



Communication Server 2100

# M3900/EXPEC Firmware Manager (MEFM) User Guide

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# Contents

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<b>New in this release</b>	<b>5</b>
<b>About this document</b>	<b>7</b>
<b>Introduction</b>	<b>9</b>
Background	9
Functional description	9
Security	10
Scheduler	10
Web interface	10
EXPEC load management	11
Integrated Element Management Systems (IEMS)	11
M3900 firmware maintenance	11
Logging	12
Database	12
Web server	12
Integration with the CS 2100 Network Management System (NMS)	12
System architecture	12
System requirements	13
MEFM application system requirements	13
MEFM Web Client requirements	14
<b>Installation and setup</b>	<b>15</b>
<b>Navigating the MEFM</b>	<b>17</b>
Administration (Admin)	17
Initial Login (Admin)	18
Admin Login	19
Adding a User	19
Admin update of user information	21
Admin deletion of user	22
Change password for Admin type user	23
Login and user administration	25
Initial Login for General and Guest type users	25
Login for General and Guest type users	25
User Logout	26

---

Changing passwords for General or Guest type users	26
EXPEC	26
Adding an EXPEC	27
Deleting an EXPEC	29
Editing an EXPEC	30
Verifying changes in EXPEC list	30
Get EXPEC file directory information on selected EXPECs	31
Determine available memory on the EXPEC	31
Release EXPECs that have been selected	32
Add a load to a selected EXPEC	32
Delete a firmware load from EXPEC list	33
Set a boot load on an EXPEC from the EXPEC list	33
M3900	34
Get EXPEC file directory information on selected EXPECs (M3900)	34
Check available memory in EXPEC (M3900)	36
Release EXPECs that have been selected (M3900)	36
Add firmware load to selected EXPEC (M3900)	36
Download firmware to an M3900	37
Download firmware to multiple M3900s on multiple EXPECs	38
Delete a firmware load from EXPEC list (M3900)	38
Schedule a firmware download (M3900)	39
File servers	40
Add a file server	40
Modify a file server	41
Delete a file server	42
Cancel a file server deletion	42
Modify new file server before submitting to database	43
Viewing Log files	44
<b>Security</b>	<b>47</b>
Security benefits of the M3900/EXPEC Firmware Manager	47
MEFM Password rules	48

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## New in this release

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There have been no updates to the document in this release.

## 6 New in this release

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# About this document

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## This document

This document describes the Meridian SL-100/Communication Server M3900/EXPEC Firmware Manager (MEFM).

## Purpose and audience

This document describes the functionality and requirements of the M3900/EXPEC Firmware Manager and is a companion to the MEFM Help files and MEFM Quick Start Guide that are supplied with the product.

This document's audience is service provisioning, administrative and network management and planning personnel.

## How to check the version and issue of this document

The version and issue of the document are indicated by numbers (for example, 01.01). For example, the first release of a document is 01.01. In the next software release cycle, the first release of the same document is 02.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. The second two digits indicate the issue. The issue number increases each time the document is revised, but re-released in the same software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

### ATTENTION

To determine whether you have the latest version of this document, check the release information in the *Communication Server 2100 Commercial Systems Master Index of Publications* (555-4031-001).

## Related documents

Table 1 lists related documents for the Meridian SL-100/Communication Server 2100 M3900/EXPEC Firmware Manager.

**Table 1**  
**Related documents**

Description	Document number
<i>Communication Server 2100 M3900 Digital Telephones Reference Manual</i>	555-4001-136
MEFM Help Files	None
Meridian SL-100/Communication Server 2100 MEFM Quick Start Guide	None

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# Introduction

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## Background

The M3900/EXPEC Firmware Manager (MEFM) provides a web-based interface through which the firmware on the M3900 telephone sets and EIPE controller, that is, the EXPEC (Enhanced Extended Peripheral Equipment Controller) can be downloaded.

The M3900/EXPEC Firmware Manager tool includes the following functions:

- Telnet and FTP
- Scheduling
- EXPEC controller card load management
- M3900 firmware maintenance
- Secure web-based user interface

The M3900/EXPEC Firmware Manager will support SL-100 customers and SL-100 customers who transition to CS2100.

## Functional description

The MEFM application has the following responsibilities:

- authenticate client's login and provide Client Sessions
- maintain client profile information in the database
- manage connections to the EXPECs
- manage the connections to the file servers for firmware downloads
- manage secure connections to the web clients
- schedule downloads
- maintain a log of activity and errors

The following sections describe the features provided by the MEFM.

## Security

The MEFM provides the following security features

- Limited user access - only users who have logged in with a correct password may use the MEFM system. An administrator has full access to all the features of the system.
- Secure web access - Secure Socket Layer (SSL) will be used between the web clients and the web server.
- Encryption - encryption will be used for passwords and other confidential information stored on the server.

## Scheduler

The scheduler feature is used to schedule downloads of software either to the M3900 sets or the EXPEC. Current status of all scheduled jobs is available from the web client. Scheduled jobs is kept in a "database" until they are executed.

## Web interface

The web client has the following functions:

- user login
- ability to add:
  - file server
  - user
  - EXPEC
- ability to view:
  - EXPEC load details
  - activities
  - active jobs
- list EXPECs
- ability to edit/delete:
  - EXPECs
  - file servers
  - users
  - jobs
- get firmware load
- schedule status

- list M3900 sets
- view M3900 load details
- set bootable load
- remove load
- view log report
- view scheduled job list
- view active job list/status
- display error

### **EXPEC load management**

MEFM provides load management for the EIPE controller card (EXPEC). Load management of the EXPEC loads includes the ability to

- view loads on the EXPEC
- initiate the transfer of loads to the EXPEC
- delete loads from the EXPEC
- set the "bootable" load for the EXPEC
- see the space remaining on the EXPEC
- initiate the transfer of a load file to multiple EXPECs
- provide a record of the completion of each load transfer

The loads are transferred through the Ethernet portion of the EXPEC card. The advantage of transferring the load files through Ethernet is that the transfer time is greatly reduced and that the Intelligent Peripheral Equipment (IPE) remains in service while the load file is being transferred. Once a load is transferred to the IPE and set as the "bootable" load, the IPE must be BSY'd (busied) and RTS'd (returned to service) from a MAPCI, before the new load takes effect on that IPE.

### **Integrated Element Management Systems (IEMS)**

For information about configuration management in Nortel Networks Integrated EMS, please refer to the *Communication Server 2100 Product Guide* (555-4001-806) and the *Integrated EMS Configuration Management* (NN10330-511).

### **M3900 firmware maintenance**

MEFM provides load management and load maintenance for the M3900 sets. The load management functions include the following:

- view loads on the EXPEC and M3900 sets
- initiate the transfer of loads to the EXPEC

- delete loads from the EXPEC
- set a "bootable" load for each version of the M3900 on the EIPE
- see the space remaining on the EXPEC
- initiate the transfer of a load file to multiple EXPECs
- provide a record of the completion of each firmware load operation

The maintenance of the loads includes the ability to schedule sending the loads to one M3900, or sequentially to all M3900s, on an IPE or multiple IPEs.

