Fleet Manager

Administrator's Guide

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Contents

Overview

Lexmark™ Fleet Manager is a suite of tools that helps organizations save costs and improve productivity by making printer usage and maintenance easy to manage.

The central server component of Lexmark Fleet Manager is the Lexmark Fleet Tracker 3 (LFT 3), which provides the primary user interface for the solution. Within this document, LFT 3 is referred to as the Fleet Tracker.

Lexmark Fleet Manager supports the following data collectors:

- Lexmark Remote Asset Manager
- Local Printer Management Agent
- Lexmark Fleet Tracker 2
- Lexmark Services Monitor
- Embedded Services Monitor

These data collectors track device and user data, and then roll them up to the primary Fleet Tracker or Managed Service Provider. For more information, see the documentation for each data collector.

To manage printing environments effectively, Lexmark Fleet Manager can do the following:

- Monitor devices.
- Calculate printing costs from a corporate, group, or cost-center perspective, and account for other printing cost factors, such as downtime, maintenance, storage space, and supplies.
- Provide graphical reports of printer usage, including the number of jobs and pages printed, the number of printers used, energy consumption, and supplies costs.
- Manage printer servicing, including printer maintenance schedules, automated e-mail alerts for printer supply levels, and service tickets.

This document provides instructions on how to configure, use, and troubleshoot the Fleet Tracker.

Getting started

System requirements

Hardware requirements

Processor	Intel Core i7 processor or equivalent (such as the Intel Xeon processor E5 product family, which uses the Hyper-Threading Technology).
RAM	At least 6GB
Hard disk drive	At least 50GB

Note: We recommend backing up the database regularly and implementing a data retention policy of at least every 12 months.

Supported Microsoft® Windows® operating systems

- Windows Server® 2016
- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2

Supported databases

- Oracle Database 12c Enterprise Edition
- Oracle Database 12c Standard Edition
- Oracle Database 11g Express Edition
- Oracle Database 11g Standard Edition One
- Oracle Database 11g Standard Edition
- Oracle Database 11g Enterprise Edition
- PostgreSQL

  Note: PostgreSQL database is no longer supported in new Fleet Tracker installations, but it is still supported when you upgrade to Fleet Tracker version 3.10.

Supported web browsers

- Google Chrome™ version 34.x or later
- Mozilla Firefox version 28.x or later

Setting up the database

Before you begin, make sure that the Oracle database is installed. For more information, see the documentation for Oracle.

Notes:

- When you install the Oracle database, make sure that the Global Database Name and System Identifier (SID) are the same.
- Note down the global database name, URL or IP address, user name, and password. These data are required during the Fleet Tracker installation.
- Make sure that the Oracle administrator account and password are set up during the Oracle installation.

Before you install the Fleet Tracker, you must create two database schemas by doing the following:

1. Save the createORA.sql file to a temporary directory.
2. Run the command prompt as an administrator.
3. At the command prompt, navigate to the temporary directory, and then type the following:

   `sqlplus oracleadmin/oraclepassword @createORA.sql` ***`ID PW`***

   Where ***`ID`*** and ***`PW`*** are the database user ID and password. The Fleet Tracker server uses these credentials to access the database. You must not use the same administrator credentials for the Fleet Tracker server or Oracle server.

Note: The Oracle script creates two Oracle users needed for the Fleet Tracker installation. After running the script, make sure to reboot the Oracle server.

Configuring remote database connection

You may need to set up a connection to the Fleet Tracker database from a computer that does not have the solution installed. This setup is required when using a tool to create reports, such as the PENTAHO® software Pentaho Report Designer.

1. During the Oracle database installation, set the Global Database Name and System Identifier (SID) to **`orcl`** or **`xe`**.
2. During the Fleet Tracker installation, from the Oracle database connection settings, in the Database URL field, type the following:

   `IP_address`**`:1521/orcl`**

   Where ***`IP_address`*** is the IP address of the database server. The listening port of the Oracle database is 1521.

Installing the Fleet Tracker

Notes:

- PostgreSQL database is no longer supported in new Fleet Tracker installations, but it is still supported when you upgrade to Fleet Tracker version 3.10.

- Make sure that you have administrative privileges to the server where you are installing the Fleet Tracker

1. Launch the Fleet Tracker installer.
2. Click **Next**, and then accept the license agreement.
3. Select a location for the installation, and then click **Next**.
4. Specify the database information that you created when you set up the database.
5. Click **Next**, and then wait for the installation to complete.
6. Click **Close**.

Note: Make sure that the Lexmark Fleet Tracker service is running. The Lexmark Fleet Tracker Licensing service does not run until you have uploaded a license file to the Fleet Tracker.

Accessing the Fleet Tracker web page

Note: Make sure that the firewall settings are configured to allow access to the Fleet Tracker.

1. Open a web browser, and then type the Fleet Tracker IP address.

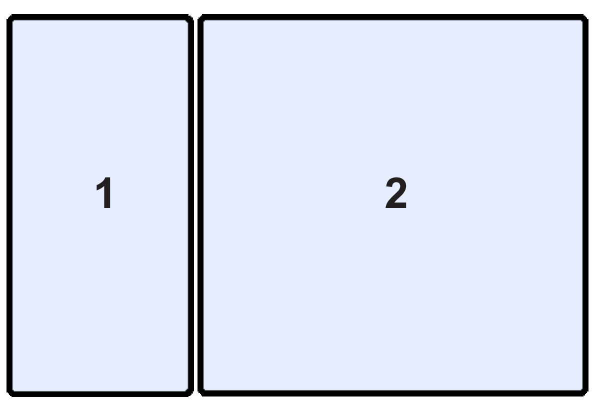
   Note: If you are not using port 80, then add a colon and the port number to the URL. For example, `123.123.123.123:90`

2. Enter your credentials. The default user name is `admin` and the default password is `Administrator1`. The default password must be changed after the first login.

   Note: We recommend adding at least two super administrators as backup. For more information on user roles and adding new users, see “Configuring user access” on page 11.

Understanding the web page

The Fleet Tracker web page is the primary interface for monitoring devices, managing policies, and generating reports. The web page is customizable.



Section		Description
1	Groups pane	Controls the scope of the content pane, and manages clients and groups. **Note:** When rolling up data from the data collector to the Fleet Tracker server, the client address details are rolled up to the group level.
2	Content pane	Provides access to specific information and configuration tasks using the tabs across the top of the right pane. **Note:** All content views can be customized. Columns can be reordered, added, or removed, and items can be sorted (ascending and descending), filtered, and grouped for each column values.

The following table explains the information and settings that you can access from the main content pane tabs.

Tab	Description
Devices	Lets you view and export the list of devices that the data collectors monitor. You can add or delete devices, move or copy devices into groups, and remove devices from groups.
Users	Lets you view and export a list of monitored users.
Print Queues	Lets you view and export print queues that the data collectors monitor.
Tickets	Lets you view, export, and delete service tickets that are associated with a device.
Policies	Lets you view, create, edit, and delete device and group policies. You can specify how tickets and e-mail notifications are managed for several device-related events.
Inventory	Lets you view and export the number of devices and other device information for each printer model that the data collectors monitor.
Historical Data	Lets you view and export statistical data for device errors, job volumes, print usage, status, and supplies that are collected within a specified time period. You can create, edit, or delete custom views.
Reports	Lets you generate, schedule, export, and view reports. You can also view and delete archived reports.
Data Collectors	Lets you manage data collectors and export a list of data collectors and their information. You can also configure the settings and delete data collectors along with the devices associated with them. **Note:** If multiple data collectors are rolling up data to a single client or group, then you can delete only the data collectors. The devices and print queues are not deleted.

