



EFT693
NetEx/eFT™ for SUN Solaris Systems

Release 5.2

Memo To Users
October 1, 2009

Preface

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- By calling 800-854-0359
- By e-mailing support@netex.com
- By filling out a form on the Customer Support page at <http://www.netex.com>

Information in this publication is subject to change. Comments concerning the contents of this manual should be directed to:

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Contents

PREFACE	1
<i>Proprietary Information Statement</i>	1
<i>Limitations on Warranties and Liability</i>	1
<i>Software Modification Policy</i>	1
<i>Restricted Rights</i>	1
<i>Trademarks</i>	1
SUPPORT	2
CONTENTS	3
INTRODUCTION	4
SPECIAL FEATURES	4
PREREQUISITES	4
<i>For TCP/IP Protocol:</i>	4
RELATED PUBLICATIONS	4
SERVICE NOTES	5
INSTALLATION NOTES	6
BEFORE YOU BEGIN	6
INSTALLATION PROCEDURE	7
<i>Step 1. Install the Distribution</i>	7
<i>Step 2. Update Network Databases</i>	9
<i>Step 3. Start the Service Initiator</i>	9
<i>Step 4. Verify NetEx/eFT</i>	9
<i>Step 5. Set Up Automatic Service Initiator Startup</i>	10
UPDATE SUMMARY	11
RELEASE 5.2	11
RELEASE 5.1.0 N1	11
APPENDIX A. UPDATING THE TCP/IP NETWORK CONTROL FILES	12
APPENDIX B. STOPPING THE SERVICE INITIATOR	13
APPENDIX C. SERVICE INITIATOR KEYWORDS	14
APPENDIX D. PRODUCT CONFIGURATION FILE	16
APPENDIX E. LICENSE KEY FILE	17

Introduction

This guide describes how to install the Network Executive Software (NESi) eFT693 Sun Solaris NetEx/eFT product.

Special Features

This version of the NetEx/eFT product features the following:

Large file support (size greater than 2 Gbytes).

Prerequisites

- SunOS release 5.8 (Solaris 8) or greater.
- Access to the **root** account.
- Up to 2 Mbytes of disk space for a target directory.
- The install script will ask for one UNIX UserID name as the owner of all installed files. The UserID must exist at installation time.
- The installation script requires the use of the **make** and **ld** (linker) utilities. These utilities are released with the Sun Operating System. The installation script expects to find both executables in the `/usr/ccs/bin` directory. If they are not installed on your system, you will need to use **pkgadd** to install the following packages from your SunOS installation media: Package **SUNWsprout** contains “make” and package **SUNWtoo** contains the linker, “ld.”
- The TCP/IP socket library must be present on the system as `/usr/lib/libsocket.a`. If this library is not on your system, you will need to use **pkgadd** to install the **SUNWarc** package from your Sun Operating System distribution media.
- Customers must obtain a software KEY from NESi prior to running the eFT693 software. Customers must contact NESi customer support with the customer site name, hostname, and the eFT product designator (e.g., eFT693). NESi customer support will supply the necessary key once this information has been received. The customer needs to place this key into the NESikeys file as discussed in “Appendix D. Product Configuration File” and “Appendix E. License Key File”.

For TCP/IP Protocol:

The host must be a functioning node on the TCP/IP Local Area Network.

Related Publications

The following books provide more information about this software product

eFTxx3 (Rel 5.0.0) NetEx/eFT for UNIX Software Reference Manual

Service Notes

The following are known problems and/or limitations with this release of Sun Solaris NetEx/eFT:

- When running LOCAL or REMOTE commands, if there are commands within an invoked shell script file that you do not want to execute when under NetEx/eFT, you can test for an environment variable `USERA`, defined to be “yes” by NetEx/eFT. For example, if you enter the NetEx/eFT command “remote myscript”, and “myscript” is a Bourne shell script containing an “echo Hello World” command, you can avoid the “Hello World” output during NetEx/eFT LOCAL or REMOTE invocation by making the following edit:

```
if [ "$USERA" != "yes" ]
then
    echo Hello World
fi
```

The `USERA` environment variable is always defined under NetEx/eFT as described above and can be tested for within any shell script file.