### Logging

A flat file is used to store information about items including

- errors
- critical events such as startup of the application
- firmware load operation

### Database

An XML database is kept for persistent information including

- user information
- scheduled jobs
- EXPECs
- M3900s
- other application configuration information

### Web server

The Apache Tomcat web server handles transaction handling, client sessions, and serving up web pages.

### Integration with the CS 2100 Network Management System (NMS)

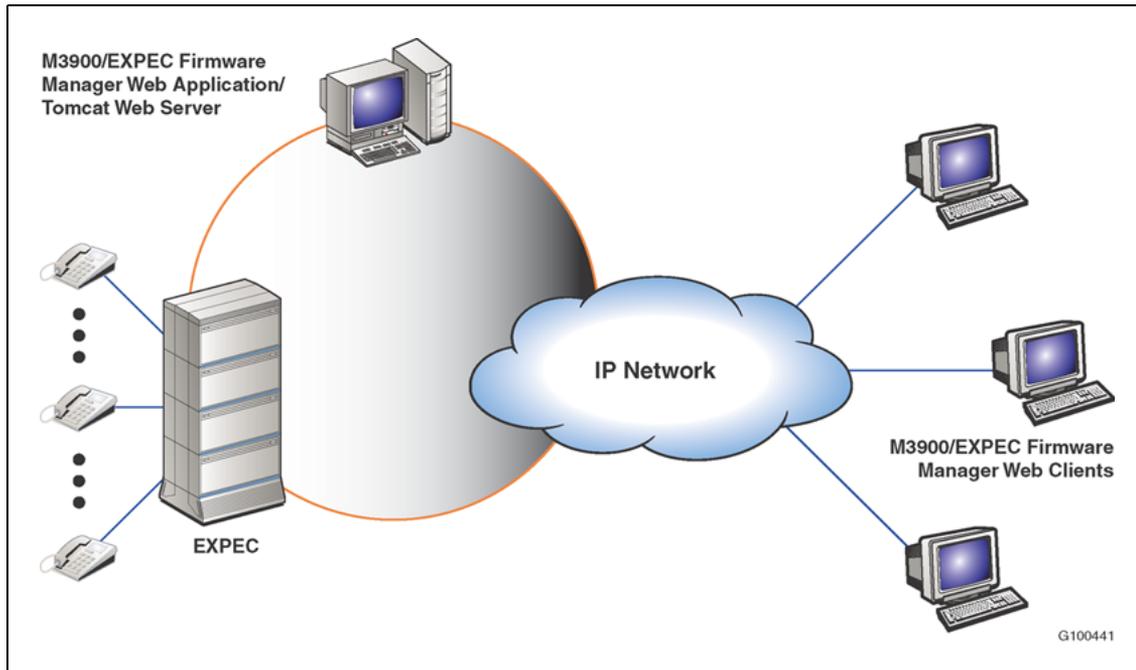
The cross-platform of Java and the web interface makes the integration with the CS 2100 NMS possible since the CS 2100 NMS strategy is to be on the Solaris platform with web interfaces.

## System architecture

The M3900/EXPEC Firmware Manager architecture allows the load transfer function of the M3900 and EXPEC to be integrated into the CS 2100 management system. The web application is written in Java and runs on the Apache Tomcat web, server providing cross-platform support. The Model/View/Controller 2 (MVC2) pattern provides ease of maintenance and robustness. The architecture consists of the EXPEC controller card which

communicates with the M3900 sets. The MEFM application communicates with the EXPEC through Telnet. The web clients communicate with the MEFM application through secure HTTP using a browser. FTP can be used, if necessary, to retrieve the firmware load from a file server.

**Figure 1**  
**M3900/EXPEC Firmware Manager Web Application/Tomcat Web Server**



## System requirements

### MEFM application system requirements

The MEFM application has the following system requirements

#### Hardware

- 500 MHZ Pentium II, or equivalent processor
- minimum of 128 MB of RAM
- minimum of 300 MB hard drive space available
- a network connection to EXPEC/M3900 Firmware Manager client

#### Software

- Sun Java SDK
- Tomcat Web server
- Windows 2000/2003/XP OS with latest service pack installed

## **MEFM Web Client requirements**

The web client application has the following requirements:

### **Hardware**

- a network connection to the EXPEC/M3900 Firmware Manager server
- a color monitor
- a computer system capable of running Microsoft Internet Explorer 4.0 or above

### **Software**

- Microsoft Internet Explorer 4.0 or above.

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## Installation and setup

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### Installation and setup

Installation of the ME3900/EXPEC Firmware Manager (MEFM) application requires no license key. Install and uninstall the MEFM suite using the following procedures.

**Note:** Refer to "[System requirements](#)" (page 13) before you proceed.

Uninstall all previous versions of this product before you proceed.

### Installing the MEFM suite

Step	Action
<i>On your PC</i>	
1	Download and install the MEFM suite.
2	Select " <b>Create Tomcat SSL Key</b> " from the Start > Programs > MEFM menu.
3	Select " <b>Start Tomcat</b> " from the Start > Programs > MEFM menu. (You will see a console window pop up. This is the Tomcat process running. Close this window to stop Tomcat, or select " <b>Stop Tomcat</b> " from the Start > Programs > MEFM menu.)
4	Select " <b>Start MEFM Client</b> " from the Start > Programs > MEFM menu.
5	Type "Admin" for the user name and "admin" for the password.
6	Choose to accept the certificate and enter a new Admin password (use the "Help" button to view the requirements).

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—End—

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## Uninstalling the MEFM suite

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Step	Action
------	--------

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*If you have Java Virtual Machine (JVM) installed*

- 1 Select: Programs > MEFM > Start MEFM> Shutdown Tomcat or close the Tomcat console window.
- 2 Navigate to the \_uninstall directory where you installed the MEFM suite.
- 3 Double-click the \_uninstall.jar file.

**Note:** SSL keystore files must be manually uninstalled. (See usage on the key tool in the JAVA HOME\bin directory.) If you are going to reinstall MEFM, it is not necessary to uninstall the keystore file

*If you do not have JVM installed*

- 4 Select: Programs > MEFM > Start MEFM> Shutdown Tomcat or close the Tomcat console window.
- 5 Delete the MEFM shortcut on the Programs menu by right-clicking on the MEFM menu and selecting "Delete".
- 6 Delete the MEFM suite directory where you install the MEFM suite.

**Note:** SSL keystore files must be manually uninstalled. (See usage on the key tool in the JAVA HOME\bin directory.) If you are going to reinstall MEFM, it is not necessary to uninstall the keystore file

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—End—

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## Navigating the MEFM

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This chapter provides steps that help you navigate and perform various tasks using the M3900/EXPEC Firmware Manager (MEFM). The chapter is broken down into the following sections:

- Admin (see "[Administration \(Admin\)](#)" (page 17))
- Login and User Administration (see "[Login and user administration](#)" (page 25))
- EXPEC (see "[EXPEC](#)" (page 26))
- M3900 (see "[M3900](#)" (page 34))
- File servers (see "[File servers](#)" (page 40))
- Viewing Log Files (see "[Viewing Log files](#)" (page 44))

When you first enter the MEFM by entering the MEFM'S URL in your browser address window (for example, <http://localhost:8080/mefm>), you will be presented with a login screen.

