password</td>
<td>Determines the authentication password between the MFT Enterprise B2B Gateway and the Hub. This is the same password set during the MFT Enterprise B2B Gateway installation. &lt;br&gt; <strong>NOTE:</strong> If you change the password, you must also define the new password in <code>proxyConfig.properties</code> file on the host where the Gateway is installed and restart the Gateway.</td>
</tr>
<tr>
<td>Internal users authentication method (SFTP/FTP)</td>
<td>Determines one of the following authentication methods for internal users for both SFTP and FTP: &lt;br&gt;  - Windows Local Users <em>(Windows only)</em>  &lt;br&gt;  - PAM <em>(UNIX only)</em>  &lt;br&gt;  - LDAP &lt;br&gt; <strong>NOTE:</strong> (PAM) You can only authenticate the Control-M/Agent user in non-root mode. To authenticate other users, you must run as root.</td>
</tr>
</tbody>
</table>
HTTP Settings

The following table describes HTTP Settings for the MFT Enterprise B2B File Exchange web application.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP Port</td>
<td>Determines the HTTP or HTTPS port number for the MFT Enterprise B2B File Exchange.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you change this parameter in Gateway Settings, you must change it in the proxyConfig.properties file in the Gateway and restart the Gateway.</td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td>Enable SSL</td>
<td>Determines whether to enable HTTPS.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you change this parameter, you must change it in the Hub and Gateway settings and in the hub.ssl parameter in the proxyConfig.properties file in the Gateway and restart the Gateway.</td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td>Keystore File Path</td>
<td>Determines the path for the HTTPS keystore file.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: The keystore must be in PKCS12 format. If FIPS is enabled, the format must be BCFKS.</td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td>Keystore File Password</td>
<td>Determines the password that is used by the Hub to access the HTTPS keystore.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td>Default: password (Hub), abcd1234 (Gateway)</td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you change this password, the keystore password is not changed. For more information, see Changing the MFT key database password.</td>
<td></td>
</tr>
<tr>
<td>Session Timeout</td>
<td>Determines the number of seconds to wait before a timeout.</td>
<td>Hub Settings</td>
</tr>
</tbody>
</table>
## SFTP Settings

The following table describes the SFTP settings between the Hub and the MFT Enterprise B2B Gateway.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
</table>
| SFTP Port               | Determines the port number that the embedded Hub/Gateway listens to for SFTP connections.  
                          **NOTE:** This port is used by clients to connect to the SFTP server (Default: 1222 (Hub), 1224 (Gateway)). | Hub Settings,  Gateways Settings |
| Keystore File Path      | Defines the path to the file that contains the client's certificate.  
                          **NOTE:** The keystore must be in PKCS12 format. If FIPS is enabled, the format must be BCFKS. | Hub Settings,  Gateways Settings |
| Keystore File Password  | Defines the password for the file that contains the server's certificate.  
                          **Default:** abcd1234  
                          **NOTE:** If you change this password, the keystore password is not changed. For more information, see Changing the MFT key database password. | Hub Settings,  Gateways Settings |
| Allowed Ciphers         | Determines the cipher security settings used for SFTP. | Hub Settings,  Gateways Settings |
| Authorized Keys File Path | Defines the path to the file that contains authorized users by SFTP.  
                          **NOTE:** The authorized users file must include all internal users’ public keys. Each user should be included in the following format:  
                          `<username> <ssh public key (ssh-rsa format)>` | Hub Settings |
**FTP/S Settings**

The following table describes FTP/S settings between the Hub and the MFT B2B Gateway.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listen for FTP/S connection</td>
<td>Determine whether the Hub/Gateways that support client connection with the FTP/FTPS protocol is enabled.</td>
<td>Hub Settings</td>
</tr>
<tr>
<td><strong>NOTE</strong>: When users connect with FTP/S, they cannot access the B2B sub-folder. To access the B2B sub-folder from inside the organization, use SFTP protocol.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTP Port</td>
<td>Determines the port number that the embedded Hub/Gateways listen to for FTP/FTPS connections.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td><strong>NOTE</strong>: This port is used by clients to connect to the FTP/FTPS server</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Default</strong>: 1221 (Hub), 1223 (Gateway).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow multiple open sessions</td>
<td>Determines whether multiple users can connect to the Hub/Gateways simultaneously.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Maximum Concurrent Open Sessions</td>
<td>Determines the number of users that can connect to the Hub/Gateways simultaneously.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Maximum Login Failures</td>
<td>Determines the maximum number of login attempts before a timeout.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Delay Between Login Failures</td>
<td>Determines the number of seconds to wait after a login failure before the next attempt.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Secured FTP Enabled</td>
<td>Determines whether FTPS is enabled. <strong>NOTE</strong>: If you change this parameter, you must change it in the Hub and Gateway settings and in the <code>hub.ssl</code> parameter in the <code>proxyConfig.properties</code> file in the Gateway and restart the Gateway</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Keystore File Path</td>
<td>Defines the path to the file that contains the server certificate. <strong>NOTE</strong>: The keystore must be in PKCS12 format. If FIPS is enabled, the format must be BCFKS.</td>
<td>Hub Settings, Gateways Settings</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Location</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Keystore File Password</td>
<td>Defines the password of the file that contains the server certificate.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td><strong>Default</strong>: password (Hub), abcd1234 (Gateway)</td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you change this password, the keystore password is not changed. For more information, see Changing the MFT key database password.</td>
<td></td>
</tr>
<tr>
<td>Allowed Ciphers</td>
<td>Determines the cipher security settings used for FTPS.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td>Listen for Implicit Connection</td>
<td>Determines whether to automatically turn on security after a connection is established between the FTPS client and the Managed File Transfer server.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td>Passive Ports</td>
<td>Limits the range of dynamic ports that can be used for passive connections in FTP. Ports can be defined as single ports, closed or open ranges. Multiple definitions must be separated by commas.</td>
<td>▪ Hub Settings</td>
</tr>
<tr>
<td></td>
<td><strong>EXAMPLE:</strong></td>
<td>▪ Gateways Settings</td>
</tr>
<tr>
<td></td>
<td>2300 : Uses 2300 as the passive port</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2300-2399: Uses all ports in the range</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2300-: Uses all ports larger than 2300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2300,2305,2400-: Uses 2300 or 2305 or any port larger than 2400</td>
<td></td>
</tr>
</tbody>
</table>
LDAP and PAM Settings

