

FUJITSU Software openFT (Unix Systems) V12.0

Version 12.0C00  
August 2016

Release Notice

All rights reserved, including intellectual property rights.  
Technical data subject to modifications and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

© 2016 Fujitsu Technology Solutions GmbH

Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries.

<b>1</b>	<b>General</b>	<b>3</b>
1.1	Ordering	3
1.2	Delivery	4
1.3	Documentation	4
<b>2</b>	<b>Software extensions</b>	<b>5</b>
2.1	Configuration editor for remote administration	5
2.2	Extended logging functions	5
2.3	Extended security functions	5
2.4	Extended partner administration	6
2.5	Extended request administration	6
2.6	Operation with and without CMX	6
2.7	Extended diagnostics	6
2.8	Extension to the C program interface and openFT script interface	7
2.9	Integration in Solaris SMF	7
2.10	Other changes	7
2.11	Support of FarSync X.25	8
2.12	Single-user mode on Linux and Oracle Solaris	8
2.13	Deactivate restart function	8
2.14	Exporting public keys	8
2.15	Extended support of the Application Entity Title	8
2.16	Delete diagnosis information and console messages	8
2.17	Scope ID and line number	8
2.18	Further innovations as of V12.0B	9
2.19	Configuration of minimum key length	9
2.20	Extended ftinfo output	9
2.21	ftmonitor polling time change	9
2.22	Case extension to ft_mget	9
2.23	Extension of logging functionality in openFT explorer	9
2.24	openFT Explorer recognizes newly created openFT instance automatically	9
2.25	Single-user mode on all Unix Systems	9
<b>3</b>	<b>Technical information</b>	<b>10</b>
3.1	Resource requirements	10
3.2	Software configuration	10
3.3	Product installation	11
3.3.1	Installation of openFT products	11
3.3.2	Installation of CMX	14
3.3.3	Deinstallation	14
3.3.4	Special considerations on the individual platforms	15
3.3.5	openFT-CR	17
3.4	Product use	17
3.5	Obsolete functions (and those to be discontinued)	18
3.6	Incompatibilities	18
3.7	Restrictions	18
3.8	Procedure in the event of errors	18
<b>4</b>	<b>Hardware requirements</b>	<b>19</b>

# 1 General

\*1 This Release Notice is a summary of the major extensions, dependencies and  
 \*3 operating information with respect to openFT (Unix Systems) V12.0C00,  
 \*3 openFT-FTAM (Unix Systems) V12.0C00, openFT-FTP (Unix Systems) V12.0C00  
 \*3 and openFT-CR (Unix Systems) V12.0 under the operating system Oracle Solaris  
 \*1 (x86 and SPARC), Linux (x86, x86-64, s390x), AIX (POWER), HP-UX (Itanium) that  
 \*1 are not included in the Product Facts and in the manuals.

\*5 The release level is that of: August 2016.

\*5 Changes to release level April 2016 are marked with \*5.  
 \*4 Changes to release level July 2015 are marked with \*4.  
 \*3 Changes to release level November 2013 are marked with \*3.  
 \*2 Changes to release level July 2013 are marked with \*2.  
 \*1 Changes to release level September 2012 are marked with \*1.

The Release Notice is shipped on the product delivery medium.

This and other current Release Notices are available online at  
<http://manuals.ts.fujitsu.com/>.

If one or more previous versions are skipped when this product version is used, the information from the Release Notices (and README files) of the previous versions must also be noted.

\*1 openFT (Unix Systems) V12.0 may only be used on the system (Unix platform)  
 \*1 for which an appropriate license has been purchased. The FTAM and/or FTP  
 \*1 functionality (openFT-FTAM (Unix Systems) V12.0 or openFT-FTP (Unix  
 \*1 Systems) V12.0) may only be activated on the system for which an appropriate  
 license has been purchased.

For more information on openFT, see <http://www.ts.fujitsu.com/openft>.

The use of names, trademarks, etc. in this Release Notice does not entitle readers to assume that these names/designations may be used without restriction by anyone: often the names/designations are protected by law or contract, even if this is not indicated here.

\*3 openFT V12.0C uses Open Source software components. Information about the  
 \*3 used Open Source software components and the corresponding license  
 \*3 conditions can be found in the directory ThirdPartyLicense on the openFT product  
 \*3 CD. openFT V12.0C00 is subject to the same license conditions as openFT  
 \*3 V12.0B00.

## 1.1 Ordering

\*3 openFT V12.0C00 can be ordered from your local distributors.

This software product is made available to the customer subject to the general terms and conditions of the software product use and service agreement in return for a one-off payment / regular payments.

\*3 A license is required for openFT V12.0C00, openFT-FTAM V12.0C00, openFT-FTP V12.0C00. Appropriate licenses must be ordered in order to use the product. The product may only be used on the workstation or server for which a license was

purchased. Please note that a special license is required for openFT-FTAM and openFT-FTP.