Customizing search options

1. From the Fleet Tracker web page, in the Search menu, select the tabs that you want to include in your search.
2. In the Search field, type the text that you want to search for, and then click the search icon.

   Note: The search results appear in the content pane and a Search Results group is also created in the Groups pane. The most recent search results are saved until you log out.

Activating the Fleet Tracker license

When applying a license, specify which devices to monitor by changing its state to managed or unmanaged. The devices in these states are considered licensed devices. If you want to monitor more devices that exceed the number allotted by the license, then purchase more Fleet Tracker licenses.

Notes:

- Each license file is associated with a specific MAC address and works only for the server with that address. If your server has multiple MAC addresses, then make sure to associate license files with a MAC address that does not change.
- If you want to install the Fleet Tracker on a different server, then acquire new license files.
- For unlicensed devices, the collected data are not stored in the database. For unlicensed devices that were previously licensed, the data from the period during which they were licensed can be accessed in the historical data views.

To obtain a license file, provide your Lexmark representative with the MAC address of your Fleet Tracker server. Your representative uses the MAC address to generate a license file for your Fleet Tracker.

1. From the Fleet Tracker web page, click **System Configuration**.
2. From the Upgrades and Licensing tab, in the Apply New License section, browse to the license file.
3. Click **Apply** > **Close**.

Notes:

- As long as allotted devices are available for your license, newly discovered devices are set to a Managed state automatically.
- Unlicensed printers remain in Discovered state. You can change the state of devices from the Devices tab. For more information, see "Understanding device states" on page 20.

Upgrading the Fleet Tracker

1. From the Fleet Tracker web page, click **System Configuration** > **Upgrades and Licensing**.
2. From the Versions and Upgrades section, click **Check for Updates** > **Apply Updates**.
3. Click **Close**.

Note: The upgrade may take up to four hours, depending on the performance of the server and the number of devices monitored in the Fleet Tracker.

Configuring the Fleet Tracker

Configuring server settings

1. From the Fleet Tracker web page, click **System Configuration** > **Server**.
2. Configure the following settings:
   - **Bind Address**—If the Fleet Tracker server has multiple network cards, then specify the IP addresses where you want the web page to be accessible. If you want to make all IP addresses accessible, then leave this field blank.
   - **Session Timeout**—Specify the number of minutes a user stays logged in to the Fleet Tracker web page before the connection times out.
   - **Server Port**—If you want to receive data on the server port, then select this option and specify the port number. We recommend setting it to port 80, which is the default value.
   - **Secure Port**—If you want to receive data that is secured using SSL encryption, then select this option and specify the port number. We recommend setting it to port 443, which is the default value. This option is available only if you upload a root certificate along with a signed certificate to the server.
3. Click **Save**, and then click **Yes** to restart the server.

   Note: The changes take effect after the server restarts.

Configuring e-automate connections

e-automate is a third-party application that helps customers manage common business processes, like inventory control and billing. The Fleet Tracker can be integrated with e-automate so that the application can use the Fleet Tracker data.

Note: In order for the Fleet Tracker data to integrate correctly with e-automate, first configure the printer assets in e-automate. Make sure that the e-automate asset serial number matches the device serial number.

1. From the Fleet Tracker web page, click **System Configuration** > **System Integration**.
2. From the e-automate section, click +. A new connection is added to the list of connections.
3. In the right pane, enter the appropriate information in each tab to configure the connection.
   - a. In the Connection tab, enter the information that allows the Fleet Tracker to connect to e-automate.
     - **Connection Name**—Type a name for the e-automate connection.
     - **Username**—Type the user name that allows access to e-automate.
     - **Password**—Type the password that allows access to e-automate.
     - **Company ID**—Type the company ID associated with the e-automate server.
     - **Server Address**—Type the IP address of the e-automate server.
     - **Port**—Enter the port number on which the Fleet Tracker data is sent to e-automate.
     - **Web API**—Type the web API used with the e-automate server.
     - **API Version**—Enter the web API version number.
   - b. In the Group Access tab, select the groups whose data is shared with e-automate over this connection.
   - c. If necessary, configure the meter mapping in the Mapping tab.

Notes:

- Make sure that the default values have not been changed in e‑automate. These values must match the meter fields used in e‑automate for the data to be integrated properly.
- If you do not want to send meters to e‑automate, then from the Enabled column, clear the check box for each meter.
- If you want to send meters only to e‑automate and it has a value other than zero, then from the Non‑Zero column, select the check box for each meter.

4 Save the connection credentials.

5 Initiate a data transfer to e‑automate. Do either of the following:

- To initiate a one‑time data transfer, click **Send data to e‑automate now**.

  After the transfer is complete, refresh the connection pane. The Last Transfer column in the e‑automate tab is updated with the appropriate time stamp.
- To schedule a recurring data transfer, select **Transfer Enabled**. Use the Transfer Time field to specify whether to send the data daily, weekly, every other week, or monthly. Specify the hour of the day (0–23 in 24‑hour time) for the transfer to occur.

Note: Failed transfers do not appear in the Last Transfer column. To identify the cause of failure, check the error logs from the **LFM.log** file on the server. You can also get more information from the e‑automate columns in the Devices tab.

6 If necessary, save the connection credentials.

7 Click **Close**.

Note: When the Fleet Tracker completes a data transfer to e‑automate for a given connection, the Last Transfer column in the e‑automate tab is updated. Likewise, the "e‑automate update time" column in the Devices tab is updated for the devices from which data is sent.

Configuring user access

From the System Configuration dialog box, you can add or remove users, update user information, and set up group‑level access.

1 From the Fleet Tracker web page, click **System Configuration** > **Users**.

2 From the Users pane, click .

Note: You can edit or delete users.

3 In the General Information tab, specify the user information, and then select a role.

Note: If you want the user to receive notifications only and not log in to the web page, then clear **Enabled**.

4 If you want the user to receive e‑mail notifications, then in the Contact Information tab, enter the contact details.

5 In the Group Access tab, select the groups that you want the user to have access to. Granting access to a group also provides access to all the child groups under it.

6 Click **Save** > **Close**.

Assigning user roles

You can assign one of the following roles to a user:

- **Super Administrator**—Super administrators have full access to all parts of the Fleet Tracker web page but cannot change their own group access or delete their user account.
- **Administrator** —Administrators can update user information for groups they have access to, but cannot add or delete super administrator accounts.
- **Technician**—Technicians can view data and manage tickets for any groups that they have access to. They can also edit their own general and contact information. Technicians cannot perform any configuration tasks from the Fleet Tracker web page.
- **Customer Manager**—Customer managers have privileges similar to technicians. They can view data and create tickets. They can also create new historical data views and generate and schedule reports, but they cannot archive the reports or share the historical views.
- **Customer Viewer**—Customer viewers can view the data for the groups to which they have access to. However, they cannot make any configuration changes or create any new historical views, reports, or tickets.
- **API**—API users can only make calls to the Fleet Tracker Open API REST interface; other users cannot do the same. These users cannot access the Fleet Tracker web page. Calls made to the API by API users only return the data for groups that they have access to.