- If three keyboard interrupts in a row are pressed in response to an `ASK -SECURE` command, the user's terminal characteristics may not be reset (i.e., the terminal may be left in no echo mode). In this case, the user should reset the terminal manually, this can be done with an ‘`stty echo`’ command.
- The default `SERVICE` name for the Service Initiator has been changed. The Service Initiator now offers its service as **EFT**. For customers installing this product in an environment involving the `USER-Access` product, the `SERVICE` name will have to be changed to **USER** for continued compatibility. Please refer to “Step 3. Start the Service Initiator” and “Appendix A. Updating the TCP/IP Network Control Files” for details on changing the `SERVICE` name offered.

Installation Notes

This section provides complete installation procedures for the eFT693 Sun Solaris NetEx/eFT product.

Before You Begin

Before you begin installation, note the following:

- Make certain that you have all of the items listed in **Prerequisites** in the Introduction section.
- Add the encrypted Software Key obtained from Network Executive Software to the NESi License Key file (NESikeys) that will normally reside in the directory */usr/nesi/*. See “Appendix E. License Key File” for the format of this file if you need to create it for the first time.
- If this is an update to NetEx/eFT, stop the old Service Initiator before you begin. Use the utility provided (*/usr/nesi/eft/si/control*, shown below), replacing the hostname *localhost* with the name of your local host. For more information, see “Appendix B. Stopping the Service Initiator”.

```
$ /usr/nesi/eft/si/control -h localhost stop
```

- The NetEx/eFT release is installed into a target directory. Existing files in the target directory will be automatically replaced with the new release files, but any user-modified control files will be automatically preserved. It is possible to perform repeated installations into different target directories, each with different install options.
- The default installation target directory is */usr/nesi/eft*. Any valid directory (with adequate space) can be selected. If you use an alternate target directory, be sure to replace */usr/nesi/eft* in the steps that follow.

Installation Procedure

To perform a complete installation and verification of this product, follow the steps in this section.

Step 1. Install the Distribution

The NetEx/eFT release for Sun Solaris is distributed as one self-extracting bin file. The filename is:

- `eft693-5.2-solaris-sparc.bin` – eFT693 for SPARC SOLARIS systems.

Upon execution of the distribution file, the NetEx/eFT installation script will automatically start and prompts for a valid install option, the target directory, and the type of network. Press ENTER to use the default response shown within square brackets.

If an earlier version of NetEx/eFT already resides in the selected target directory, then existing executables will be overwritten, but the prior version of each updated text file (for example, a script or configuration file) is preserved with “_save” appended to the name.

To run the install script, you must be logged in as **root**. If you are not already logged in as **root**, invoke `/bin/su` before proceeding.

To run the installation script:

```
$ ./eft693-5.2-solaris-sparc.bin
```

Note: During the installation procedure (between the ‘Starting NetEx/eFT installation’ and the ‘NetEx/eFT installation completed’ messages) the install program does the following:

- Creates the NetEx/eFT target directories, if necessary.
- Binds the NetEx/eFT modules: CLIENT, SERVER, CONTROL, SVCINIT.
- Changes the ownership of the Service Initiator to root and sets the SETUID permission bit for this executable. This allows the Service Initiator to run with root privilege, giving it permission to update login-accounting files (utmp and wtmp files).
- Copies the NetEx/eFT control files to the target directory. Any previous control files that were modified are preserved.
- Creates two symbolic links, `user` and `uaserver`, that reference the installed NetEx/eFT CLIENT and SERVER executables. The symbolic links will be created in the `/usr/bin` directory unless an alternate directory is specified. This allows all users with the selected directory in their search paths to run these executables. If symbolic links named “`user`” and “`uaserver`” already exist, they will be replaced. If a file or directory exists with one of these names, the original will be preserved with the name “`user_save`” or “`uaserver_save`”, respectively.

Here is an example of an installation attempt:

```
[root@sunrise eft_n1]# ./eft693-5.2-20091202.bin
Verifying archive integrity... All good.
Uncompressing EFT693-5.2.....
Building for Solaris 8 or above...
```

The NETEX-eFT install options are:

```
ALL          - full NETEX-eFT install
```


Enter install option [ALL]? *all*

A single Unix UserID is assigned ownership of all installed NETEX-eFT files and directories. The choice of UserID may be based on accounting practices or maintenance responsibilities. This UserID must already exist.