After purchase openFT-CR V12.0 may be used and copied as often as needed. Please observe the applicable export and re-export regulations. An export license is required to use the product in other EU countries or to export the product to a third country.

## 1.2 Delivery

- \*3 Delivery of files for openFT V12.0C00, openFT-FTAM V12.0C00 and openFT-FTP V12.0C00 on CD-ROM with installation instructions:
- \*3 - openFT V12 dated 08.2016
- \*3 Delivery of files for openFT-CR V12.0 on CD-ROM with installation instructions:
- \*3 - openFT V12 - Crypto - dated 07.2015

## 1.3 Documentation

The documentation is available in the form of online manuals at <http://manuals.ts.fujitsu.com>.

The manuals are shipped as PDF files on the product medium. The index enables searches to be made in all manuals.

- \*3 A detailed description of the innovations to openFT V12.0C is available under:
- \*3
  - openFT Explorer 'Help / Extensions to the Manuals',
  - Product-CD in file docs/english/notes/Readme\_V12.0C.pdf
  - \*1 • Online <http://manuals.ts.fujitsu.com>

## 2 Software extensions

\*3

Only the extensions and improvements over the previous version openFT V11.0B, 12.0A and 12.0B are described in the following section.

### 2.1 Configuration editor for remote administration

openFT offers with its new configuration editor a graphical interface, with which a configuration file can be created or changed for remote administration. The configuration can be viewed immediately as a tree structure in the configuration editor and corresponds to the subsequent presentation in the openFT Explorer. The configuration editor is started via the openFT Explorer.

### 2.2 Extended logging functions

The logging functions have been extended as follows:

- Switching the logging file and offline logging  
The logging file can be changed during ongoing operation. After the switch new logging records can be written into a new logging file. The previous logging file continues to exist as an offline logging file; its logging records can still be viewed using openFT resources.  
The command interface has been extended as follows for this purpose:
  - *ftmodo*:  
New option *-lf=c* to switch the logging file.
  - *ftshwl*:  
New options *-lf*, *-tlf* and *-plf*, to view logging records from offline logging files.  
New option *-lff*, to output the names of all logging files (including offline logging files).
  - *ftdell*  
New selection criterion *-tff*, to delete offline logging files.
- Automatic deletion of logging records  
Time intervals can be set via operating parameters for the automatic deletion of logging records. To this end, the command *ftmodo* has been extended to include the new options *-ld*, *-lda*, *-ldd* and *-ldt*. The settings can be displayed using the command *ftshwo*.
- Polling function for the output of logging records  
In the case of *ftshwl* the new options *-po* and *-pnr* can be used to set the time interval and the number of repeats (polling).
- Wildcards for partner names for the output of logging records  
In the case of *ftshwl* the wildcard symbols "\*" and "?" can also be specified for the partner names (*-pn=*).

### 2.3 Extended security functions

- Import keys  
The new command *ftimpk* can be used to import both externally created private keys and public keys from partner systems.
- Expiration date and authentication level of RSA keys
  - The new command *ftmodk* can be used to set an expiration date and change the authentication level (1 or 2) for keys that are used to authenticate partner systems.
  - The new command *ftshwk* can be used to output the features of the keys stored in the system.
  - *ftshwl* displays the authentication level (output parameter SEC-OPTS, new values LAUTH2 and RAUTH2).
- Enforce data encryption

The new option *-c* in the command *ftmodo* can be used to generally enforce data encryption for file transfer and administration requests. The setting is possible on a separated basis for inbound and outbound requests.

- After initial installation openFT uses as standard a 2048-bit RSA key.
- PAM support  
The pluggable authentication modules (PAM) as authentication services for code encryption in openFT are supported for all platforms. Support for Solaris was already available in V11.0, but not yet described in the manual.
- File access and admission check under user rights  
All access and admission checks made by openFT on a user's files and folders now take place under the rights of the respective user.

## 2.4 Extended partner administration

- A partner in the partner list can also be explicitly deactivated for inbound requests.  
The new option *-ist* has been introduced for this purpose in the commands *ftaddptn* and *ftmodptn*. The current status (activated/deactivated) is shown in the output parameter INBND of *ftshwptn*.
- Serialization of asynchronous outbound requests for certain partners  
The new option *-rqp* in the commands *ftaddptn* and *ftmodptn* can be used to control whether asynchronous outbound requests for a certain partner are always performed serially or whether parallel connections are allowed. This feature is shown in the output parameter REQU-P of *ftshwptn*.

## 2.5 Extended request administration

- Global request identification  
In the event of an FT request the initiator's request number is transmitted to the responder, where it is visible as a global request identification. This enables a request to be clearly assigned between initiator and responder. The commands *ftshwr* and *ftshwl* have been extended as follows:
  - The global request identification is in each case shown in the new output parameter GLOB-ID in the responder.
  - The new parameter *-gid* can be used in both commands to make a selection according to a global request identification.

