

openFT (Unix-Systems) Version 10.0

Issue April 2008

Enterprise File Transfer

Pages 4

About 80 percent of the total amount of data exchanged within a company or between a company and its customers and business partners is transferred in the form of files. In E-Business the requirements placed on a company-wide file transfer solution (Enterprise File Transfer) become even more important: openness, automation, security, reliability, availability and performance. The Fujitsu Siemens Computers *openFT* product family fulfils these requirements to the utmost and also provides a series of additional useful functions such as file administration for the local and remote system. Furthermore, *openFT* is very easy to install and administrate and can contribute significantly to the reduction of the TCO (Total Cost of Ownership).

openFT is a high-performance solution for complex, heterogeneous IT environments that can be used to fully automate the file transfer process. *openFT* is especially suited for companies and government agencies that require a totally reliable and secure provision of large quantities of business-critical data. The use scenarios of *openFT* extend beyond numerous areas of application in mobility and business critical computing. For many application integration projects, *openFT* represents a widely used and proven solution with solid benefits. *openFT* has proven its flexibility and reliability day in day out, even under extreme loads, in over 50,000 server installations.

openFT is part of the comprehensive *openSEAS* product offering.

Openness

openFT supports a wide range of system platforms and protocols while maintaining a uniform interface.

▪ **System platforms**

Computers from different manufacturers running different operating systems can be connected with *openFT*. For example, *openFT* is available for all Windows platforms (Windows XP, Windows Server 2003), numerous Unix platforms (including Solaris and Linux), as well as all BS2000/OSD and z/OS systems.

▪ **Protocols and Networks**

openFT can also be used in a network in which computers with different protocols communicate with each other. *openFT* supports networks and network protocols such as TCP/IP, SNA, ISO, NEA, X.21/X.25, and ISDN resp. Network transitions can be realized with *openFTIF* (File Transfer Interconnect Facility). The *openFTIF* add-on product implements an end-to-end connection by means of its gateway function.

▪ **Data formats**

openFT can process and transfer files with different characteristics (depending on the file type and operating system in which the files were created).

▪ **Encoding of character data**

openFT is able to handle and transfer text files with various encodings. *openFT* supports the conversion of encoding of standard Unicode variants (UTF-8, UTF-16, UTF-E), standard 8-bit character sets (ISO8859nn, EDF04nn) and any user defined 8-bit character set.

▪ **FTAM support**

The full integration of the FTAM protocol (file transfer based on the ISO 8571 protocol) by means of the *openFT-FTAM* add-on product means that the communications options are extended to some more important systems. The add-on module *openFT-FTAM*

is integrated into the *openFT* product. It must be ordered separately as a license.

▪ **FTP support**

The communications options are extended to practically all major systems by the integration of the ftp protocol by means of the *openFT-FTP* add-on product. The add-on module *openFT-FTP* is integrated into the *openFT* product. It must be licensed separately too.

Automation

openFT offers the following functions and features for integration into business processes or applications:

▪ **Follow-up processing**

It is possible to attach a request for follow-up processing in the local or remote system to a file transfer request. If the transferred file is a job, for instance, it can be started by means of the follow-up processing. Further examples of use comprise printing out transferred files and automatic updating of databases.

▪ **Pre- and post-processing**

Operating system commands that process or dynamically create the data before transmission can be started when sending or receiving a file. This means, for instance, that it is easy to access databases and transfer results, perform conversions and integrate customer-specific security tools. With post-processing, the data transferred can be processed further in a similar manner on the receiving end in programs or scripts. In order to perform pre- and post-processing in the partner system, the partner

must use an *openFT* version that supports pre- and post-processing.

- **Remote command execution**
With *openFT* it is possible to run system commands or programs of remote systems from a local system and thus integrate them into scripts. The output of the commands and programs resp. (in BS2000 SYSLST/SYSOUT, in z/OS SYSPRINT /SYSTSPRT and on Windows systems stdout/stderr) are mapped onto stdout and stderr resp. and can be easily further processed and put out using Unix tools. The same functionality is vice versa available initiated in BS2000, Windows and z/OS resp. for remote command execution on Unix systems. The resulting remote functionality is also completely secured through the FTAC protection functions and the encryption feature.
- **Integration in job scheduling**
Using pre-, post- and follow-up processing, procedures can be easily realized because all functions can be called from the command line.
- ***openFT* script functionality**
With *openFT* script functionality (ftscript) it is possible to define and control groups of asynchronous *openFT* tasks which depend on each other.

Security

In addition to the protection functions of the local system, *openFT* also offers enhanced access protection for file transfer and hence increased security.

- **File Transfer Access Control (FTAC)**
With this integrated add-on module, *openFT* also offers comprehensive and individually adjustable protection functions. Thus, *openFT* works with an access authorization that is independent of the operating system. The rights associated with this access authorization can be set on a highly differentiated basis. Furthermore, the user can precisely restrict and set the authorizations of the remote partner systems with respect to file transfers. The access rights can be restricted to specified tasks for each individual partner so that particular functions are no longer allowed (e.g. follow-up processing or file management functions).
- **File consistency**
It is possible to specify that the data transferred as a result of a file transfer request be checked for integrity.
- **Encryption**
The description data for file transfer and file management requests are encrypted with the RSA/AES algorithm. This prevents unauthorized reading of sensitive data at network level such as user IDs or passwords. The contents of the files transferred can be encrypted using the same procedure. This functionality is subject to export restrictions. Due to protocol restrictions, it is not possible to exchange data encrypted by *openFT* with FTAM and ftp partners resp.
- **Authentication**
openFT instances can mutually check with cryptographic means that they are connected with the right partner instance. Thus, it is possible to securely identify both the partner of a request and the own system in the partner system. Prerequisite for the authentication is the exchange of public keys. If the public key of a partner system is available in an *openFT* instance, then all connections with this partner system are processed with authentication.