These navigation procedures also appear as Help Files on the MEFM.

**Note:** Please see "[MEFM Password rules](#)" (page 48) for the MEFM password requirements.

### Administration (Admin)

The Admin section includes the following tasks

- Initial Login
- Admin Login
- Adding a User
- Admin update of User information
- Admin delete of User
- Change password for Admin type

**Note:** See "MEFM Password rules" (page 48) for the MEFM password requirements.

## Initial Login (Admin)

### Initial Login

Step	Action
------	--------

*In Login window*

- 1 Type "Admin" for the **User Name** and "admin" for **Password** (case sensitive), when first presented with the Login window. Click on **Submit**.

The Change Password page is presented.

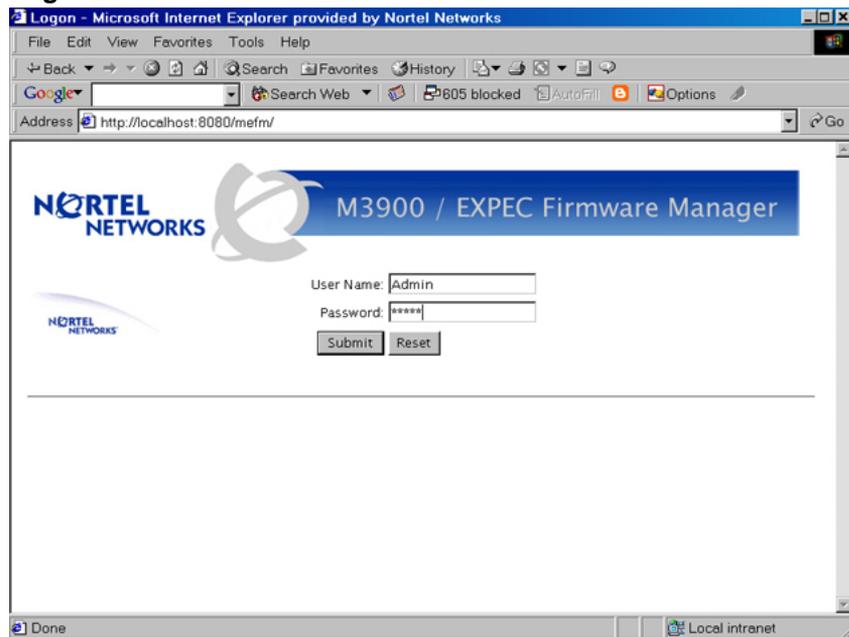
#### *In Change Password page*

- 2 Type **admin** for **Current Password** (case sensitive) and enter a new (compliant) password for the next two boxes. Click on **Submit**.

—End—

Figure 2 "Login screen" (page 18) shows an example of the login screen.

**Figure 2**  
**Login screen**



## Admin Login

### Admin Login

Step	Action
------	--------

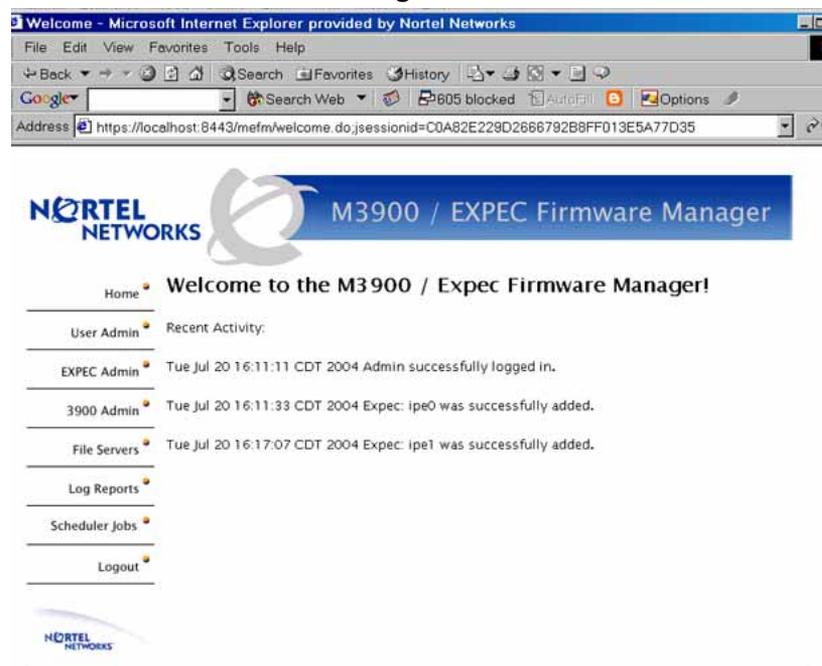
*In Login window*

- 1 Type in valid "Admin" type **User Name** and **Password** (case sensitive), when presented with the Login window. Click on **Submit** (see "Changing Access Type").

The Welcome page is presented (**User Admin** option on the sidebar is optional).

—End—

**Figure 3**  
**M3900/EXPEC Firmware Manager Home Screen**



## Adding a User

### Adding a User

Step	Action
------	--------

*In the MEFM Home screen*

- 1 Select the **User Admin** option on the sidebar.
- 2 Select the **Add User** option on the sidebar.
- 3 Type the new users's properties in each field.
- 4 Click on the **Submit** button.
- 5 Verify the user information and click on the **Submit** button.  
**Note:** To make changes click on the **Make Changes** link and repeat Step 3.
- 6 Confirm that the user was added by selecting **Home** and **User Admin** in the Activities log and in the User list.
- 7 Provide the user name and password to the new user.

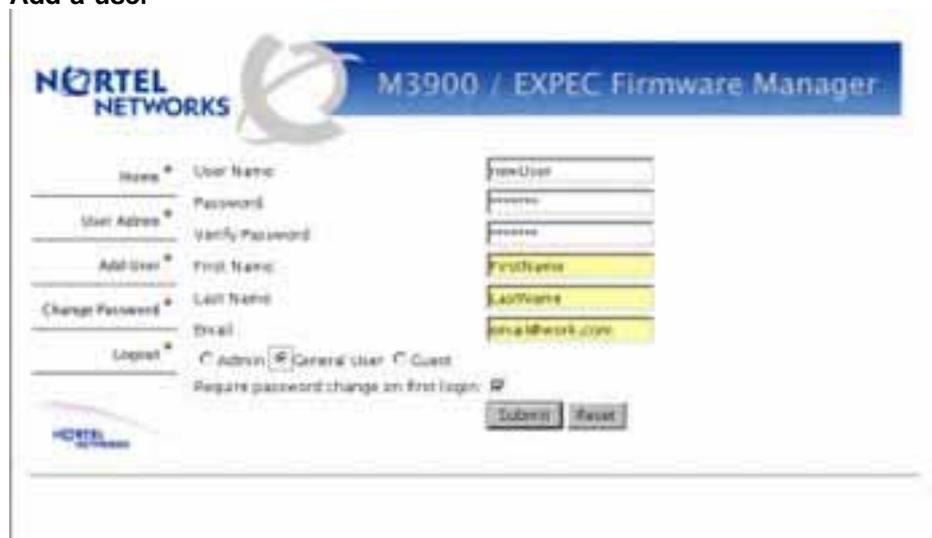
---

—End—

---

Figure 4 "Add a user" (page 20) shows an example of adding a user and Figure 5 "Confirm a new user" (page 21) is an example of the screen confirming a new user has been added.