## 2.6 Operation with and without CMX

The new option *-cmx* in the command *ftmodo* can be used to change between the operating modes "with CMX" and "without CMX". The current mode is shown by the command *ftshwo* in the output parameter USE CMX.

After initial installation the "without CMX" operating mode is set.

## 2.7 Extended diagnostics

The new option *-troll* in the command *ftmodo* can be used to activate and deactivate the trace for the lower protocol layers in ongoing operation and to control the scope of the trace.

The current setting is shown by the command *ftshwo* in the output parameter OPTIONS-LL (line: FUNCT).

## 2.8 Extension to the C program interface and openFT script interface

The program interface has been extended to include the following function groups:

- *ft\_sd\** to determine the attributes of all the files of a directory in the remote system.
- *ft\_xc\** to synchronously execute commands in the remote system.

These extensions are also available at the JAVA interface.

The openFT script interface has been extended to include the following commands for the variable storing of openFT script requests:

- *ftmodsuo* to change openFT script user options.
- *ftshwsuo* to show openFT script user options.

## 2.9 Integration in Solaris SMF

On Solaris systems openFT is integrated in the service management facility (SMF) concept:

- The installation and the commands *ftstart*, *ftstop*, *ftcrei* und *ftdeli* have been adapted to suit the SMF process.
- The *ftagt* manifest is installed if SNMP is available.

## 2.10 Other changes

- The commands *ft* and *ncopy* are given the additional alias names *ftacopy* (for *ft*) and *ftscopy* (for *ncopy*) so as to avoid any confusion with the commands of the operating system or other manufacturers.
- The command *ftinfo* has been extended and provides additional information.
- The maximum record length for file transfer requests and when setting local file attributes has been extended to 65535. This concerns the following commands and options:
  - *ncopy -r=*
  - *ft -r=*
  - *ftmodf -rl=*
- On Solaris systems openFT supports the installation into an alternative root directory.
- Migration help for TNS replacement  
The tool *tns2ptn* is available for the migration to TNS-free operation. *tns2ptn* is intended to create commands, with which entries can be made in the partner list, from TNS entries with address format RFC 1006.
- The description of dynamic partners has been rendered more precise. In this connection, the partner types "Named partners", "Registered dynamic partners" and "Free dynamic partners" have been introduced.
- Functional extensions in the openFT Explorer (see online help)

\*1 The innovations over the previous version openFT V12.0A are described in the following sections. They are only valid for the platforms Linux and Oracle Solaris (SPARC, x86).  
 \*1 A detailed description of the innovations to openFT V12.0B is available under:  
 \*3 • openFT Explorer 'Help / Extensions to the Manuals',  
 \*3 • Product-CD in file docs/english/notes/Readme\_V12.0C.pdf  
 \*1 • Online <http://manuals.ts.fujitsu.com>

## \*1 **2.11 Support of FarSync X.25**

\*1  
\*1  
\*1 As of openFT V12.0B FarSync X.25 cards from the manufacturer FarSite are  
\*1 directly supported by openFT under Linux with x86 and x86\_64 processors. The  
\*1 coupling method XOT (X.25 via TCP/IP) is also supported under Linux with x86  
\*1 and x86\_64 processors by using the FarSync XOT Runtime. PCMX is no longer  
\*1 required for this. In order to enable the usage of the direct X.25 support in openFT,  
\*1 CMX operation must be switched off (ftmodo -cmx=n).

## \*1 **2.12 Single-user mode on Linux and Oracle Solaris**

\*1  
\*1  
\*1 As standard openFT runs on Unix platforms in multi-user mode under a privileged  
\*1 ID (root) and then temporarily changes into the role of a user if openFT functions  
\*1 are to be executed for the former. As of V12.0B it is also possible to let openFT  
\*1 run in single-user mode on Linux (x86, x86\_64) and Oracle Solaris. This means  
\*1 that openFT runs completely under a specific ID, and also means that access  
\*1 options, the executing of commands, etc. are consequently restricted to the  
\*1 permissions of this ID.

## \*1 **2.13 Deactivate restart function**

\*1  
\*1  
\*1 As of openFT V12.0B the restart function can be deactivated partner specific or  
\*1 global. The commands ftmodo (switches -rco -rci), ftaddptn and ftmodptn (switch  
\*1 -rco) are extended. The output of the command ftshwptn was extended.  
\*1

## \*1 **2.14 Exporting public keys**

\*1  
\*1  
\*1 As of V12.0B the openFT Explorer supports the export of public keys of the local  
\*1 instance. This makes it easier for the FT administrator to provide partners with the  
\*1 keys required to authenticate the own instance.

## \*1 **2.15 Extended support of the Application Entity Title**

\*1  
\*1  
\*1 The Application Entity Title now offers the option of implementing the identification  
\*1 of an initiator which is independent of the partner address for FTAM as well.