The following table further illustrates the permissions of each user role.

	Super administrator	Administrator	Technician	Customer manager	Customer viewer	API
System Configuration	Unlimited	Can only edit users, vendors, and system integration **Note:** In the e-automate section, administrators can modify only their group information.	Can only edit personal information	Can only edit personal information	Can only edit personal information	No access
Groups pane	Unlimited	Unlimited	No access	No access	No access	No access
Devices tab	Unlimited	Unlimited	View	View	View	No access
Users tab	Unlimited	Unlimited	No access	View	View	No access
Print Queues tab	Unlimited	Unlimited	View	View	View	No access
Tickets tab	Unlimited	Unlimited	View and edit; cannot delete	Unlimited	View	No access
Policies tab	Unlimited	Unlimited	No access	No access	No access	No access
Inventory tab	Unlimited	Unlimited	View	No access	No access	No access
Historical Data tab	Unlimited	Unlimited	Unlimited	Cannot share custom views	View	No access
Reports tab	Unlimited	Unlimited	No access	No access	No access	No access

	Super administrator	Administrator	Technician	Customer manager	Customer viewer	API
Data Collectors tab	Unlimited	Unlimited	View	No access	No access	No access
Make API calls	No access	No access	No access	No access	No access	Unlimited

Notes:

- Users of all roles are prohibited from changing their own user ID and role.
- Users of all roles can view only the data or configuration tasks for groups to which they have been given access by a super administrator.

Adding a vendor

In the Fleet Tracker, vendors are organizations that are responsible for the upkeep of your devices. Most technicians who service your printers belong to a vendor. You can manage your vendors from the System Configuration section and assign tickets to them. Creating vendors lets you send maintenance tickets consistently to the same organization. You can also confirm that a specific organization is handling all the upkeep of a group of devices.

1. From the Fleet Tracker web page, click **System Configuration** > **Vendors** > **New Vendor**.
2. From the General Information tab, specify the appropriate information.
3. From the Branch Offices tab, click **New Branch Office**, specify the appropriate information, and then click **Ok**.
4. From the Technicians tab, click **Add Technician**, specify the appropriate information, and then click **Ok**.

   Note: Add technicians in the Users section before assigning them to a vendor. For more information, see "Configuring user access" on page 11.
5. Click **Ok**.

Configuring e-mail notifications

Notes:

- Only super administrators can configure the e-mail notifications.
- To get your e-mail server information, contact your e-mail provider. To view examples of e-mail server settings for some common e-mail providers, see "Appendix A: Common e-mail server settings" on page 36.

1. From the Fleet Tracker web page, click **System Configuration** > **E-mail Notifications**.
2. From the E-mail Server section, configure the following:
   - **SMTP Gateway**—Type the IP address or host name of the server used for sending e-mail.
   - **SMTP Gateway Port**—Enter the port number used for sending e-mail. The default is port 25.
   - **User ID**—Type the e-mail address that you want to use for sending the e-mail.
   - **Password**—Type the password for the e-mail address.

3 Do one or more of the following:
   - To add SMTP properties, click **Advanced Settings**, configure the properties, and then click **Ok**.

     Note: Each SMTP property consists of a name-value pair.
   - To specify a sender e-mail address other than the default, in the "From" E-mail Address field, type the e-mail address.
   - To specify a reply e-mail address other than the default, select **Use a different e-mail address for "Reply-To,"** and then type the e-mail address.
   - To validate the e-mail server configuration, click **Test E-mail Server**.

4 Click **Save**.

Configuring rollup by e-mail

Enabling rollup by e-mail

By default, rollup by e-mail is disabled during the Fleet Tracker installation. To enable this feature, do the following:

1 From the Fleet Tracker server, navigate to **C:\Program Files\Lexmark\Fleet Tracker\server\webapps\ROOT\WEB-INF\classes**.

2 Open the lfm-config.properties file by using a text editor.

3 Add the following property element:

```
emailrollup.UI.show=true
```

4 Restart the Lexmark Fleet Tracker service.

Configuring the settings

Warning—Potential Damage: The e-mail address must be used only for the Fleet Tracker server. After an e-mail rollup, the Fleet Tracker deletes all the e-mails from the inbox, including e-mails that were sent by Lexmark Remote Asset Manager. To protect your personal information, do not use the e-mail for other purposes.

1 From the Fleet Tracker web page, click **System Configuration** > **Rollup by E-mail**.

2 Select **Enable rollup by e-mail**.

3 From the E-mail Configuration section, configure the following:
   - **Protocol**—The protocol for incoming e-mails.
   - **Provider**—The server URL of the e-mail provider, depending on the selected protocol.
   - **Port**—The server port number of the e-mail provider, depending on the selected protocol.
   - **User ID**—The e-mail user ID.
   - **Password**—The e-mail password.
   - **Security**—The security protocol for accessing e-mails on a secured connection.
   - **Email Monitoring Schedule**—The schedule for checking e-mails that triggers sending of data from the e-mail to the server. When a rollup is done, e-mails are deleted from the e-mail account and only unread e-mails are queued for the next rollup.

4 Click **Save**.

Customizing e-mail messages

You can customize the content and style of the e-mail messages that the server sends as notifications. Use the Groovy Server Pages (GSP) templates on which the messages are based.

You can do one or more of the following:

- Add variables that tie into back-end Fleet Tracker data to populate the message with appropriate content.
- Structure your content using styles.
- Add images, such as your organization logo.
- Introduce conditional logic to create dynamic messages.

For more information and tips on customizing e-mail messages using the GSP templates, see "Appendix B: Understanding GSP e-mail templates" on page 37.

Managing pricing and costs

Customer pricing and partner cost information can be configured at both the group and device level. Customer pricing information lets you specify how you charge customers for a device or group of devices. Likewise, partner cost information lets you specify the costs associated with monitoring a device or group of devices. As with policies, devices within a group inherit the group pricing and cost information, but changes to a specific device information override the group information.

1 From the Fleet Tracker web page, do either of the following:

Edit information for a group of devices

a From the Groups pane, select a group, and then click .

b Click **Customer Pricing** or **Partner Costs**.

Edit information for a device

a From the Devices tab, click the name of the device.

b Click **Customer Pricing** or **Partner Costs**, and then click **Edit**.

2 Enter the pricing or cost information. The Customer Pricing fields are associated with what you charge the customer, and the Partner Costs fields are associated with your own costs.

- **Purchase Order**—Enter the order number.
- **Acquisition Date**—Enter the date when the device was acquired.
- **Acquisition Type**—If you select **Purchase**, then enter the initial payment. If you select **Lease** or **Rental**, then enter the buyout price, initial payment, final payment, monthly payment, and the number of payments required.

3 From the Contract section, select **Schedule Event**, and then configure the following:

- **Expiration Notice Date**—Enter the date when the contract expires. The expiration occurs at 8:00 AM on the specified date.
- **E-mail Notification**—Select a user who should receive an e-mail notification for this event.
- **Notify Before**—Specify when to send the notification before expiration.