**Figure 4**  
**Add a user**



The screenshot shows the 'Add a user' form in the Nortel Networks M3900 / EXPEC Firmware Manager. The form includes the following fields and options:

- User Name:** NewUser
- Password:** [Empty]
- Verify Password:** [Empty]
- First Name:** Firstname
- Last Name:** Lastname
- Email:** new@work.com
- Role:**  Admin  General user  Guest
- Require password change on first login:**

Buttons for **Submit** and **Reset** are located at the bottom right of the form.

**Figure 5**  
**Confirm a new user**

The screenshot shows the 'M3900 / EXPEC Firmware Manager' interface. The header includes the Nortel Networks logo and the title 'M3900 / EXPEC Firmware Manager'. The main content area contains a form with the following fields and options:

- Name:** User Name: newUser
- User Admin:** Name: First Name Last Name
- EXPEC Admin:** Email: email@work.com
- T500 Admin:** Access Level: 1
- File Servers:** Change Password Required: true
- Log Reports:**
- Scheduler jobs:** [Make changes](#)
- Logout:**

## Admin update of user information

### Administrator update of user information

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **User Admin** option on the sidebar.
- 2 Select a user from the user list.
- 3 Click on the **Edit User** button.
- 4 Make changes to the appropriate fields.
- 5 Click on the **Submit** button.

—End—

Figure 6 "Current Existing Users list (User Admin screen)" (page 22) shows an example of the Current Existing Users list.

**Figure 6**  
**Current Existing Users list (User Admin screen)**



## Admin deletion of user

### Administrator deletion of user

#### Step Action

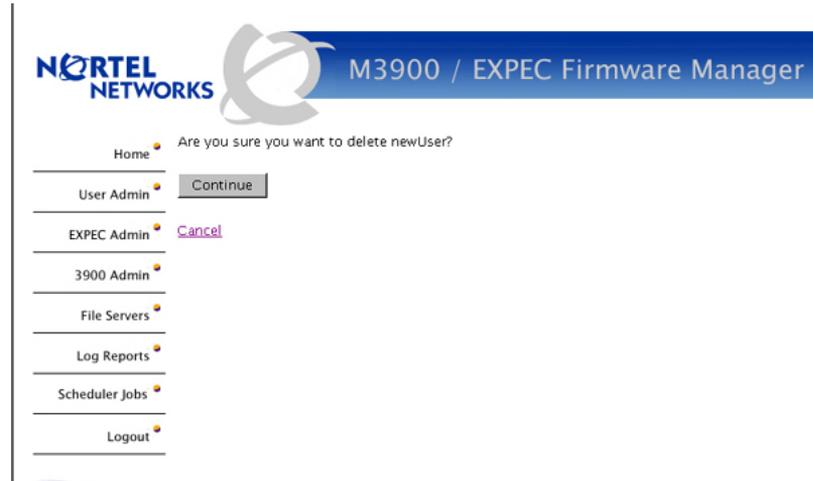
*In MEFM home screen*

- 1 Select the **User Admin** option on the sidebar.
- 2 Select a user from the user list.
- 3 Click on the **Delete User** button.
- 4 Click on the **Continue** button to delete the user, or **Cancel** button to return to the previous screen.

—End—

Figure 7 "Delete new user" (page 23) shows the screen to delete a new user.

**Figure 7**  
Delete new user



## Change password for Admin type user

### Changing a password for Admin type user

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **User Admin** option on the sidebar.
- 2 Select the **Change Password** option on the sidebar.
- 3 Fill in the fields with the old and new passwords.
- 4 Click on the **Submit** button.

—End—

Figure 8 "Change password for user: Administration" (page 24) shows the screen for Admin to change a user password.

**Figure 8**  
Change password for user: Administration

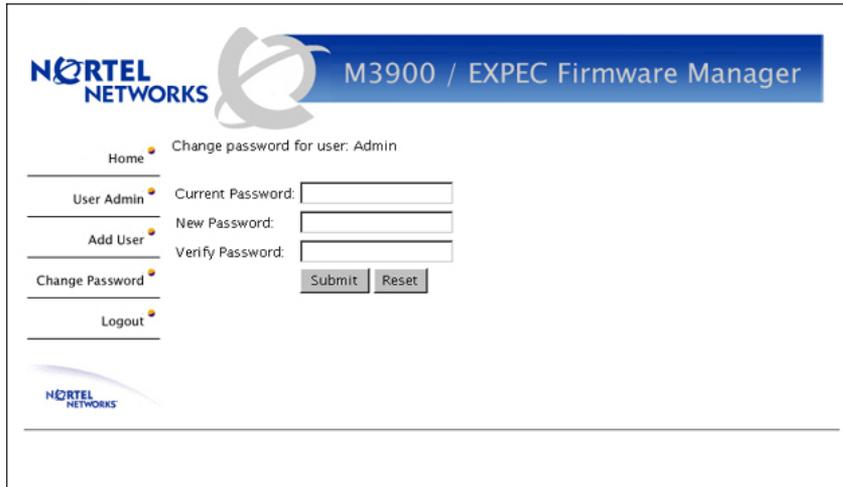
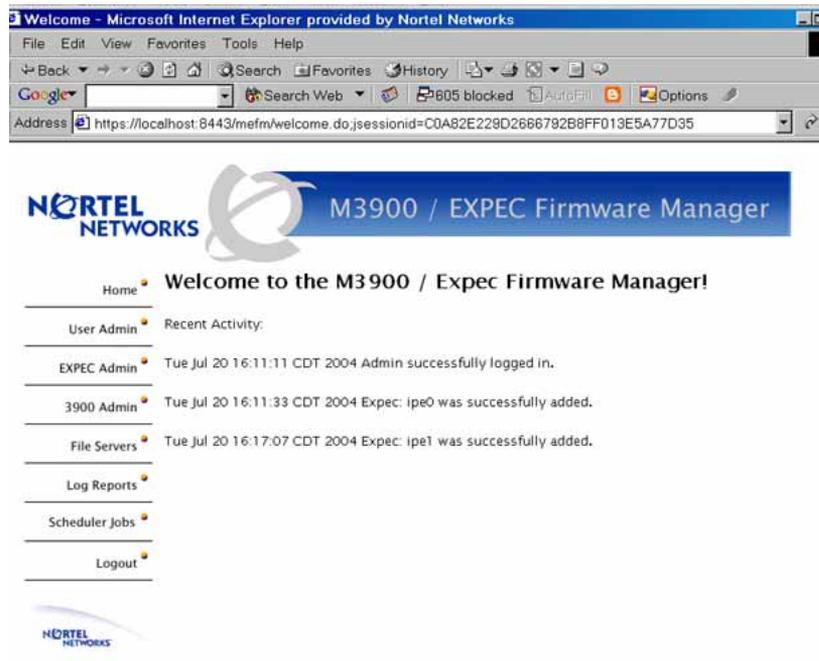


Figure 9 "M3900/EXPEC Firmware Manager Home Screen" (page 24) shows the M3900/EXPEC Firmware Manager Home screen.