## \*1 **2.16 Delete diagnosis information and console messages**

\*1  
\*1  
\*1 As of V12.0B the openFT Explorer supports the deletion of diagnosis information  
\*1 and console messages of the set local instance.

## \*1 **2.17 Scope ID and line number**

\*1  
\*1  
\*1 The scope ID in IPv6 addresses and the line number (or adapter number:line  
\*1 number) in X.25 address specifications are integrated in the "Host" within the  
\*1 partner address, but are not taken into consideration when determining a partner  
\*1 list entry via the partner address, unless a scope ID or line number is specified in  
\*1 the partner address. This is a change in the previous behavior for IPv6, which is a  
\*1 particular advantage for the inbound resolution of the sender via the partner  
\*1 address.



## \*1 **2.18 Further innovations as of V12.0B**

- \*1 • With openFT V12.0B a new delivery unit for 64-bit Linux (x86\_64) is released.
- \*1 Here openFT operates in 64-bit mode.
- \*1 • New delivery unit openFT on z/Linux (s390x).

\*3 The innovations over the previous version openFT V12.0B are described in the following section.

\*3 A detailed description of the innovations to openFT V12.0C is available under:

- \*3 • openFT Explorer 'Help / Extensions to the Manuals',
- \*3 • Product-CD in file docs/english/notes/Readme\_V12.0C.pdf
- \*3 • Online <http://manuals.ts.fujitsu.com>

## \*3 **2.19 Configuration of minimum key length**

\*3

\*3 For an openFT instance it is possible to require a minimum RSA key length for the negotiation of the openFT session encryption key.

## \*3 **2.20 Extended ftinfo output**

\*3

\*3 The output of the command ftinfo is extended by the column Crypt.

## \*3 **2.21 ftmonitor polling time change**

\*3

\*3 The graphic openFT monitor supports the change to another polling interval without restarting the program

## \*3 **2.22 Case extension to ft\_mget**

\*3

\*3 The tool ft\_mget is extended to include the option `-case`; this sets the consideration or non-consideration of upper case / lower case in the file name pattern.

## \*3 **2.23 Extension of logging functionality in openFT explorer**

\*3

\*3 The logging functionalities are extended to the context menu of the node 'Logging' by a menu entry **Settings...** allowing to open the 'Operating Parameters' dialog and position on its 'Logging' tab automatically.

## \*3 **2.24 openFT Explorer recognizes newly created openFT instance automatically**

\*3

\*3 The drop down menu for choosing an instance is always available. Newly created instances are added to the menu without restarting openFT Explorer.

## \*3 **2.25 Single-user mode on all Unix Systems**

\*3 The single-user mode is now available on all Unix Systems.

## 3 Technical information

### 3.1 Resource requirements

The required hard disk space is approx. 60-75 Mbytes (including standard instance). At least approx. 30 Mbytes are required for each further instance (default settings). Main memory requirements are approx. 2-4 MB per openfts process plus a three-digit KB value for each current request depending on platform and protocol.

The /var partition should be sufficiently dimensioned to hold management files under /var and to store logging and trace files. Please ensure therefore that superfluous logging records and trace files are deleted on a regular basis. If necessary, /var/openFT can be stored on its own, separate or large partition using a symbolic link.

If you use the openFT script interface, a Java Virtual Machine is started for every user currently running openFT script requests. In case of a large number of parallel external activities the machine needs up to 212 Java threads and a further 4 Java threads per openFT script request.

### 3.2 Software configuration

The following products are required to use openFT (Unix Systems) V12:

	Oracle Solaris (SPARC)	as of V10
	Oracle Solaris (x86)	as of V10
	Linux (x86)	as of SuSE SLES 10 SP3 or RedHat RHEL 5 with Kernel 2.6.18 or compatible Linux distributions
	Oracle Linux 5	as of unbreakable Enterprise kernel 2.6.32
*1	z/Linux (s390x)	as of Kernel 2.6.18
	HP-UX (Itanium)	as of V11iv3 (11.31)
	AIX (POWER)	as of V6.1

The following PCMX versions are included on the product CD:

	Solaris (SPARC)	SMAWpcmx	V6.0B
	Solaris (x86)	SMAWpcmx	V6.0B
*3	Linux (x86, x86-64)	PCMX	V6.0B00-02
	HP-UX (Itanium)	CMX	V6.0B
	AIX	CMX.all	6.1.0.0
*1	PCMX is not available on z/Linux.		

At least J2SE Runtime Environment 5.0 (JRE 5.0) is needed to use the JAVA and ftscript interface.

- \*2 **Note:** There is an incompatible change in JAVA 7 handling filenames with blanks.  
 \*2 Use at least JAVA (JRE) 7 Update 25 for the ftscript interface. To allocate a  
 \*2 special Java version to openFT use the command ftsetjava.