4. From the Page Count section, configure the following:
   - **BW Allowance**—Enter the number of allotted black-and-white pages.
   - **BW Rate/Page**—Enter the base-level price per black-and-white page. This rate can be used if you want to charge customers or track your costs according to per-page usage, rather than a flat monthly rate.
   - **Color Allowance**—Enter the number of allotted color pages.
   - **Color Rate/Page**—Enter the base-level price per color page. This rate can be used if you want to charge customers or track your costs according to per-page usage, rather than a flat monthly rate.
   - **BW Overage Rate/Page**—Enter the price per black-and-white page over the allotted number.
   - **Color Overage Rate/Page**—Enter the price per color page over the allotted number.
5. In the Maintenance Payment menu, select the pricing model used to bill maintenance, and then in the Maintenance Cost field, enter the maintenance price.
6. Click **Save** > **Close**.

Managing devices

Grouping printers

Creating a printer group

Create printer groups and clients to simplify the monitoring of printer usage and the generation of reports. Clients and groups function similarly, although they vary in their definitions. Clients are used to organize printers and groups for a single customer, and you cannot nest a client under a client. Groups can be used to organize printers, clients, and other groups.

1. From the Fleet Tracker web page, in the Groups pane, click .

   To edit a group, select the group, and then click .

2. From the General Information tab, type the appropriate information.

   Note: The Name field is required.

3. From the Customer Pricing tab, type the pricing information that you want to associate with the new group.
4. Click **Save** > **Close**.

Moving or copying devices to groups

1. From the Fleet Tracker web page, in the Devices tab, select one or more devices.
2. Do either of the following:
   - Click **Move**, and then select the group to which you want to move the devices.

     Note: You can also click and drag the devices to a group in the Groups pane. Moving a device to another group removes it from the group it is in, depending on the level of the destination group.

   - Click **Copy**, and then select the group to which you want to copy the devices.

In customer environments, some devices may be moved from one location to another. A device can be associated with its new group automatically during a rollup. The following scenarios show how the Fleet Tracker manages the device when it is moved to another location:

- Scenario 1: A device is associated with one group.

  If the device is rolled up from a different data collector, then the device is moved to a new group automatically. Only the most recent data are added to the new group, and the historical data are removed from the old group.

- Scenario 2: A device is associated with multiple groups.

  If the device is associated with a group that contains multiple subgroups, then all instances of the device are removed from the old group and subgroups. Only one instance of the device appears in the new group that corresponds to the data collector from where the most recent data are rolled up.

- Scenario 3: A device is rolled up from Local Printer Management Agent.

  If the device was rolled up previously from Lexmark Services Monitor or Lexmark Fleet Tracker 2 and the device status is online in the Fleet Tracker, then the device is not added to the Local Printer Management Agent group. If the device status is offline in the Fleet Tracker, then the device is moved to the new group automatically. The connection type of the device changes from network to USB, and all other device data for Local Printer Management Agent are updated accordingly.
- Scenario 4: A device is moved to a different group manually after being moved automatically.

  The next rollup from the same data collector does not override the manual move. If the next rollup is from a different data collector, then the device is moved to a new group automatically.
- Scenario 5: A device is rolled up from a data collector without a site location.

  If a data collector does not have a site location, then the device is rolled up to a client instead of a group. A user may create a group under the client, and then copy a device from the client to the group. If the data collector in the next rollup has a site location, then the device appears under a new group that represents the site location. The device is removed from the client, but the copy of the device from the user-created group under the client is retained.

  Note: All devices that were moved automatically are highlighted in gray for the next 15 days after the first rollup. If the devices are copied to other groups manually after being moved automatically, then all the groups associated with those devices are highlighted.

Removing devices from groups

Note: When you access the Fleet Tracker web page, make sure to log in as an administrator.

1. From the Fleet Tracker web page, in the Groups pane, select a group.
2. From the Devices tab, select one or more devices.
3. Click **Remove from Group** > **Yes**.

Managing an individual printer

1. From the Fleet Tracker web page, in the Devices tab, click a printer.
2. Do one or more of the following:
   - From the Device Details tab, view information about the printer, including its location, supplies, input options, output options, and cover status.
   - From the Tickets tab, review, create, or delete tickets associated with the device.
   - From the Policies tab, create, edit, or delete the device policy.
   - From the Customer Pricing and Partner Costs tabs, update the pricing and cost information for the device.
   - From the Historical Data tab, view archived information about the device.
   - From the Log tab, view the device log.

Notes:

- Generating reports is not supported at the device level.
- Changes made to settings at the device level override settings at the group level.

Adding a printer manually

1. From the Fleet Tracker web page, in the Devices tab, click **New Device**.
2. Enter the appropriate information for the printer.

   If necessary, add another printer.
3. Click **Ok**.

Note: Devices that are added manually are set to storage state. Data is not collected from devices that are added manually unless a data collector discovers these devices.

Adding an alternate printer serial number

1. From the Fleet Tracker web page, in the Devices tab, click any column menu.
2. Mouse over the **Columns** option, and then select **Alternate Serial Number**.
3. In the Alternate Serial Number field for a printer, click the empty cell to reveal a text box, and then enter the alternate serial number. This value is saved when you leave the text box.

Notes:

- The alternate serial number does not replace the serial number that the Fleet Tracker automatically retrieves.
- The alternate serial number appears in the ticket details in the Tickets tab, and in the Device Serial Number column in the Historical Data tab. It also appears in the e-mail notification.

Adding custom device fields

1. From the Fleet Tracker web page, in the Devices tab, click any column menu.
2. Click **Custom Columns** > .
3. Type a name for the new custom column, and then click **Ok**.
4. Click **Ok**.

Note: You can add values for custom fields in the Devices tab. For any printer, click the custom field cell to reveal a text box, and then type the value. This value is saved when you leave the text box.

Filtering devices

1. From the Fleet Tracker web page, in the Devices tab, click a column menu.
2. Mouse over the Filters option.

   Note: The filtering option may not be available in some column menus.
3. Specify the values that you want to filter.

   Note: For the System Uptime column, enter the number of days in decimals. For example, if the value is half a day or 12 hours, then type `0.5`.

Understanding device states

You can set the devices to one of the following states:

- **Managed**—These devices are monitored in the system, and the collected data are stored in the database. Managed devices count against the number of allotted devices in your license. When devices are discovered, they are set to this state automatically while your allotted devices last.
- **Unmanaged**—These devices are similar to managed devices, but can be classified according to whether you are charging for their use currently or in the future. Unmanaged devices count against the number of allotted devices in your license.
- **Discovered**—These devices have been discovered, but are not being actively monitored. The collected data are not stored in the database. Discovered devices do not count against the number of allotted devices in your license. If you exceed the number of allotted devices in your license, then newly discovered printers are set to this state.
- **Retired**—These devices are no longer in use, and no data is collected from them. You can set the devices to this state to keep them in the system for historical data. Retired devices do not count against the number of allotted devices in your license.
- **Storage**—These devices are currently not in use, and no data is collected from them. You can set the devices to this state to keep them in the system for future monitoring. Storage devices do not count against the number of allotted devices in your license.

To change the device state, do the following:

1. From the Fleet Tracker web page, in the Devices tab, select one or more devices.
2. Click **Edit State**.
3. In the State menu, select a device state.
4. Click **Ok**.

Note: If the device state is changed from Managed or Unmanaged to Retired, Discovered, or Storage, then the device row is highlighted in yellow. The values in some columns are no longer shown. When sorting or filtering devices by columns, the devices are listed in the same manner as when the values of the columns were still shown.