Enter the NETEX-eFT UserID [root]? *root*

The TARGET root directory defines the location where NETEX-eFT is installed. This directory and subordinates will be created if necessary.

Enter the target directory [/usr/nesi/eft]?

NETEX-eFT network choices are:

TCPIP - native TCP/IP connection

Enter the desired network [TCPIP]? *tcPIP*

For easy access to the NETEX-eFT executables, the following symbolic links will be created in a bin directory of your choosing:

user -> /usr/nesi/eft/user/start_client
uaserver -> /usr/nesi/eft/user/start_server

If general access to the NETEX-eFT utilities is desired, then these symbolic links should be installed in a common bin directory.

If a naming conflict occurs, and the original is also a symbolic link, the original will be replaced. If the original is not a symbolic link, it will be preserved as <name>_save in the original directory.

Where should the symbolic links be located [/usr/bin]? */usr/bin*

=====

Starting NETEX-eFT installation

.
. .
. .
. .
. .
. .
. .
. .
. .
. .
. .

=====

NETEX-eFT installation completed

=====

[root@sunrise eft_n1]#

Step 2. Update Network Databases

For TCP/IP Protocol:

No action is required at this point for TCP/IP.

Step 3. Start the Service Initiator

Important note: Before starting the Service Initiator, you may have to edit its startup script. If your system has been altered, for example, so that the UNIX login procedure uses non-standard prompts for “login:” or “Password:”, or if the “Login incorrect” message has been changed, then the appropriate keywords will need to be likewise modified in the file `/usr/nesi/eft/si/startup`. See “Appendix C. Service Initiator Keywords” for a description of each keyword.

To start the Service Initiator, issue the following command:

```
$ /usr/nesi/eft/si/startup
```

The Service Initiator will log messages to the file `/usr/nesi/eft/si/svcinit.log`. Use the following tail command to look at the log file:

```
$ tail /usr/nesi/eft/si/svcinit.log
```

One of the messages should read:

```
EFT Service offered on port 6900
```

This confirms that the NetEx/eFT service ‘NTXeFT’ is being offered by the Service Initiator.

Note: The default NetEx/eFT service name offered has been changed to “**EFT**”. For compatibility with existing USER-Access installations, the service name must be changed to “**USER**” in the Service Initiator “startup” script and an entry must be created in the file “`/etc/services`” for the service name “**USER**”. Please see “Appendix A. Updating the TCP/IP Network Control Files” for further information on updating the system TCP/IP service file.

Step 4. Verify NetEx/eFT

A simple verification script has been supplied as part of the NetEx/eFT release. This verification script prompts you for the local host name of your system, and a valid username and password on this host (for verification purposes, the username and password specified should at least have the privileges you do - specify your username and password to be safe). It attempts to connect back to the host, login, and send and receive several files.

To invoke the verification procedure, set your working directory to the *user*’s subdirectory and invoke NetEx/eFT with the input script *verify.ua*, as follows:

```
$ cd /usr/nesi/eft/user
$ user verify.ua
```

You should see several messages printed to your terminal, followed by a final **Verification Successful** message. If an error is encountered during the verification, the procedure terminates and an error message is displayed.

Note: The NetEx/eFT Initiator (client) is normally invoked with the command *user*. If *user* is already a command on your system (for some other purpose), *usera* is recommended. The installation procedure automatically creates a symbolic link named 'user' in a selected 'bin' directory. If a file already had that name, it was moved to *user_save*.

Step 5. Set Up Automatic Service Initiator Startup

The NetEx/eFT Service Initiator can be started automatically at boot time by creating a startup file in the directory `/etc/rc2.d`. This installation step is optional.

To have the Service Initiator start automatically at boot time, create the startup file using the naming convention adhered to in the `/etc/rc2.d` directory. Name the new file `Sxxsvcinit` where `xx` is a two digit number that controls the order in which the shell script `/etc/rc2` executes the files in the directory `/etc/rc2.d`. For example, the following commands create the file `S99svcinit` in the directory `/etc/rc2.d`. (Remember to replace `/usr/nesi/eft` below with your definition of this root directory):

```
$ cat >/etc/rc2.d/S99svcinit
if [ "$1" = "start" ]
then
    /usr/nesi/eft/si/startup
fi
^D
$ chmod 555 /etc/rc2.d/S99svcinit
```

At system boot time, the Service Initiator will be started with the process name `SVCINIT`. Its messages will be logged to the file `/usr/nesi/eft/si/svcinit.log`.