You should refer to the installation information in the openFT script manual if you want to use the openFT script interface.

- \*1 The support of X.25 on Linux (x86 and x86\_64) requires a FarSync card from  
 \*1 FarSite with the following versions:  
 \*1 FarSync software as of V3.2.9

- \*1 For the operation of XOT the following patch level has to be used at least:

- \*1 • XOT runtime: 3.2.8 patch01
- \*1 • X.25: 3.2.9 patch01

- \*1 Download of software under:
- \*1 [http://www.farsite.com/custsupp/Download\\_X.25\\_software.htm](http://www.farsite.com/custsupp/Download_X.25_software.htm)
- \*1 It is recommended to use always the latest driver version.

Further information on the software configuration can be found in the Data Sheet (see also <http://www.ts.fujitsu.com/openft>).

### 3.3 Product installation

The openFT (Unix Systems) delivery unit consists of the following packages:

openFT: Basic package with German and English user interface includes

- FT (File Transfer Unix Systems)
- FTAM (File Transfer OSI Support)
- FTAC (File Transfer Access Control)
- FTP (File Transfer FTP Support)

PCMX: Communication via TCP/IP (optional as of openFT V12)

The openFT-CR delivery unit for Unix Systems consists of the following package:

openFT-CR: Crypto module for openFT (encryption)

You must perform the installation under root.

#### 3.3.1 Installation of openFT products

Operation without CMX is supported as of openFT V12. If you want to work with CMX, see 3.3.2.

- \*1 As of openFT V12.0B an additional delivery unit for 64-bit Linux and z/Linux is available.
  - \*1 Linux systems (x86\_64) only require the 32-bit versions of the PAM packages if the 32-bit version of openFT is used.
  - \*1 Please use the package administration system of your Linux distribution to check the installation of the 32-bit versions of the PAM packages. Alternatively verify the existence of the files `/lib/security/pam_chroot.so` and `/lib/security/pam_unix.so`. The command `"rpm -VI pam"` or `"rpm -qi pam"` can be used to check whether the pam32 dependencies are fulfilled.
- The various Linux distributions require the following packages:
- SUSE: package `pam-32bit` and `pam-modules-32bit`
  - RedHat: `pam-0.99.6.2-4.el5.i386.rpm` or a newer version of this package

The language is set using the LANG environment variable.

This does not apply for HP. English is always installed there. It can be changed after the installation using the tool `/opt/openFT/bin/ftbin/ftlang`.

During initial/update installation a suitable JAVA interpreter is found and made known to openFT. If no suitable interpreter is found or if a new JAVA package is installed after openFT has been installed, the `'ftsetjava <JAVA-interpreter>'` command must be issued to make the JAVA interpreter known to openFT (only for using `ftscript`).

If a faulty JAVA interpreter is installed on the system, openFT installation may freeze (`'java -version'` command generates a dump). In this case, you should terminate the `'java -version'` process by means of `kill` so that installation resumes. You should then clean up your JAVA installation.

openFT-CR requires the installation of openFT.

### 3.3.1.1 Initial installation

- \*1 **Note:** As of openFT V12.0B a separate package is available for Linux X86\_64.  
 \*1 During an initial installation on a 64-bit Linux the 64-bit package is installed  
 \*1 automatically and on a 32-bit Linux the 32-bit package.

#### Necessary steps to be taken by the system administrator:

1. If an openFT < V10.0 and any add-on products are already installed, you then need to deinstall openFT and the add-on products. Before deinstalling openFT the admission sets and profiles should be saved in a file using ftexpe.
2. Install the product software for openFT V12.0.
3. Import the saved admission sets and admission profiles using ftimpe if required. In the case of imported admission sets from openFT <= V8.0 security levels, which were previous at 1, are automatically reset to 90. The standard admission set is not changed.

#### Automatically performed steps:

During initial installation the following steps are carried out automatically in addition to loading the product software:

- Operation with CMX is disabled.
- The use of TNS is disabled. If CMX is installed, standard TNS entries are created for openFT or old TNS entries are modified.
- Set the processor name; the processor name of the operating system is registered.
- Enter the DNS name as instance identification; if no DNS name is available, the processor name of the system is registered.
- Support the automatic start of openFT in the case of system start or end in the case of system shutdown:
  - o The cross-instance startup and shutdown file (e.g. /sbin/init.d/openFT) is installed on HP, AIX and Linux.
  - o The startup and shutdown file of the standard instance (path name /var/openFT/std/etcinit/openFTinst) is installed on HP, AIX and Linux.
  - o SMF support is provided on Oracle Solaris as of openFT V12.
- Create a key pair set.
- Start openFT (start of the asynchronous server of openFT, not on HP).

In order to use encryption (Crypto module) it is mandatory to install openFT-CR V12.