**Figure 9**  
M3900/EXPEC Firmware Manager Home Screen



## Login and user administration

The section includes the following tasks for non-Admin users

- Login
- User logout
- Changing passwords for General or Guest Users

### Initial Login for General and Guest type users

#### Initial Login

---

Step	Action
------	--------

---

*In Login window*

- 1 Type in **User Name** and **Password** you have been provided with (case sensitive), and click **Submit**.

***The change Password is presented***

- 2 Type in the password used in Step 1 and enter a new (compliant) password for the next two boxes, and submit.

**Note:** See "[MEFM Password rules](#)" (page 48) for password requirements.

The user is now logged in.

---

—End—

---

### Login for General and Guest type users

#### Login

---

Step	Action
------	--------

---

*In Login window*

- 1 Type in valid "Admin" type **User Name** and **Password** (case sensitive), and click **Submit**.

***The "Welcome" page is presented***

- When logging in as a "General or "Guest" type user, the User Admin option is not available
- When logging in as a "Guest" type user, the Fileservers and Add Expec options are not available
- No internal MEFM web page can be bookmarked

---

—End—

---

## User Logout

### User Logout

---

Step	Action
------	--------

---

*On MEFM Home screen*

- 1 Click on the **Logout** option on the sidebar menu.

---

—End—

---

## Changing passwords for General or Guest type users

### Changing passwords for General or Guest type users

---

Step	Action
------	--------

---

*In MEFM home screen*

- 1 Select the **Change Password** option on the sidebar.
- 2 Fill in the fields with the old and new passwords
- 3 Click on the **Submit** button.

---

—End—

---

## EXPEC

The section includes the following tasks for working with EXPECs

- Adding an EXPEC
- Deleting an EXPEC
- Verifying changes in EXPEC list
- Get EXPEC file directory information on selected EXPECs
- Determine available memory on the EXPEC
- Release EXPECs that have been selected
- Add a load to a selected EXPEC
- Delete a firmware load from the EXPEC list

- Set a boot load on an EXPEC from the EXPEC list

## Adding an EXPEC

### Adding an EXPEC

---

Step	Action
------	--------

---

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select the **Add EXPEC** option on the sidebar.
- 3 Fill in the fields and add an EXPEC by clicking on the **Add EXPEC** button.
- 4 Verify the information and click on the **Submit** button.

**Note:** If the information is not correct, click on the **Make changes** link and correct the information.

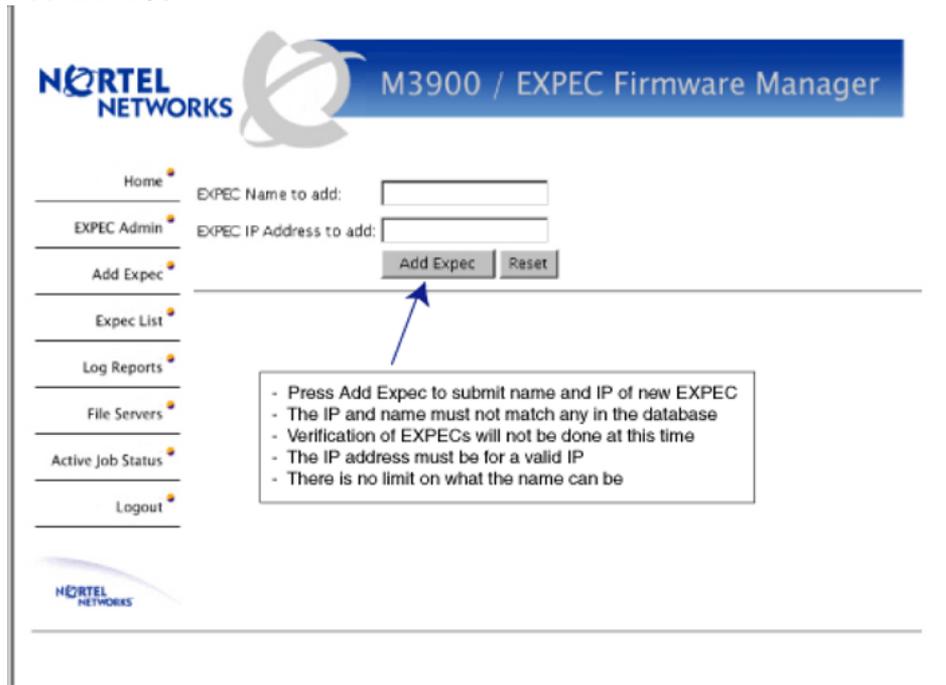
---

—End—

---

Figure 10 "Add EXPECs" (page 28) shows the Add Expec screen, and Figure 11 "Confirming an EXPEC was added" (page 28) shows the screen that confirms that an EXPEC was added.

**Figure 10**  
Add EXPECs



**Figure 11**  
Confirming an EXPEC was added



## Deleting an EXPEC

### Deleting an EXPEC

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select the **EXPEC List** option on the sidebar.
- 3 Select the EXPEC to be deleted.
- 4 Click on the **Delete EXPEC** button.
- 5 Verify that you want to delete the EXPEC or cancel the action (the **Item removed** screen will be displayed).

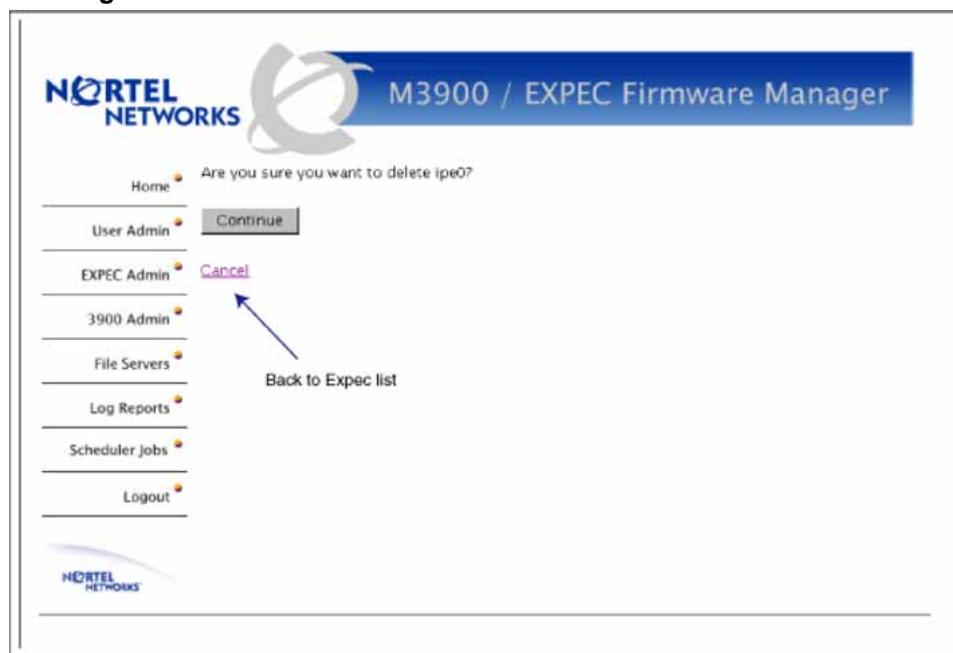
---

—End—

---

Figure 12 "Deleting an EXPEC" (page 29) shows the screen for deleting an EXPEC.