At this point, you may wish to verify your changes by rebooting the system.

This completes the installation of NetEx/eFT on your client host.

Update Summary

Problems fixed in this release include:

Release 5.2

- The default Service Initiator service name is now “**EFT**”.
- Fix buffer overflow on connect password.
- Enable LZW as default compression method in send/receive.
- Enable use of ephemeral port range with keywords PORT_MIN and PORT_MAX.
- Added “ROOTDIR” and “HOMEDIR” to the output of the “show local” command.
- Display service port in Service Initiator log messages.
- Update client help.
- Fix gets warning messages.
- Change default eFT client prompt from “NTXeFT” to “EFT”.
- Disable NetEx support.
- Change default LOGINTYPE to login.

Release 5.1.0 N1

This is the initial release of this product.

- The default Service Initiator service name is now NTXeFT.

Appendix A. Updating the TCP/IP Network Control Files

The */etc/services* network control file can be updated to change the NetEx/eFT default. If Network Information Service (NIS - formerly Yellow Pages) is active, update the equivalent files on the master NIS server and 'make' the changes.

In the */etc/services* file, add a TCP/IP 'eft' service. You must first select a unique port number. Port numbers in the range 0-5000 are reserved for TCP network services. NetEx/eFT uses port number 6900 as the default. For example, add the following line to the end of the file:

```
eft          6900/tcp      EFT
```

Appendix B. Stopping the Service Initiator

The Service Initiator can be stopped by using the Service Initiator Control program `/usr/nsc/sicom/si/control`. Generally, the command to stop the Service Initiator is:

```
$ /usr/nesi/eft/si/control STOP -H host -S service
```

where ‘host’ is the name of the local network host and ‘service’ is the name of a network service being offered by the Service Initiator (“EFT” is generally the service name being offered). The optional OPERATOR password may need to be specified with the “-O” option. Stopping the Service Initiator this way will clean up `/etc/utmp` entries without affecting the associated servers that are still running. Stopping the Service Initiator with ‘kill’ will cause those `/etc/utmp` entries to remain in the file until re-boot or until they are re-used.

The log file may be examined by issuing the following, while the Service Initiator is active:

```
$ tail /usr/nesi/eft/si/svcinit.log
```

Appendix C. Service Initiator Keywords

The Service Initiator startup input file `/usr/nesi/eft/si/startup` contains a list of keywords that can be set to alter the way the Service Initiator operates for a given SERVICE being offered.

SERVER

Specifies the command that is used to invoke or run the NetEx/eFT server.

OPERATOR

Specifies a password that is required when issuing commands through the CONTROL program (used for shutting down the Service Initiator).

LOGTIMEOUT

Specifies the login timeout in seconds. This is used to terminate a login request that for some unknown reason, is hanging around.

MINIMUM

Specifies the minimum session number that will be offered for this service. For example, a MINIMUM value of 5 would result in SERVICE "EFT" being offered as "EFT005" up to MAXIMUM (below). Specifying MINIMUM or MAXIMUM do nothing to limit the number of NetEx/eFT sessions that are allowed. They are simply provided as a naming tool.

MAXIMUM

Specifies the maximum session number that will be offered for this service. A value of 30 for example would result in the last offer of "USER" being "USER030", before the offers started over at MINIMUM.

TRACE

Allows different levels of tracing of the Service Initiator. Refer to the startup file `/usr/nesi/eft/si/startup` for a description of the different trace levels.

UNIX_LOGIN

This keyword and the two that follow (UNIX_PASSWD and UNIX_BADLOG) are to be modified only if the site has made modifications to the default UNIX login utility `/bin/login`. These three keywords define strings that the Service Initiator looks for when interacting with `/bin/login` during a NetEx/eFT login request. UNIX_LOGIN defines the first prompt used by `/bin/login` when it is looking for a user name. The default value is the string "login: ".

UNIX_PASSWD

(see UNIX_LOGIN above). Defines the prompt used by `/bin/login` when it is looking for a password. The default value is the string "Password: ".