#### Activities after the installation:

- Where applicable, install the saved profiles (ftimpe), options, partner list entries
- If CMX is to be used, see 3.3.2

### 3.3.1.2 Update installation (migration from V11 or V10)

An update installation is carried out if openFT V11 or V10 is already installed.

- \*1 **Note:** After an update installation on Linux x86\_64 the 32-bit version is still  
 \*1 installed. To install the 64-bit version, openFT has to be deinstalled first. Afterward  
 \*1 an initial installation has to be carried out. Please save your configuration data  
 \*1 (FTAC profiles, options and partner list entries) before deinstallation.

The following points should be observed:

- The admission sets and admission profiles are taken from the previous version.

- Key pair sets are taken from the previous versions. If a 2048-bit RSA key has until now not existed due to update installations, this cannot be automatically created for technical reasons. In order to use a 2048-bit RSA key it is necessary to create a completely new key pair set using the command `ftcrek`.
- All running openFT applications should be stopped before starting the installation. Also terminate all running openFT script requests. They are stopped during the installation and are regarded in the new version as not restartable.
- With an update installation the old logging, trace and diagnostic files are deleted, currently running requests are terminated, and open graphical user interfaces are closed.
- The new instance-global rc file is installed; the old file is no longer saved.
- To ensure that all instances are also automatically updated, you should enable all disabled instances with `ftcrei` before you start the update installation. Otherwise you must update all disabled instances with the `ftupdi` command after completing the update installation.

**Necessary steps of the system administrator:**

1. Install openFT V12.0 from the data medium.
2. If you have made any changes in the old startup and shutdown files, you must also make them in the new startup and shutdown files (Linux, HP and AIX) or make appropriate modifications for SMF (Oracle Solaris).

**Automatically performed steps for all active instances:**

- File transfer will be stopped.
- Unconditionally delete existing requests from the request queue; follow-up processing, if any, is initiated.
- Load the product software.
- Transfer the operating parameters.  
Existing TNS entries for openFT are modified if necessary; operation with CMX remains activated; use of TNS names is not changed.
- Transfer of the FTAM catalog, admissions profiles, admissions sets and configuration data for central administration.
- The old instance-specific startup and shutdown files are saved.
  - o The new instance-specific startup and shutdown files are subsequently installed on the AIX, HP and Linux systems.
  - o SMF support is provided on Oracle Solaris as of openFT V12; the startup and shutdown files are no longer installed.
- Transfer of the language setting from the previous version. However, the openFT man pages are installed in German and English on the Linux platform, i.e. a user receives the man pages in the language that is set during his login session.
- Start of the file transfer (exception: HP).

### 3.3.1.3 Installation of a correction version

Installation of a correction version means that openFT V12.0 already exists on the computer.

- \*3 **Note:** After an installation of a correction version (V12.0C over V12.0A or V12.0B)  
 \*1 on Linux x86\_64 the 32-bit version is still installed. To install the 64-bit version,  
 \*1 openFT has to be deinstalled first. Afterward an initial installation has to be carried  
 \*1 out. Please save your configuration data (FTAC profiles, options and partner list  
 \*1 entries) before deinstallation.  
 \*3 In the case of an update from V12.0A or V12.0B to V12.0C an update installation  
 \*1 is carried out (s. 3.3.1.2). The logging files will not be deleted.

**Necessary steps of the system administrator:**

1. All running applications and openFT script requests of openFT V12.0 must be terminated before starting the installation.
2. Install openFT V12.0 from the data medium.

**Automatically performed steps:**

- Admission profiles and sets, logging files, startup and shutdown files (Linux, HP, and AIX) and the SMF connection (Oracle Solaris), the FTAM catalog, operating parameters, requests, partner list, configuration data for central administration and key pair sets are transferred unchanged for all openFT instances.
- openFT and all active graphical openFT user interfaces are stopped during installation.
- The file openFTinst under /var/openFT/<inst>/etcinit is not overwritten by the update installation. Thus any corrections that are in the file /opt/openFT/etcinit/openFTinst are not inherited.

### 3.3.2 Installation of CMX

As of openFT V12 support is provided for operation without CMX. If you want to work with CMX and no CMX or an older version is installed in the system, you have to install the CMX that is on the data medium before activating operation with CMX in openFT.

When migrating from SMAWcmx to SMAWpcmx proceed as follows (only relevant for Solaris):

1. Deinstall SMAWcmx (pkgrm SMAWcmx)
2. Delete the "DIR1" directory as TNS entries can no longer be used and are not automatically deleted during deinstallation (rm -r /opt/lib/cmx/DIR1)  
If you want to continue using TNS backup files with SMAWpcmx created in tnsxfrm format with CMX V5/V6, you must change the version number in the first line to 4.0.

If no CMX is installed during the openFT installation, no TNS entries are created, either. TNS entries can be created or updated using the procedure /opt/openFT/bin/ftbin/ftgentns.