**Figure 12**  
Deleting an EXPEC



## Editing an EXPEC

### Editing an EXPEC

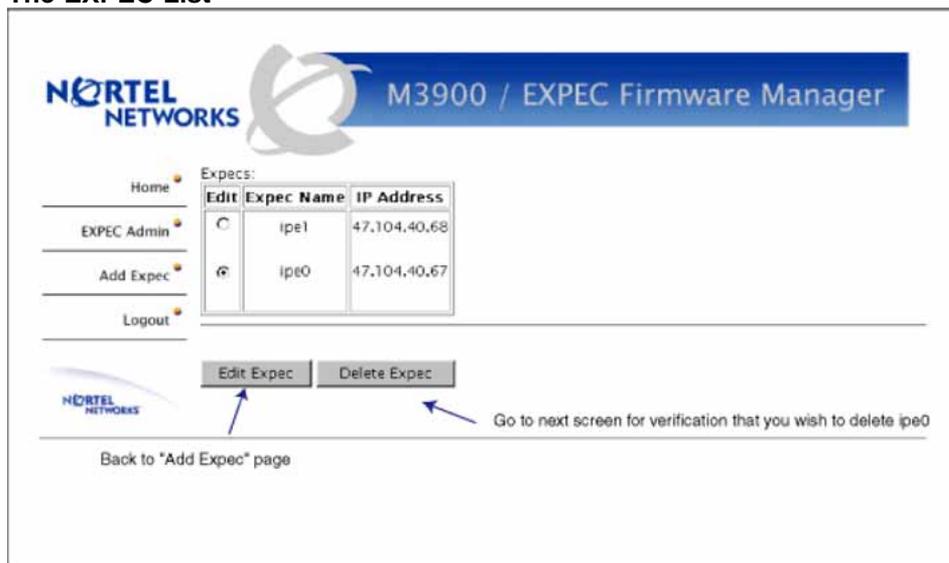
Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select the **EXPEC List** option on the sidebar.
- 3 Select the EXPEC to be edited from the list.
- 4 Modify the IP address.
- 5 Click on the **Update** button. (Figure 13 "The EXPEC List" (page 30) shows the EXPEC list).

—End—

**Figure 13**  
The EXPEC List



## Verifying changes in EXPEC list

### Verifying changes in EXPEC list

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.

- 2 Select the **EXPEC List** option on the sidebar.
- 3 Verify the changes you made.

---

—End—

---

## Get EXPEC file directory information on selected EXPECs

### Get EXPEC file directory information on selected EXPECs

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Click on single or multiple EXPECs from the list (to select multiple EXPECs, hold down control key while selecting).
- 3 Click on the **Submit** button.

**Note:** The status message and table are updated. The table shows the directory contents of the EXPECs selected.

---

—End—

---

## Determine available memory on the EXPEC

### Determine available memory on the EXPEC

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select single, or multiple, EXPECs from the list and click on the **Submit button**.

**Note:** A table will display the available memory on the EXPEC.

---

—End—

---

## Release EXPECs that have been selected

### Release EXPECs that have been selected

Step	Action
------	--------

*In Expec Admin screen*

- 1 Select single, or multiple, EXPECs from the list and click on the **Release** button.

**Note:** The status message and table should update. Only the EXPECs that are selected will be released.

---

—End—

---

## Add a load to a selected EXPEC

### Add a load to a selected EXPEC

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select single or multiple EXPECs from the list and click on the **Select** button.
- 3 Select the EXPEC/EXPECs and press the **Add Load** button.
- 4 Select the file server from the list and press the **List Files** button.
- 5 Select the load to be transferred from the list and click on the **Select** button.

**Note:** The status message and table are updated. The table shows the load that was added on each EXPEC that was selected.

---

—End—

---

Figure 14 "EXPEC Loads" (page 33) shows examples of EXPEC loads.

**Figure 14**  
**EXPEC Loads**

Select	EXPEC	IP Address	Load Files				Free Space	Total
			Select	Load File	Boot Load	Timestamp	Size	
<input checked="" type="radio"/>	ipe0	47.104.40.67	<input type="radio"/>	EIPE17AA	-	05Mar2002-15:38:12	00482886	220160 1638400
			<input type="radio"/>	EIPE17AH	*	22Jan2004-14:11:43	00482814	
			<input checked="" type="radio"/>	EIPE17AB	-	04Sep2002-16:34:39	00482942	

Status:

## Delete a firmware load from EXPEC list

### Delete a firmware load from EXPEC list

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **EXPEC Admin** option on the sidebar.
- 2 Select an EXPEC from the Expec List and press the **Select** button.
- 3 Select the firmware load from the list and press the **Delete Load** button.

**Note:** The status message and table are updated. The table displays only the loads that were not selected to be removed.

—End—

## Set a boot load on an EXPEC from the EXPEC list

### Set a boot load on an EXPEC from the EXPEC list

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **Expec Admin** option on the sidebar.
- 2 Select an EXPEC from the list and click on the **Select** button.

- 3 Select the file on the Expec List and click on the **Set Boot Load** button.

**Note:** The status message and table are updated. The table displays a marker next to the new boot load. The EXPEC must now be BSY'd (busied) or RTS'd (Returned to Service) for the changes to take effect. This must be done from the MAPCI;MTC;PM level on the switch.

---

—End—

---

## M3900

### Get EXPEC file directory information on selected EXPECs (M3900)

The M3900 section includes the following tasks for M3901, M3902, M3903, M3904, and M3905 telephones:

- Get EXPEC file directory information on selected EXPECs (for M3900)
- Check available memory in EXPEC (for M3900)
- Release EXPECs that have been selected (for M3900)
- Add firmware load to selected EXPEC (for M3900)
- Download firmware to an M3900
- Download firmware to multiple M3900s on multiple EXPECs
- Delete a firmware load from the EXPEC list (for M3900)
- Schedule a firmware download

[Figure 15 "M3900 Administration screen" \(page 35\)](#) shows the M3900 Administration screen.

**Figure 15**  
**M3900 Administration screen**

**M3900 Administration**

Home • **M3900 Administration**

3900 Admin

Add Expec Select EXPEC:

Log Reports

File Servers

Active Job Status

Logout

Select	EXPEC	IP Address	Load Files				Free Space	Total
Select	Load File	Boot Load	Timestamp	Size				
<input type="radio"/>	EIPET7AA	-	05Mar2002-15:38:12	00482886	220160	1638400		
<input type="radio"/>	EIPET7AH	*	22Jan2004-14:11:43	00482814				
<input checked="" type="radio"/>	EIPET7AB	-	04Sep2002-16:34:39	00482942				

Status:

M390x Sets:

Set Type	Load	Version	Directory	Number	Line	Equipment	Number

Status:

## Get EXPEC file directory information on selected EXPECs (M3900)

### Step Action

*In MEFM home screen*

- 1 Select the **M3900 Admin** option on the sidebar.
- 2 Select an EXPEC from the list and click on the **Submit** button.

**Note:** The status message and table are updated. The table displays a marker next to the new boot load. If the IP address is for a valid EXPEC, the table will show the directory contents of the M3900 loads.