Understanding device statuses

In the Fleet Tracker, each device is associated with a device or printer status.

Device status

The device status refers to the current operational state of the device.

- **Running**—The device is operating normally.
- **Inactive**—The device is not active.
- **Warning**—An error has been detected but the device is still usable.
- **Down**—The device is not usable.
- **Unknown**—The Fleet Tracker cannot determine the device status.
- **Testing**—The device is in a testing state and cannot be used.

Printer status

The printer status refers to the current state of the printer portion of the device; multifunction products have features beyond just printing print jobs.

- **Idle**—The printer is idle.
- **Warmup**—The printer is in the process of warming up.
- **Printing**—The printer is in the process of printing a document.
- **Other**—The printer state could be in one of several miscellaneous states.
- **Unknown**—The Fleet Tracker cannot determine the printer status.

Managing policies

A policy lets you specify how ticket creation and e-mail notifications are handled for a number of device-related conditions and tasks. These events fall into three categories: service, maintenance, and supplies.

A master policy covers all devices and groups of devices, and can be customized as needed. You can also create a custom policy for a device or group, overriding the policy of any parent groups that the device or group belongs to.

Understanding policies

There are three types of policy events:

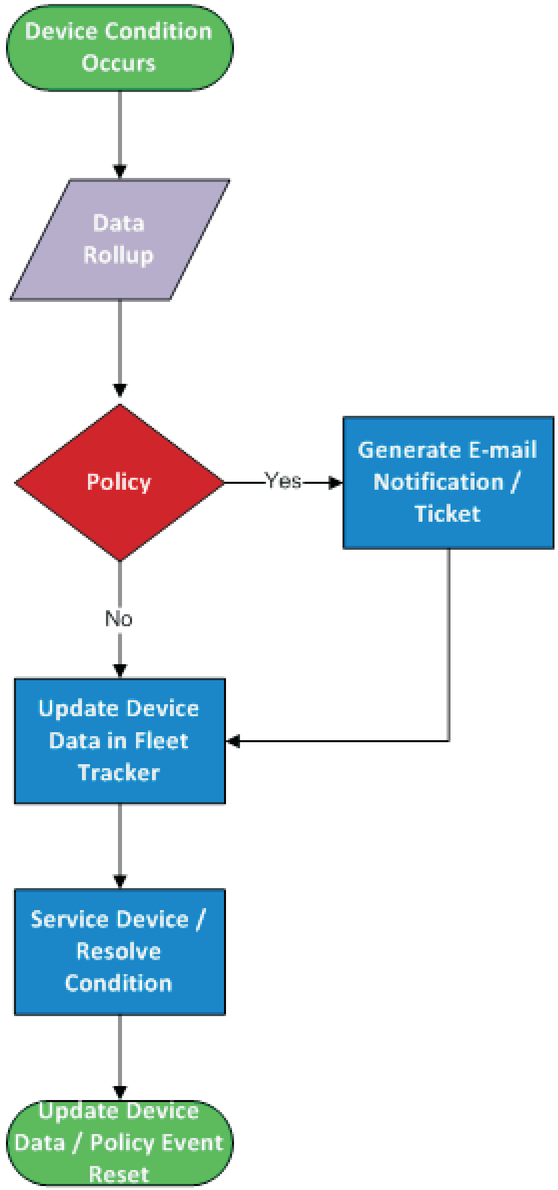
- **Service**—Lets you specify how to handle device conditions that require service (for example, jammed devices and empty trays).
- **Maintenance**—Lets you schedule maintenance activities and specify how to handle them (for example, replace fuser, replace toner).
- **Supplies**—Lets you specify how to handle supplies-related device conditions (for example, paper out, waste toner bottle level alert).

You can configure what happens when each policy event is triggered using the following:

- **Event Scheduling**—Lets you schedule a maintenance activity (by date or page count). You can also set the event to recur.
- **Ticket Creation**—Lets you configure when tickets are created before or after an event is triggered. You can also set the priority level, assign the ticket to a vendor, or add more information in the notes field.
- **E-mail Notification**—Lets you configure when e-mail notifications are sent before or after an event is triggered.

When the Fleet Tracker receives a new data rollup, device conditions such as changes in usage or status trigger policy events. The policy event is triggered the first time the condition is detected and is not retriggered until the condition is resolved. So if the condition persists for subsequent rollups, then no new e-mail notifications or tickets are generated until the condition is reset and occurs again.

The following flowchart illustrates the life cycle of a device condition as it applies to policy events (maintenance events not included):



You can trigger policies either by date or by rollup. Scheduled maintenance policies occur at the specified date. Rollups trigger all other policies. After the data from a rollup is saved, all newly discovered devices are evaluated to see if any policy conditions are met. Tickets and e-mails are generated as indicated by the device policies. If a ticket or e-mail is generated, an internal flag is set to avoid duplicate tickets and e-mails.

Creating a group policy

1. From the Fleet Tracker web page, in the Groups pane, select the group of devices for which you want to create a policy.
2. Click **Policies** > **New Policy** > **Customize Policy**.

3 Customize the policy for the appropriate service, maintenance, and supply events.

4 Click **Ok**.

Creating a device policy

1 From the Fleet Tracker web page, in the Devices tab, click the name of the device.

2 Click **Policies** > **New Policy** > **Customize Policy**.

3 Customize the policy for the appropriate service, maintenance, and supply events.

4 Click **Ok**.

Editing a policy

1 From the Fleet Tracker web page, in the Policies tab, select a group or client to which the policy is assigned.

Note: The policy events are organized according to their types in the Service, Maintenance, or Supplies tabs.

2 Click the event and edit the policy settings.

3 Click **Ok**.

Managing service tickets

Creating a device service ticket

In most cases, tickets are automatically generated as a result of a group or device policy event. You can create service tickets manually only for a single device at a time.

1. From the Fleet Tracker web page, in the Devices tab, click the name of the device for which you want to create a ticket.
2. Click **Tickets** > **New Ticket**.
3. Enter the appropriate information.
4. Click **Ok**.

Updating a service ticket

1. From the Fleet Tracker web page, in the Tickets tab, click the ticket number.
2. From the General Information tab, make the necessary changes, and then click **Save**.
3. From the Technician Visits tab, add details about a new visit, or update the information of an existing visit.
4. To return to the main Tickets tab, click **All Groups**.

Managing data and reports

When you view historical data by group or generate reports by group, make sure that one of the following is selected in the Groups pane:

- All groups containing at least one client or group
- A client containing one group as a site location
- A group containing another group

Note: A device that was moved out of a group may be rolled up again to the same group automatically. This instance causes two rows for the same device to appear in the historical data or reports. The period of when the device is associated to a group is not captured in historical data or reports.

Understanding date ranges

When viewing the historical data or generating reports, you can select one of the following predefined date ranges from the Time Period menu:

- **Last 30 Days**—Shows data from the previous 30 days until the current date
- **Last 90 Days**—Shows data from the previous 90 days until the current date
- **Last Week**—Shows data from the previous week starting on a Sunday and ending on the last Saturday
- **Last Month**—Shows data from the previous calendar month excluding the month of the current date
- **Last Quarter**—Shows data from the previous quarter excluding the quarter of the current date
- **Last Year**—Shows data from the previous calendar year excluding the year of the current date
- **This Week**—Shows data from the last Sunday until the current date
- **This Month**—Shows data from the first day of the current month until the current date
- **This Quarter**—Shows data from the first month of the current quarter until the current date
- **This Year**—Shows data from January 1 of the current year until the current date

For historical data, if you select an option that includes a date range in the View menu, then the data shown for the time period changes. The historical data view covers the full weeks, months, quarters, or year that fits into the specified time period.