Invoke: /opt/openFT/bin/ftbin/ftgentns

- \*1 **Note:** No PCMX package is available on z/Linux. Only the operating without  
\*1 PCMX is supported.

### 3.3.3 Deinstallation

Proceed as follows to deinstall:

Solaris: pkgrm <package>  
specify openFT, openFT-CR or SMAWpcmx for package

Linux: rpm -e <package>  
specify openFT, openFT-CR or PCMX for package

HP-UX: swremove <package>  
specify openFT, openFT-CR or CMX for package

AIX: installp -u <fileset>  
specify OPENFT.OPENFT, OPENFT-CR.OPENFT-CR or CMX.all  
for fileset

The instance directories in /var/openFT are automatically deleted during deinstallation. The following order is recommended:

- \*1  
\*1  
\*1  
\*1
1. openFT-CR
  2. openFT
  3. CMX

### 3.3.4 Special considerations on the individual platforms

#### 3.3.4.1 Oracle Solaris (SPARC/x86)

Insert the CD in the corresponding drive. It is mounted automatically. Change to the mounted directory (e.g. `cd /cdrom/openftv12`) and start the procedure

```
sh install.ft           to install openFT
```

```
sh install.cmx         to install SMAWpcmx
```

```
sh install.all         to install SMAWpcmx and openFT
```

For the Oracle Solaris platform openFT V12 supports the installation into an alternative root directory. For this purpose, change to the mounted directory and start the procedure:

```
sh install.ft -r=<alternative root directory>
```

Example:

To install openFT in the directory `/altroot` invoke the following command:

```
sh install.ft -r=/altroot
```

As of Oracle Solaris 10 openFT and SMAWpcmx are automatically installed in the current zone (pkgadd-option -G).

OSI stack on Solaris:

In order to use Solstice OSI for ISO connections via WAN (e.g. X.25) or LAN, you must remove the corresponding comment character (#) in front of WANSBKA for WAN or OSITYPE for LAN in the file named `cmxti.cfg` (see `/opt/lib/cmx/`) and add your own address (refer also to the instructions in the file).

#### 3.3.4.2 Linux

For installation purposes insert the CD in the corresponding drive and mount it (e.g. `mount /dev/cdrom`). Change to the mounted directory (here: `cd /cdrom`) and start the procedure

```
sh install.ft           to install openFT
```

```
sh install.cmx         to install PCMX
```

```
sh install.all         to install PCMX and openFT
```

The FTAM and FTP functionality is not installed automatically during initial or update installation (V10/V11 to V12). To install this functionality (if the corresponding license is available), invoke the following commands:

```
/opt/openFT/bin/ftbin/install.ftam -i and/or
```

```
/opt/openFT/bin/ftbin/install.ftp -i.
```

If you are updating V12, any FTAM and FTP functionality already installed is retained intact.

- \*1 **Note:** After an update or installation of a correction version on Linux x86\_64 the 32-bit version is still installed. To install the 64-bit version, openFT has to be deinstalled first. Afterward an initial installation has to be carried out. Please save your configuration data (FTAC profiles, options and partner list entries) before deinstallation.
- \*1
- \*1
- \*1
- \*1

- \*1       **zLinux on s390x:**
- \*1       zLinux runs as a guest system under z/OS on s390x mainframes. However, guest
- \*1       systems do not have direct access to CD-ROM drives. Therefore you have to
- \*1       transfer all files of the linux390 directory on the openFT product CD to the zLinux
- \*1       system (using ftp, for example).
- \*1
- \*1       For the installation of openFT on zLinux mount the openFT CD on a system with a
- \*1       CD-ROM drive, change to the mounted directory and then to the linux390
- \*1       directory.
- \*1       Transfer the following files
- \*1
  - \*1       • install.ft
  - \*1       • openft.ds

\*1       to the zLinux s390x system and start the procedure

\*1       
  - \*1       • sh install.ft                      to install openFT

### 3.3.4.3 HP-UX

Insert the CD in the corresponding drive and mount it using the following command:

```
mount -o cdcase <device> <mountpoint>
(e.g. mount -o cdcase /dev/dsk/c0d4t0 /cdrom)
```

Change to the mounted directory (here: cd /cdrom) and start the procedure

```
sh install.ft                      to install openFT
```

```
sh install.cmx                    to install CMX.
```

```
sh install.all                    to install CMX and openFT
```

For technical reasons, file transfer is not started automatically (ftstart) during installation.

The FTAM and FTP functionality is not installed automatically during initial or update installation (V10/V11 to V12). To install this functionality (if the corresponding license is available), invoke the command

```
/opt/openFT/bin/ftbin/install.ftam -i or
```

```
/opt/openFT/bin/ftbin/install.ftp -i
```

If you are updating V12, any FTAM and FTP functionality already installed is retained intact.