—End—

## Check available memory in EXPEC (M3900)

### Check available memory in EXPEC (M3900)

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **M3900 Admin** option on the sidebar.
- 2 Select single or multiple EXPECs from the list and click on the **Submit** button.
- 3 Find the available memory in the table for the EXPEC/s.

---

—End—

---

## Release EXPECs that have been selected (M3900)

### Release EXPECs that have been selected (M3900)

Step	Action
------	--------

*In the M3900 Admin screen*

- 1 Select single or multiple EXPECs from the list and click on the **Release** button.  
  
**Note:** The status message and table are updated. Only the EXPECs that are selected are released.

---

—End—

---

## Add firmware load to selected EXPEC (M3900)

### Add firmware load to selected EXPEC (M3900)

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **M3900 Admin** option on the sidebar.
- 2 Select single or multiple EXPECs from the list and click on the **Select** button.
- 3 Select single or multiple EXPECs and click on the **Add Load** button.
- 4 Select the file server from the list and click on the **List Files** button.

- 5 Select the firmware load to be transferred from the list and click on the **Select** button.

**Note:** The status message and table are updated. The table displays the firmware loads that were added on each EXPEC that was selected.

---

—End—

---

## Download firmware to an M3900

### Download firmware to an M3900

Step	Action
------	--------

*In MEFM home screen*

- |    |   |
|----|---|
| 1  | Select the <b>M3900 Admin</b> option on the sidebar.  |
| 2  | Select the <b>Expec List</b> option on the sidebar.   |
| 3  | Select single or multiple EXPECs from the list and click on the <b>Select</b> button.   |
| 4  | Select an EXPEC and click on the <b>Get Sets</b> button.  |
| 5  | Select which set to transfer the load to and click on the <b>Select Firmware Download</b> button.   |
| 6  | Select the file server from the list and press the <b>List Files</b> button.  |
| 7  | Select the firmware load to be transferred from the list and click on the <b>Select</b> button.   |
| 8  | Confirm the job selections and enter a job title in the form.   |
| 9  | Click on the <b>Download Firmware</b> button.   |
| 10 | The Active Job status is displayed. Watch the page until the job completes (or select the job and click on the <b>Cancel Job</b> button). |

**Note:** The status message and table are updated and states that the job completed successfully. The Active Job page shows the job status as "Completed Successfully".

---

—End—

---

## Download firmware to multiple M3900s on multiple EXPECs

### Download firmware to multiple M3900s on multiple EXPECs

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **M3900 Admin** option on the sidebar.
- 2 Select the **Expec List** option on the sidebar.
- 3 Select multiple EXPECs from the list and click on the **Get Sets** button.
- 4 Select multiple sets of the same type and on multiple EXPECs to transfer the load to.
- 5 Select which set to transfer the load to and click on the **Select Firmware Download** button.
- 6 Select the file server from the list and press the **List Files** button.
- 7 Select the firmware load to be transferred from the list and click on the **Select** button.
- 8 Confirm the job selections and enter a job title in the form.
- 9 click on the **Download Firmware** button.
- 10 The Active Job status is displayed. Watch the page until the job completes (or select the job and click on the **Cancel Job** button).

**Note:** The status message and table are updated and states that the job completed successfully. The Active Job page shows the job status as "Completed Successfully".

---

—End—

---

## Delete a firmware load from EXPEC list (M3900)

### Delete a non-bootable EXPEC load from EXPEC list (M3900)

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **M3900 Admin** option on the sidebar.
- 2 Select an EXPEC from EXPEC list and press the **Select** button.

- 3 Select the firmware load from the list and press the **Delete Load** button.

**Note:** The status message and table are updated. The table displays only loads that were not selected to be removed.

---

—End—

---

## Schedule a firmware download (M3900)

### Schedule a firmware download (M3900)

Step	Action
------	--------

*In MEFM home screen*

- |    |   |
|----|---|
| 1  | Select the <b>M3900 Admin</b> option on the sidebar.  |
| 2  | Select the <b>Expec List</b> option on the sidebar.   |
| 3  | Select an EXPEC from the list and click on the <b>Select</b> button.  |
| 4  | Select an EXPEC and click on the <b>Get Sets</b> button.  |
| 5  | Select which set to transfer the load to and click on the <b>Select Firmware Download</b> button.             |
| 6  | Select the file server from the list and press the <b>List Files</b> button.                                  |
| 7  | Select the firmware load to be transferred from the list and click on the <b>Select</b> button.               |
| 8  | Confirm the job selections and enter a job title in the form.   |
| 9  | Click on the <b>Schedule Download Firmware</b> button.  |
| 10 | Enter start date, start time, end time, repeat interval, and comments, and click on the <b>Submit</b> button. |
| 11 | Confirm that the information is correct and click on the <b>Submit</b> .                                      |
| 12 | The Active Job status is displayed. Watch the page until the job completes.                                   |

**Note:** The download will be scheduled and will occur at the designated time.

---

—End—

---

## File servers

This section includes the following tasks:

- Add a file server
- Modify a file server
- Delete a file server
- Cancel a file server
- Modify new file server before submitting to database

### Add a file server

#### Add a file server

---

Step	Action
------	--------

---

*In MEFM home screen*

- |   |   |
|---|---|
| 1 | Select the <b>File Servers</b> option on the sidebar.   |
| 2 | Select the <b>Add File Server</b> option on the sidebar.  |
| 3 | Type in the new file server's properties in each field.   |
| 4 | Click on the <b>Submit</b> button.  |
| 5 | Verify that the information that is displayed is correct and click on the <b>Submit</b> button. |

**Note:** The file server lists and the database are updated with the new file server.

---

—End—

---

Figure 16 "Add a file server screen" (page 41) shows the Add Fileserver screen.

**Figure 16**  
Add a file server screen

## Modify a file server

### Modify a file server

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **File Servers** option on the sidebar.
- 2 Select a file server from the list.
- 3 Click on the **Edit File Server** button.
- 4 Change the file server's properties in each field.
- 5 Click on the **Submit** button.
- 6 Verify that the information that is displayed is correct and click on the **Submit** button.

**Note:** The file server lists and the database are updated with the new information.

---

—End—

---

Figure 17 "Confirm file server information" (page 42) shows the screen to confirm file server information.

**Figure 17**  
**Confirm file server information**

The screenshot shows the M3900 / EXPEC Firmware Manager interface. The top header includes the Nortel Networks logo and the text 'M3900 / EXPEC Firmware Manager'. The main content area displays the following information:

- Home**: File server name: myfileserv
- File Servers**: IP Address: 47.102.193.131
- Add Fileserver**: Path: c:\fileserv
- Logout**: Port: 21
- User name: user

At the bottom, there is a 'Submit' button and a link labeled 'Make changes'.

## Delete a file server

### Delete a file server

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **File Servers** option on the sidebar.
- 2 Select a file server from the list.
- 3 Click on the **Delete File Server** button.
- 4 Confirm that the file server to be deleted is the correct one.
- 5 Click on the **Submit** button.
- 6 Verify that the information that is displayed is correct and click on the **Submit** button.