For example, on October 8, a user selects **Supplies by Quarter** in the View menu and **Last 30 days** in the Time Period menu. The last 30 days start from September 7 to October 8, which falls under the third quarter (July to September) and fourth quarter (October to December). In this case, viewing the historical data shows supplies data from July 1 to October 8.

Viewing historical data

Creating views

You can create flat table views to review archived data for a specified period. In a flat table, each row represents one item, such as a device. The columns are pieces of information associated with each item, such as IP address, toner levels, and status.

1. From the Fleet Tracker web page, in the Historical Data tab, click .
2. Type a descriptive name for the view.

   Note: You can also edit or remove views.
3. Select the item that you want the rows to represent, such as a device, group, or supply.
4. Select and arrange the columns. Use the arrows to move items from the Available list into the Selected list.
5. If you want this view to be available to other users, then select **Shared**.
6. Click **Ok**.

Selecting a view

1. From the Fleet Tracker web page, in the Historical Data tab, click the View menu, and then select a predefined view.
2. From the Time Period menu, select the date range that you want the view data to cover.

   Note: If you select **Custom Date Range**, then specify the dates in the From and To fields.
3. Click .

   Note: You can also export the historical data view into a CSV file.

Managing reports

Understanding reports

Predefined reports

- **Consumed Supplies (CSV)**—Lists the supplies that were replaced for each device within a specified period
- **Days Until Empty Summary by Current Cartridge**—Shows a summary of the estimated number of days remaining until the supply is empty based on the current cartridges
- **Days Until Empty Summary by Device Lifetime**—Shows a summary of the estimated number of days remaining until the supply is empty based on the old and current cartridges
- **Days Until Empty Summary by Device Time Span**—Shows a summary of the estimated number of days remaining until the supply is empty based on the old and current cartridges within a specified period
- **Days Until Empty by Current Cartridge**—Lists the estimated number of days remaining until the supply is empty for each device based on the current cartridges
- **Days Until Empty by Device Lifetime**—Lists the estimated number of days remaining until the supply is empty for each device based on the old and current cartridges

- **Days Until Empty by Device Time Span**—Lists the estimated number of days remaining until the supply is empty for each device based on the old and current cartridges within a specified period
- **Inventory by Group (CSV)**—Lists the number of devices, the uptime percentage, and the recent percentage of reporting devices in each group within a specified period
- **Supplies by Device (CSV)**—Lists the supplies usage for each device within a specified period
- **Volumes by Device (CSV)**—Lists the print, copy, fax, and scan page volumes for each device within a specified period

Custom reports

You can create custom reports using the Pentaho Report Designer software. The following parameters are required in every report:

- **`entity`**—The ID of the device or group for which the report is run
- **`starttimestamp`**—The start date of the report
- **`endtimestamp`**—The end date of the report

The following keywords are also required to determine whether the report can be run on a group or a device:

- **`device`**
- **`group`**

Note: For more information on creating custom reports, see the help information for the Pentaho Report Designer software.

Generating reports

1. From the Fleet Tracker web page, in the Reports tab, select a predefined report.
2. If necessary, select a time period that you want to cover in your report.
3. Schedule, view, export, or e-mail the report.

Notes:

- You can edit, delete, or export current scheduled reports from the Scheduled Reports tab. You can also view and delete past reports from the Archived Reports tab.
- Details of scheduled reports show the local time zone from where the client is accessing the application.

Managing data collectors

Lexmark Remote Asset Manager

Understanding data collector statuses

- **Provisioned**—The data collector is ready to enroll to the server.
- **Running**—The data collector is enrolled and ready to send data to the Fleet Tracker server.
- **Unenrolled**—The data collector is no longer enrolled from the Fleet Tracker server and no data is sent to the server.
- **Uninstalled**—The data collector application is uninstalled.
- **Pending Deletion**—The data collector is removed from the Fleet Tracker server. This status applies to only data collectors that were previously in Running state. If the rollup connection is set to HTTP, then the data collector is deleted automatically in the next job schedule. If the rollup connection is set to e-mail, then the user must delete the database collector manually by clicking **Force Delete**.

Provisioning the data collector

1. From the Fleet Tracker web page, in the Groups pane, select a client or site location.
2. From the Data Collectors tab, click **New**.
3. In the General Information tab, type the name of the data collector, and then specify the contact details.
4. If necessary, in the Remote Asset Manager Settings tab, enable privacy.

   Note: This setting prevents the data collector from sending sensitive information, such as IP address, MAC address, contact name, and contact location.
5. Click **Create**.
6. Note the enrollment code or send it as e-mail.

   Note: Use the enrollment code to configure the rollup settings in Lexmark Remote Asset Manager. For more information, see the *Lexmark Remote Asset Manager Administrator's Guide*.

E-mailing the enrollment code

1. From the Fleet Tracker web page, in the Groups pane, select a client that contains a Lexmark Remote Asset Manager data collector.
2. From the Data Collectors tab, locate the data collector, and then click **Provisioned** in the Status column.
3. Click **Send as Email**.
4. In the E-mail Enrollment Code dialog box, do any of the following:
   - In the Find Users field, type the name of a user that has an e-mail address registered in the Fleet Tracker.
   - In the Other Recipients field, type one or more e-mail addresses. Use a semicolon to separate multiple e-mail addresses.
5. Click **Send**.

Reprovisioning the data collector

1. From the Data Collectors tab, locate the data collector, and then click **Uninstalled** or **Unenrolled** in the Status column.
2. Expand **Environment** to check the last enrollment details.
3. Note the enrollment code or send it as e-mail.

   Note: Use the enrollment code to configure the rollup settings in Lexmark Remote Asset Manager. For more information, see the *Lexmark Remote Asset Manager Administrator's Guide*.

Importing data

Notes:

- Make sure that the Lexmark Remote Asset Manager data collector is in a Running status.
- Make sure that the Lexmark Remote Asset Manager data is in JavaScript Object Notation (JSON) format.

1. From the Fleet Tracker web page, in the Groups pane, click **All Groups**.
2. From the Data Collectors tab, click **Import Data**.
3. In the Import Remote Asset Manager Data dialog box, browse to the JSON file.
4. Click **Import**.
5. When the validation is complete, click **Yes** to continue.
6. When the upload is complete, click **Close**.

Updating device support and application

1. From the Fleet Tracker web page, in the Groups pane, select a group or client.
2. From the Data Collectors tab, select one or more data collectors, and then click **Edit**.
3. In the Remote Asset Manager Settings tab, update device support, or check for and apply the application updates.

   Note: If you select **Enable Auto Update**, then the device support is updated automatically when an update is available. If you select **Update Now**, then the device support is updated immediately as long as an update is available.

Local Printer Management Agent

Configuring the settings

1. From the Fleet Tracker web page, in the Groups pane, select a client or group that contains a Local Printer Management Agent data collector.
2. In the Data Collectors tab, select a data collector, and then click **Edit**.