UNIX_BADLOG

(see UNIX_LOGIN above). Defines the resulting string returned by `/bin/login` when an invalid login attempt has been made. The default value is the string "Login incorrect".

GATEWAY

Enables/disables gateway processing of remote NODE qualifier. This should be 'on' for gateway hosts, 'off' for all others. DEFAULT: 'off'

SIHELPER

Service name of the remote 'sihelper' process or NULL to disable SIHELPER support. DEFAULT: 'sihelper' to enable SIHELPER support.

SIPLUS

Enables/disables SI+ proxy connect support. If 'on', the standard connect request is forwarded to the remote NODE. DEFAULT: 'on'

RLOGIN

Enables/disables 'rlogin' to remote NODE. If 'on', the Unix 'rlogin' mechanism is used to connect to the remote NODE. DEFAULT: 'off'

SERVER

Command invoked to activate the native network server. DEFAULT (Unix): exec /usr/nesi/eft/user/start_server

SIP_TIMEOUT

Connect timeout to use for SI+ proxy connects. This should be short to prevent long delays if the requested service is not offered on the remote NODE. DEFAULT: 1 sec.

SIP_INTERVAL

Connect interval to use for SI+ proxy connects. See also SIP_TIMEOUT. DEFAULT: 1 sec.

LOGINTYPE

The method used to log in to the system on which the Service Initiator is running. Valid values are 'rlogin' and 'login'. If 'rlogin' is specified, the rlogin protocol is used to log in to LOGIN-HOST. The 'login' method will allocate a pty, fork a process, invoke login, and invoke SERVER. DEFAULT: 'login'

LOGINHOST

Host name or IP address to log in to when using LOGINTYPE 'rlogin'. DEFAULT: 'localhost'

OFFER_TIMEOUT

(NETEX only) length of time (in seconds) to offer before timing out. If the offer times out, it is automatically reissued. DEFAULT: 0 (offer indefinitely).

PORT_MIN

Minimum ephemeral port number. DEFAULT: 3000

PORT_MAX

Maximum ephemeral port number. DEFAULT: 3999

Appendix D. Product Configuration File

Each Network Executive Software product that has integrated the License Verification Software facility now contains a product configuration file. The NetEx/eFT product includes this file in its installation distribution file set. During installation, this file (*prodconf*) is installed in the USER subdirectory of the installation directory (*/usr/nesi/eft/user*).

The default *prodconf* file shipped with NETEX/eFT contains the following information:

```
# Network Executive Software, Inc.  
# EFT Product Configuration file  
LICPATH      /usr/nesi/NESikeys    # NESi License Key file
```

A '#' character denotes a comment. Non-comment records must contain a keyword/value string. The initial version of this file contains only a single keyword/value record:

- LICPATH – this keyword defines the full path to the NESi License Key File (see “Appendix E. License Key File”).

Appendix E. License Key File

A single NESi License Key file must reside on each Solaris system on which one or more NESi products containing license support will be installed. The following guidelines apply:

- The default file name is *NESikeys*.
- The LICPATH keyword/value pair in the product configuration file (see “Appendix D. Product Configuration File”) specifies the full path name to this file. The default is: */usr/nesi/NESikeys*.
- The systems programmer installing the software must initially create this file prior to invocation of NetEx/eFT components such as Service Initiator and Client.
- A leading ‘#’ character in a file record denotes a comment line.
- The systems programmer installing this software must edit this file to add a new encrypted Software Key each time such a key is obtained from NESi for the EFT693 product (and other license-enabled NESi products). This should be done prior to installing the product, and must be done prior to being able to run the product successfully.
- The file may contain multiple keys per product due to new product releases or a change to the platform’s fingerprint (on UNIX this corresponds to the hostname for the target host). To make the file easier to maintain over time, it is recommended that you precede each Key entry with a comment line that documents the product and release level of the product that the key is associated with. It will then be easier to delete older Keys that are no longer valid for the product.
- The following shows an example of what a NESikeys.ini file might look like after adding several Keys to the file:

```
# Network Executive Software, Inc. Software License Key file
# Key for EFT693 N1 (4-15-01):
86481096ff6c3ebb9b34099b7e639fef
# Key for EFT693 pre-release (3-30-01):
e0fef4aaae2aa01e3d7f35d53039612da5e4abcd05a829a4
```