The following table describes the LDAP settings for the Hub. These parameters are for internal users only.

<table>
<thead>
<tr>
<th>Table Header</th>
<th>Table Header</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP Search User</td>
<td>Defines the LDAP Browse user.</td>
</tr>
<tr>
<td>LDAP Search Password</td>
<td>Defines the LDAP Browse password.</td>
</tr>
<tr>
<td>LDAP Server URL</td>
<td>Defines URL address and port of a directory server, the DN of an entry within that server, or the criteria for performing a search within that server.</td>
</tr>
<tr>
<td>Base DN</td>
<td>Determines the point from where a server searches for users.</td>
</tr>
<tr>
<td>Home Directory</td>
<td>Defines the LDAP Home Directory.</td>
</tr>
<tr>
<td>Timeout</td>
<td>Determines the number of minutes to wait before a timeout.</td>
</tr>
<tr>
<td>PAM Service Name</td>
<td>Defines the PAM service name (default password).</td>
</tr>
</tbody>
</table>
Notification Settings

The following table describes notification settings that enable MFT Enterprise B2B to send email notifications to external users that files have arrived.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMTP Host</td>
<td>Defines the hostname that sends the email notifications.</td>
</tr>
<tr>
<td>SMTP Port</td>
<td>Defines the SMTP port number.</td>
</tr>
<tr>
<td>SMTP Username</td>
<td>Defines the username that is used to send the notifications.</td>
</tr>
<tr>
<td>SMTP Password</td>
<td>Defines the SMTP password.</td>
</tr>
<tr>
<td>SMTP Security Method</td>
<td>Determines one of the following SMTP security methods:</td>
</tr>
<tr>
<td></td>
<td>- SMTP without TLS</td>
</tr>
<tr>
<td></td>
<td>- SMTP with STARTTLS</td>
</tr>
<tr>
<td></td>
<td>- SMTPS (SMTP over TLS)</td>
</tr>
<tr>
<td>Sender Address</td>
<td>Defines the email address that is used to send the email notification.</td>
</tr>
<tr>
<td>Sender Name</td>
<td>Defines the name of the sender that appears on the notification mail signature.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> If this field is left empty, then the Company Name defined in Site Settings (on page 32) is used.</td>
</tr>
</tbody>
</table>
Gateway Settings

The following table describes the MFT Enterprise B2B Gateway settings.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain Name</td>
<td>Defines the MFT Enterprise B2B File Exchange website domain name that is accessed by external users. http(s)://&lt;domain_name&gt;:&lt;HTTP_port&gt;</td>
</tr>
<tr>
<td>Log Level</td>
<td>Determines one of the following log levels for the Gateway:</td>
</tr>
<tr>
<td></td>
<td>• ERROR</td>
</tr>
<tr>
<td></td>
<td>• WARN</td>
</tr>
<tr>
<td></td>
<td>• INFO</td>
</tr>
<tr>
<td></td>
<td>• DEBUG</td>
</tr>
<tr>
<td></td>
<td>• TRACE</td>
</tr>
<tr>
<td>HTTP Settings</td>
<td>See HTTP Settings (on page 26).</td>
</tr>
<tr>
<td>SFTP Settings</td>
<td>See SFTP Settings (on page 27).</td>
</tr>
<tr>
<td>FTP/S Settings</td>
<td>See FTP/S Settings (on page 28).</td>
</tr>
</tbody>
</table>

Site Settings

The following table describes the File Exchange settings for each external web application.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>Defines your company name that appears in the MFT Enterprise B2B File Exchange web application and email notification signature.</td>
</tr>
</tbody>
</table>
| Company Support Email| Defines your company's email address that is available for external users from the File Exchange web application and as the sender address for email notifications. 