### 3.3.4.4 AIX

Insert the CD in the corresponding drive and mount it using the following command:

```
mount -v cdrfs -r <device> <mountpoint>
```

```
(e.g. mount -v cdrfs -r /dev/cd0 /cdrom)
```

Change to the mounted directory (here: cd /cdrom) and start the procedure

```
sh install.ft                      to install openFT
```

```
sh install.cmx                    to install CMX
```

```
sh install.all                    to install CMX and openFT
```

The FTAM and FTP functionality is not installed automatically during initial or update installation (V10/V11 to V12). To install this functionality (if the corresponding license is available), invoke the command

```
/opt/openFT/bin/ftbin/install.ftam -i or
```

```
/opt/openFT/bin/ftbin/install.ftp -i
```

If you are updating V12, any FTAM and FTP functionality already installed is retained intact.



### 3.3.5 openFT-CR

If you want to use encryption of user data, you must use the openFT-CR V12 delivery unit for Unix Systems because of export regulations.  
To install change to the mounted directory and start the procedure  
sh install.cr

The use of openFT-CR V10 or V11 is possible in the case of an openFT update installation. An installation of openFT-CR V12 is not necessary but recommended. If openFT-CR V10 or V11 is deinstalled, the use of openFT-CR V12 is then mandatory.

\*3 Installation of openFT-CR V12.0 (dated 07.2015) is mandatory in single-user  
\*3 mode.

#### \*1 **zLinux on s390x:**

\*1 For the installation of openFT-CR on zLinux mount the openFT - crypto - CD on a  
\*1 system with a CD-ROM drive, change to the mounted directory and then to the  
\*1 linux390 directory.

\*1 Transfer the following files

- \*1 • install.cr
- \*1 • openftcr.ds

\*1 to the zLinux s390x system and start the procedure  
\*1 • sh install.cr to install openFT-CR.

## 3.4 Product use

Courses for openFT V12 are offered by Fujitsu (<http://training.ts.fujitsu.com>).

openFT (Unix systems) V12 implicitly includes the functionality of FTAC, FTAM and FTP. If you want to use the FTAM and FTP functionality additionally, you need only purchase the corresponding license (see 1.).

If you want to use encryption of user data, you must use the openFT-CR V12 delivery unit for Unix Systems because of export regulations.

openFT V12 is compatible to openFT versions that still receive maintenance.

Authentication Level 2 (AUTHL2) is supported as of openFT V11.0B.

On Unix platforms (Solaris) with openFT it is strongly recommended to deactivate the host cache of the Name Service Cache demons (nscd see man page nscd(1M)). At high-performance the demon may cause a great loss of performance during resolution of host names. (see <http://www.unixguide.net/sun/faq/5.72.shtml>).

With a connection FTP / openFT-FTP FTAC transfer admissions must be specified as user name. Password may not be specified (confirm request with enter).

Use of openFT in Solaris zones:

When setting up zones, note that /opt and /var must not be loopback mounted (no inherit-pkg-dir). They must be available separately in each zone in which openFT is to run.

Is /usr loopback mounted in the local zone (inherit-pkg-dir: dir: /usr), openFT must be installed in the global zone.

When using openFT on Solaris zones it is recommended not to use CMX. openFT and, if necessary, SMAWpcmx must be installed separately in each zone. If the graphical user interface is to be started in a zone, an X11 runtime system must be available in that zone.

If problems occur during connection setup to external implementations (RFC1006 of the external implementation does not accept user data), set and export the environment variable NOCONRSUDATA prior to ftstart. This disables connection setup optimization.

Example:

```
NOCONRSUDATA=1 ; export NOCONRSUDATA
ftstart
```

### 3.5 Obsolete functions (and those to be discontinued)

\*4 The following functions are no longer supported as of this version:  
SNMP subagent ftagt on HP-UX and Linux  
BSFT, ftmodo -ftp=

The deactivating of the FTP server with ftmodo -ftp= is no longer supported. Please use the option -acta= of the ftmodo command instead.

### 3.6 Incompatibilities

Apart from the following restrictions openFT V12 is fully compatible to openFT V11:

- Because of an incompatible behavior of the C compiler or linker of Linux systems, problems may occur with programs which are linked with the shared library of the C program interface of openFT V8.x (relocation error: undefined symbol: stat). In this case, the program must be newly compiled.
- After initial installation openFT uses as standard an RSA key of 2048 bits in length.

### 3.7 Restrictions

None

### 3.8 Procedure in the event of errors

If an error occurs, the following error documents are needed for diagnostics:

A detailed description of the error condition, indicating whether and how the error can be reproduced.

- The error must be reported to the appropriate service provider.  
A PERLE error report will be opened for Second Level Support.

See also the appropriate information in the manuals:

- User or System Administrator Guide , section 'What if..'
- System Administrator Guide, section 'Actions in the event of an error'

## **4 Hardware requirements**

Refer to the Data Sheet for the hardware supported by the products.  
(see also <http://www.ts.fujitsu.com/openft>).