**Note:** The file is deleted and the server lists and the database are updated.

---

—End—

---

## Cancel a file server deletion

### Cancel a file server deletion

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **File Servers** option on the sidebar.

- 2 Select a file server from the list.
- 3 Click on the **Delete File Server** button.
- 4 View the "Confirm the file server deleted" page.
- 5 Click on the **Cancel** button.

**Note:** The file is not deleted and the server lists and the database are intact.

---

—End—

---

## Modify new file server before submitting to database

### Modify new file server before submitting to database

Step	Action
------	--------

*In MEFM home screen*

- |   |   |
|---|---|
| 1 | Select the <b>File Servers</b> option on the sidebar.   |
| 2 | Select a file server from the list.   |
| 3 | Click on the <b>Edit File Server</b> button.  |
| 4 | Click on the <b>Submit</b> button.  |
| 5 | The <b>Confirm File Server Fields</b> page is displayed.  |
| 6 | Click on the <b>Make Changes</b> link (the <b>Add FTP file server</b> page is displayed).       |
| 7 | Modify the fields and click on the <b>Submit</b> button.  |
| 8 | Verify that the information that is displayed is correct and click on the <b>Submit</b> button. |

**Note:** The file server lists and the database are updated with the new information.

---

—End—

---

Figure 18 "File server errors" (page 44) shows an example of file server errors.

**Figure 18**  
**File server errors**

**NORTEL NETWORKS** M3900 / EXPEC Firmware Manager

Home

File Servers

Add Fileserver

Logout

File Server Name:  Please enter a name.

IP Address:  Please enter an IP address.

User Name:  Please enter user name.

Password:  Please enter password.

Password Verify:  Please enter password.

Path:  Please enter the path.

Port:  Please enter the port.

FTP Type:  Please enter the FTP type.

Figure 19 "List file server and select load" (page 44) shows the screen to list and select file servers.

**Figure 19**  
**List file server and select load**

**NORTEL NETWORKS** M3900 / EXPEC Firmware Manager

Home

File Servers

Add Fileserver

Logout

File Servers:

Edit	File Server Name	IP Address	User Name	Path	Port
<input type="checkbox"/>	myfileserver	47.102.193.131	c:\fileserver	21	user

Directory Information:

Select	File Name	Size
<input type="checkbox"/>	testfile.txt	140

Status:

## Viewing Log files

This section includes information about how to view Log Files.

## View log files

### View logfiles

Step	Action
------	--------

*In MEFM home screen*

- 1 Select the **Log Reports** option on the sidebar.
- 2 From the pull-down menu, select a log file to view.
- 3 Click on the **Select** button.

**Note:** The log file contents are displayed.

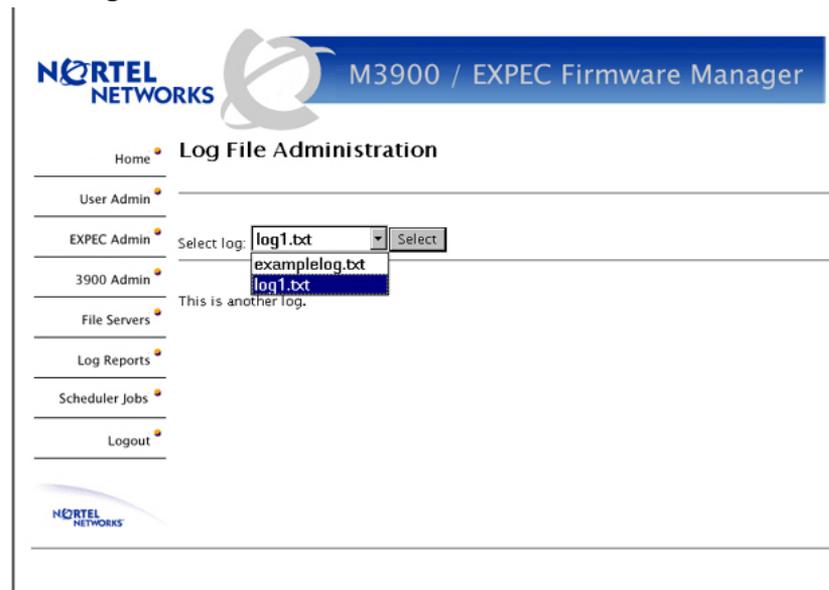
---

—End—

---

Figure 20 "View log files" (page 45) shows the Log File Administration screen.

**Figure 20**  
View log files





---

# Security

---

## Security benefits of the M3900/EXPEC Firmware Manager

The MEFM/EXPEC firmware down loader application provides the following capabilities:

- secure page indication in toolbar
- allows user to change password
- provides the following levels of user access and privileges:
  - Admin - an administrator can add users
  - General user - can add EXPECS and fileservers
  - Guest user - can download files
- SSL - Secure Socket Level (SSL) is used to secure communication between client and server
- encryption - all passwords, IP addresses and similar information are encrypted
- log of major events - users who are active on the system (logged in) are logged in a file and displayed as recent activity on the main page
- Login - Admin

For Administrator login, "Admin" is the user name and password for the first-time login.

**Note:** Bookmarks cannot be set within the application.

See "[MEFM Password rules](#)" (page 48) for MEFM password requirements.

## MEFM Password rules

Table 2 "MEFM Password requirements" (page 48) contains the requirements for M3900/EXPEC Firmware Manager (MEFM) passwords.

**Table 2**  
**MEFM Password requirements**

Your password must	Your password must not
contain at least 8 characters.	be a previously used password.
contain both upper and lower case letters.	be a password that matches an account name.
contain at least one number or symbol.	have sequentially repeating characters.
	contain: <ul style="list-style-type: none"> <li>• a space</li> <li>• editing characters (@, #, \$)</li> <li>• field separator characters (:, or ;)</li> <li>• single or double quotation marks</li> </ul>
	contain letters in forward or reverse alphabetic sequence.
	contain letters in forward or reverse keyboard patterns or sequence, for example, "qwerty".
	contain only numbers or only punctuation characters.
	contain the same character for the first three positions.

---

## List of terms

---

<b>API</b>	Application Programming Interface
<b>DMS</b>	Digital Multiplex System
<b>EIPE</b>	Enhanced Intelligent Peripheral Equipment
<b>EXPEC</b>	Enhanced Extended Peripheral Equipment Controller
<b>GUI</b>	Graphic User Interface
<b>IPE</b>	Intelligent Peripheral Equipment
<b>JRE</b>	Java Runtime Environment
<b>JVM</b>	Java Virtual Machine
<b>MAP</b>	Maintenance and Administration Position.
<b>MAPCI</b>	Maintenance and Administration Position Command Interpreter
<b>MEFM</b>	M3900/EXPEC Firmware Manager

<b>MSL</b>	Meridian Stored Logic
<b>NMS</b>	Network Management System
<b>OAM</b>	Operations, Administration, and Maintenance
<b>ODBMS</b>	Object Oriented Database Management System
<b>SNMP</b>	Simple Network Management Protocol
<b>SSL</b>	Secure Socket Layer
<b>SWACT</b>	Switch Activity
<b>UTR</b>	Universal Tone Receiver
<b>WUI</b>	Web User Interface



Communication Server 2100

## M3900/EXPEC Firmware Manager (MEFM) User Guide

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