**NOTE:** This field can be overwritten by the **Sender Name** field in Notification Settings (on page 31).
Creating a connection profile

This procedure describes how to create an MFT connection profile in the Control-M Configuration Manager, which enables you to define a File Transfer job in the Control-M.

**NOTE:** If you are defining a connection profile for MFT Enterprise B2B on the File Transfer Server (Hub), you must define it as SFTP.

**Before you begin**

If you want to use key authentication to access an SFTP server, you need to generate an SSH key, as described in Generating SSH keys.

To create a connection profile:

1. From Control-M Configuration Manager, select the **Control-M Managed File Transfer** on the host that you want to manage and right-click **Connection Profile Management**.
   
   The **Managed File Transfer - Connection Profile Management** dialog box appears.

2. Click the **Add** icon.

   The **Add Connection Profile** dialog box appears.

3. In the **Connection Profile Name** field, type the name of the connection profile that you want to add (The connection profile name must begin with a letter and without any blanks or special characters).

4. In the **Connection Profile Type** area, select one of the following:
   
   - **File transfer single endpoint**: Transfers files from the host defined in this connection profile to hosts defined in multiple connection profiles. Select this option if you want to reuse this connection profile to transfer files to different hosts.
   
   - **File transfer dual endpoint**: Transfers files between two specific hosts defined in this connection profile.

   - **File transfer group**: See Creating a file transfer group connection profile.

5. In the **Control-M Users** table, do one of the following:

   a. To select users from the list, select the users that you want to allow access to this connection profile, click **Add**, and then click **Next**.

   b. To add users or groups manually, click **Add Manually**.

      The **Authorized User or Group** dialog box appears.

      a. In the **Add EM user or group** field, type the name of the user or group you want to add.

      b. In the **Type** area, select **User** or **Group**

      c. Click **OK**.

      **NOTE**: Wildcard characters (* and?) can be used as part of a defined Control-M/EM user or group. The **Set Host1 details** dialog box appears.

6. For each field, type the required value, as described in Control-M for MFT connection profile parameters.

7. If you have defined this host as a Local CM, continue to step 8, otherwise, in the Communication Protocol area, select one of the following options, and then click **Next**:  

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Defining a File Transfer job

This procedure describes how to define a File Transfer job, which enables you to watch and transfer files from a local host to a remote host, a remote to a local host, or a remote host to another remote host.

Before You Begin

Ensure that you have met the following requirements:

- A configured Control-M Managed File Transfer connection profile, as described for the Control-M MFT Connection profile management.
- Successful completion of Accessing the MFT job properties pane.

➢ To define a File Transfer job:

1. In the **General** tab, from the **Connection Profile** field, click **...**. The **Select Connection Profile** dialog box appears.

2. In the Connection Profile Type area, select one of the following:
   - **Endpoint1 <-> Endpoint2**: Shows connection profiles that are defined with two hosts. Select this option if the source and destination locations are defined in the same connection profile.
   - **Two Single Endpoints**: Shows connection profiles that are defined with one host. Select this option if the source and destination locations are defined in separate connection profiles.
     
     **NOTE**: If you are transferring a file to an external user, you must select the connection profile that is connected to the Hub that uses an SFTP protocol.

3. Select the connection profile(s) that you want to use to transfer files, and click **OK**.
4. In the Transfers area, do the following:
   a. In the Transfers area, in the first field browse for the file, directory, or library to transfer. You can also type the path manually.
      
      **NOTE:** If you are transferring a file to an external user, you must type in the B2B Subfolder home directory (example: /b2bhome) that is defined in MFT Enterprise B2B settings, as described in General Settings (on page 24).
   
   b. In the second field, browse for the file, directory, or library to transfer. You can also type the path manually. If you are transferring a file to multiple hosts, select one of the following:
      
      o **Home Directory:** Transfer the file to the home directory on each host.
      
      o **Common Destination Path:** Transfers the file to the same location on each host defined here.
      
      o **Different Destination Paths:** Transfers the file to different destinations on each host. Click and define each path by browsing to each file in File Selection or modify the locations in one view in Paths List.
   
   c. Select the transfer option, as described in Transfer options.
      
      **NOTE:** You can transfer up to five files at a time, but file transfers within a job are sequential, which means that if a file transfer fails, subsequent file transfer definitions are not performed, unless you select the Continue on failure checkbox, as described in Advanced general parameters.
      
      **NOTE:** If a transfer has CJK or Latin-1 characters in the filename, the Control-M/EM server and Control-M/Server databases must be compatible with this format.

5. From the Type drop-down list, select the transfer format.
   
   EBCDIC format is supported only when transferring files between two MVS FTP hosts.

6. Click Advanced.
   
   The Advanced dialog box appears.

7. Select the required options, as described in Advanced options, and click OK.

8. Select the optional parameters if required, as described in Optional parameters.

9. Click More.

   The Pre-execution Command and Post-execution Command fields are used to define specific commands to execute at the beginning or at the end of a job. These commands can only be executed on a computer where Control-M/Agent is installed, and the output of the commands (pre or post) appears in the job output.