3 From the Local Printer Management Agent tab, configure the following:
  - **Job Report**—Sends job reports to the Fleet Tracker server on each specified day of the week, within the specified start time and end time. The repeat interval can be either in minutes or in hours, and the default setting is two hours. You can select one or more of the following information that you want to include in the job reports:
    - **Track User Printing**—Includes the user information.
    - **Include Document Names**—Includes the names of the printed documents.
    - **Track Local Printer Queues**—Monitors the printing activity of local (USB, DOT4, parallel, or serial port) printers.
    - **Track Networked Printer Queues**—Monitors the printing activity of network printers.
  - **Inventory Report**—Sends inventory reports to the Fleet Tracker server on each specified day of the week, within the specified start time and end time. The repeat interval must be at least one hour, and the default setting is three hours.
  - **Blackout Schedule**—Disables the communication between Local Printer Management Agent and the LFM server. This function is triggered on each specified day of the week, within the specified start time and end time. This setting is disabled by default.
  - **Remote Configuration**—Retrieves the Local Printer Management Agent configuration from the Fleet Tracker server on each specified day of the week. The repeat interval must be at least one minute, and the default setting is 12 hours.
  - **Software Update**—Checks software updates for Local Printer Management Agent on the Fleet Tracker server on each specified day of the week. The repeat interval must be at least one minute, and the default setting is 24 hours.

  Note: You can also configure the Local Printer Management Agent settings using a configuration file. For more information, see the *Local Printer Management Agent Administrator's Guide*.

4 Click **Save**.

Note: You can view or export the data that Local Printer Management Agent collects in the Print Queues tab.

Editing the data collector settings

Note: The edit option is unavailable when multiple data collectors of different types from the same group or from different groups are selected. You can edit multiple data collectors of the same type from different groups or clients, but some fields may not be available.

1 From the Fleet Tracker web page, in the Groups pane, select a group or client.

2 From the Data Collectors tab, select a data collector, and then click **Edit**.

3 Change the settings.

4 Click **Save**.

Frequently asked questions

How do I change my password?

1. From the Fleet Tracker web page, click **System Configuration** > **Users**.
2. Select your user name.
3. In the General Information tab, change your password, and then click **Save**.
4. Click **Close**.

What do I do if I forget my password?

Contact a super administrator to change your password. We recommend setting up at least two super administrators so that they can back each other up in editing the information of other users. If you have no super administrators set up, then contact customer support.

My network uses Novell software products for user authentication and printing (Micro Focus iPrint). Will the data collectors work in this environment?

Yes. If the printers are using TCP/IP, then the data collectors get page count and status information directly from the printers. If Windows operating system print definitions are used (outside Novell software environment), then user printing statistics can be obtained from desktops with parallel- or USB-connected printers.

What impact will the Fleet Manager components have on the network?

The Fleet Manager components have very little impact on network bandwidth. The SNMP probes and the returned data are a few packets at most, and the interval for polling devices and timeout settings can be customized.

What happens to my reports after upgrading the Fleet Tracker server?

Upgrading the Fleet Tracker server overwrites the existing predefined reports. Any customizations made to the predefined reports are lost. Custom reports are still available after the upgrade without any additional steps.

To avoid overwriting customized predefined reports, change the file names before upgrading the Fleet Tracker server. You can distinguish between the predefined reports and custom reports by changing the title of the custom reports using the Pentaho Report Designer software.

If the current database is compatible with the updated reports, then you can replace the new predefined reports with the old customized-predefined reports.

The old reports can be found at

***install_path*\webapps-bak-*timestamp*\ROOT\reports**

Where ***install_path*** is the installation path for the Fleet Tracker and ***timestamp*** is the time stamp for the update.

The current reports can be found at

***install_path*\server\webapps\ROOT\reports**

Where ***install_path*** is the installation path for the Fleet Tracker.

Note: Make sure to back up the new reports so that you can restore them if necessary.

Troubleshooting

Cannot install the Fleet Manager components

Try one or more of the following:

Log in with administrator privileges

Make sure that the installation procedures are performed correctly

Restart the computer after installing the database component

Contact your Lexmark representative

Cannot access the Fleet Tracker web page

Try one or more of the following:

Make sure that the Fleet Tracker service is running

1. From the Fleet Tracker server, open the Windows Run dialog box, and then type **`services.msc`**.
2. From the Services window, check the status of the Lexmark Fleet Tracker service.
3. Do either of the following:
   - If the status is “Started,” then right‑click **LexmarkFleetTracker**, and then click **Restart**.
   - If the status is not “Started,” then right‑click **LexmarkFleetTracker**, and then click **Start**.

Contact your Lexmark representative

Cannot upload a license file

Try one or more of the following:

Make sure that the license has not yet expired

Make sure that the license file is associated with the correct MAC address

If the number of devices in the Fleet Tracker exceeds the number of allotted devices in the license, then purchase more licenses

If you do not want to purchase more licenses, then delete some devices or change their states. For more information, see “Understanding device states” on page 20.

Contact your Lexmark representative

Appendices

Appendix A: Common e-mail server settings

E-mail providers usually recommend the following e-mail server settings for configuring outgoing e-mail with their services.

Notes:

- E-mail providers may change these settings at any time. Make sure that the configurations are still valid before implementing them in the Fleet Tracker.
- These settings may vary for your particular e-mail setup.
- E-mail providers may require the “from” e-mail address to match the e-mail address of the account to avoid sending spam e-mails.

Gmail

- SMTP Gateway—smtp.gmail.com
- SMTP Gateway Port—465
- User ID
- Password

Gmail SMTP properties

Name	Value
mail.smtp.auth	true
mail.smtp.socketFactory.port	465
mail.smpt.socketFactory.class	javax.net.ssl.SSLSocketFactory
mail.smtp.socketFactory.fallback	false

Outlook

- SMTP Gateway—smtp.live.com
- SMTP Gateway Port—587
- User ID
- Password

Outlook SMTP properties

Name	Value
mail.smtp.starttls.enable	true
mail.smtp.port	587

Yahoo Mail

- SMTP Gateway—smtp.mail.yahoo.com
- SMTP Gateway Port—465 or 587

- User ID
- Password

Yahoo Mail SMTP properties

Name	Value
mail.smtp.auth	true
mail.smtp.socketFactory.port	465
mail.smpt.socketFactory.class	javax.net.ssl.SSLSocketFactory
mail.smtp.socketFactory.fallback	false

Appendix B: Understanding GSP e-mail templates

GSP is a presentation language, similar to JavaServer Pages (JSP), that allows for much flexibility. It lets you mix HTML and GSP tags so that you can craft dynamic e-mail content and styles for your notifications. You can modify the message templates and can use any functionality that GSP makes available.

Variables are accessed in GSP files in the following format: **`${ objects.device.manufacturerName }`**. In this example, ***`objects`*** is the top-level object and ***`device`*** is its child. ***`manufacturerName`*** is the actual variable or property in the **`objects.device`** object that is returned.

Here are some helpful tips for customizing notifications using GSP.

- Some e-mail providers, such as Gmail™ webmail service, may ignore HTML styles that are included in the GSP templates. But if the HTML styles are embedded inline, then they are honored.
- If you are not sure whether an object is null, then use an "if/else" clause to check it before you show it. Or include the following logic in the variable statement: **`${ ticket?.technician?.displayname }`**. This logic ensures that if the ticket and technician objects are not null, then the display name field is returned.

For more information on GSP capabilities, see the appropriate Grails documentation, available online.

Updating GSP templates

The GSP templates used to generate e-mail messages come preconfigured on the Fleet Tracker server in the ***install_path*\server\webapps\ROOT\WEB-INF\grails-app\views\emails** directory. To customize the e-mail notifications that the Fleet Tracker sends, update the GSP files accordingly.

1. Access the Fleet Tracker server, and then navigate to ***install_path*\server\webapps\ROOT\WEB-INF\grails-app\views\emails**.
2. Open the GSP template that you want to update, make the necessary changes, and then save the file.

   Note: If you need to revert to predefined templates later, make sure to keep backup copies of the templates.

If the Fleet Tracker server detects changes in the templates, then it recompiles the GSP files. The next e-mail notification it sends uses the updated template.

There are five predefined templates that the Fleet Tracker uses to generate e-mail notifications. Each template has some specific objects associated with it and objects that are common across all templates that you can use to customize the content. The rest of this topic outlines what each template is used for and the data items that are available for them.

The following objects are common across all the GSP e-mail templates:

- **dictionary**—This object is used internally to translate text strings, primarily field names, into the appropriate localized text. There are no predefined child objects; instead, the developer defines them and they vary based on the implementation. This object is an extension to the strings that appear in **/i18n/index_ $*language*.properties**, where ***language*** is a language code, such as "en" or "de."
- **objects**—This object contains the "theme objects" of the e-mail (such as objects.device and objects.policy). Most of the data items that you use in the notifications are found in this object.
- **host**—This object contains the host name and host IP address of the server sending the e-mail. To access the fields, use "host.hostAddress" for the IP address and "host.hostName" for the host name.

The **PolicyDeviceEvent_*language*.gsp** template is used to generate e-mail notifications for policy events, as configured in the device policy. The following objects can be used in this template:

Object	Property	Data Type	Description
objects.device	.manufacturerName	String	Name of device manufacturer.
	.modelName	String	Model name of the device.
	.serialNumber	String	Serial number of the device.
	.contactName	String	Name of the contact for the device.
	.name	String	Friendly name of the device.
	.ipAddress	String	IP address of the device.
	.colorCapable	boolean	Returns true if the device is color capable.
	.accountCode	String	The client the printer belongs to.
	.tickets	array of Objects	Contains all tickets associated with the device. Each Object exposes the following properties: • .details (String) • .dateCreated (Date) • .lastUpdated (Date) • .dueDate (Date) • .dueTime (Date) • .technician (Object) • .technician.displayName (String) • .ticketId (String) • .status (String) • .priority (String)
	.port	Object	Exposes the .type (String) property.
	.lastDataCollection	Date	The last time rollup data was received from the device.
	.macAddress	String	MAC address of the device.
	.dnsHostName	String	DNS host name of the device.
	.assetTag	String	An optional identifier field; may be null.
	.firmware	String	Current version of firmware installed on the device.
	.engineCode	String	Engine firmware level of the device.

Object	Property	Data Type	Description
objects.policy	.problem	String	The event that triggered the policy notification.

The **PolicyGroupEvent_*language*.gsp** template is used to generate e-mail notifications for policy events, as defined in the group policy. The following objects can be used in this template:

Object	Property	Data Type	Description
objects.group	.name	String	Name of the group
	.notes	String	Informational text associated with the group
	.accountCode	String	Account code of the group
	.address1	String	The first line of the address where the group is located
	.address2	String	The second line of the address where the group is located
	.city	String	The city where the group is located
	.province	String	The province where the group is located
	.postalCode	String	The postal code for the group
	.country	String	The country where the group is located
	.email	String	The e-mail address associated with the group
	.telephone	String	The telephone number associated with the group
	.fax	String	The fax number associated with the group
	.contact	String	The name of the group contact
	.contactPhone	String	The telephone number of the group contact
	.contactEmail	String	The e-mail address of the group contact
objects.policy	.problem	String	The event that triggered the policy notification

The **CostForGroupExpiration_*language*.gsp** template is used to generate e-mail notifications for contract expiration at the group level. The **CostForDeviceExpiration_*language*.gsp** template is used to generate e-mail notifications for contract expiration at the device level. The following objects can be used in both of these templates:

Object	Property	Data Type	Description
objects.costs	.purchaseOrder	String	Identifier to track the actual purchase order for the specific group or device.
	.acquisitionDate	Date	Date of acquisition in MM/DD/YYYY format.
	.acquisitionType	String	Type can be “Purchase,” “Lease,” or “Rental.”
	.puchaseOption	float	Used to keep buyout price.
	.initialPayment	float	Initial payment.
	.finalPayment	float	Final payment.
	.monthlyPayment	float	Monthly payment.
	.numberOfPayments	Integer	Total number of payments.
	.expirationNoticeDate	Date	Date of expiration of the contract in MM/DD/YYYY format.
	.emailNotification	String	E-mail address associated with the selected user.
	.bwAllowances	Integer	Number of allotted black-and-white pages.
	.colorAllowances	Integer	Number of allotted color pages.
	.bwRatePerPage	float	Price per black-and-white page.
	.colorRatePerPage	float	Price per color page.
	.bwOverage	float	Overage price per black-and-white page.
	.colorOverage	float	Overage price per color page.
	.maintenancePayment	String	Maintenance payment can be “Annually,” Monthly,” “Quarterly,” or ”Cost Per Page.”
	.maintenanceCost	float	Maintenance cost.
objects.group			An object that, along with all its child objects, is available for **CostsForGroupExpiration_*language*.gsp.**
objects.device			An object that, along with all its child objects, is available for **CostsForDeviceExpiration_*language*.gsp**.

The final GSP template available for customization is **ReportEmail_*language*.gsp**, which is used to generate messages when reports are e‑mailed. The Fleet Tracker lets users print transparencies and does not make any objects available for this template. But users can still structure the style and presentation of the e‑mail using GSP.

The following GSP example shows how to filter data by using conditional logic. The e-mail message shows information about tickets that are created or updated as a result of the device alert, as determined by the time stamps. This example can be useful when a policy event triggers ticket creation, ticket changes, or e-mail notifications.

```
<g:each in="${objects.device.tickets}"
<g:if test="${ new Date().toTimestamp().toString().tokenize(".")[0] ==
it.dateCreated.toString().tokenize(".")[0]  || new
Date().toTimestamp().toString().tokenize(".")[0] ==
it.lastUpdated.toString().tokenize(".")[0] && it.status != 'statusClosed'}">
<div>
<h2>Open Tickets</h2>
<br><b>Ticket#:</b> ${ it?.ticketId }</br>
<br><b>Urgency:</b> ${ it?.priority } </br>
<br><b>Status:</b>  ${ it?.status } </br>
<br><b>Date Opened:</b> ${ it?.dateCreated } </br>
<br><b>Due Date:</b> ${ it?.dueDate } ${ it?.dueTime } </br>
<br><b>Assigned to:</b> ${ it?.technician?.displayname } </br>
<br><b>Details:</b> ${ it?.details }
</div>
</g:if>
</g:each>
```

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