- **Logging**
The log file contains comprehensive information on all access checks and file transfers performed so that an audit can be performed if necessary.

Reliability, availability

- **Automatic restart**
When an error occurs (the transport connection is lost), the automatic restart function ensures that an interrupted file transfer request is continued consistently without any user intervention. The ability to restart and continue transferring data also applies to the pre- and post-processing phases. This is a major requirement for unattended operation. Due to protocol restrictions this functionality is not available if file transfer is processed via ftp protocol.
- **Request storage**
Requests can still be accepted even if a partner system is not available when the request is issued. Also they are accepted if *openFT* is not available locally. These requests are stored and automatically processed once the network or partner system becomes available.
- **Cluster switching**
In *openFT* you can run several *openFT* instances on a computer at the same time, and each *openFT* instance has its own resources. There are interfaces available for creating, managing and deleting instances. This allows you to switch the functionality of *openFT* to a different computer where *openFT* is already installed when the original computer fails or when there is a resource bottleneck.
- **Resource control**
The configuration parameters can be changed during operation.
- **Protection functions**
Protection functions make the system safe from attack and ensure secure operation.

Performance

- **Throughput**
openFT can be scaled from a desktop up to high-end server and optimally utilizes the resources available. Furthermore, the throughput that can be reached by *openFT* depends on a number of conditions: the load on the local and remote computers, network load, line speeds, network structure, size and number of the files to be transferred, etc. The resource control function allows you to set the operating parameters for a specific installation so that optimal performance is achieved.
- **Data compression**
Data compression allows you to transfer compressed files in order to reduce the load on the transmission paths or to reduce the transmission times. Due to protocol restrictions, it is not possible to exchange data compressed by *openFT* with FTAM and ftp partners resp.

Easy to install and administrate

- **Administration functions**
openFT is very easy to install. *openFT* for Unix systems offers a wide range of functions to ease administration such as the ability to set operation parameters (performance), the logging of all file transfer requests (auditing), encryption key management and monitoring functions.
- **Request administration**
Thanks to request storage, the transfer can be initiated at any time desired, for example to reduce

transmission costs (time control). It is also possible to specify a time at which the request is to be deleted or the transfer is to be aborted (cancel timer). Finally, the order in which requests are processed can be altered using priority control.

Graphical interface

▪ For users

The graphical interface permits "drag & drop" file transfers. The local and the remote systems are displayed in the same format as in the Windows Explorer and can be operated identically. File management tasks such as renaming files are just as easy as the efficient comparison of different file trees or the transfer of files between two remote systems. When local files are copied, the progress of the copy procedure is displayed and it is also possible to cancel the copy. Finally, local and remote files can be loaded into the *openFT* editor.

▪ For administrators

The graphical interface permits the administration of an FT system, e.g. user-friendly management of the FTAC authorization profiles and records. The administration functions can also be used for partner systems so that remote systems can be administered centrally through the local graphical interface (single point of administration). Detailed information on the graphical interface can be found in the corresponding online help system.

Further Interfaces

The functions offered by *openFT* for Unix system can also be addressed via a command, menu, C and Java program interface, and via an SNMP connection.

Reduced costs

openFT is not only economical in the acquisition phase, but it also plays a major role in lowering the costs for the development, administration and operation of data exchange processes:

- Small programming effort
- Easy, user-friendly installation and administration
- Reduced transmission costs through time-controlled transfers, automatic restart and data compression

License structure of the product

When purchasing *openFT* the performance class of the designated system has to be considered. This performance class depends on the maximum CPU expandability of the system.

The cores of multi-core processors are counted by a factor of 0.5.

CPU based licensing allows any number of users (end user, developers, testers).

Changes since the preceding version V8.1

- support of the ftp protocol
- *ftscripts* gives the possibility to define and control groups of *openFT* tasks
- Improved compression (ZIP algorithm)
- extended conversion of encoding of text files (support of Unicode and user defined codesets)
- Unification of messages und return codes across all platforms
- Meaningful error messages via platform specific diagnose informations
- Improved control (=trace) function
- improved protocol of console traps for better retracing

Technical Data																			
Technical requirements for hardware	<table> <tr> <td>platform</td> <td>type of CPU</td> </tr> <tr> <td>SUN Solaris (Sparc)</td> <td>sparc</td> </tr> <tr> <td>Linux</td> <td>IA32</td> </tr> <tr> <td></td> <td>Itanium</td> </tr> <tr> <td>HP-UX</td> <td>PA-RISC</td> </tr> <tr> <td></td> <td>Itanium</td> </tr> <tr> <td>AIX</td> <td>RS6000</td> </tr> <tr> <td>SUN Solaris (Intel)</td> <td>IA32</td> </tr> <tr> <td>Linux390</td> <td>/390</td> </tr> </table>	platform	type of CPU	SUN Solaris (Sparc)	sparc	Linux	IA32		Itanium	HP-UX	PA-RISC		Itanium	AIX	RS6000	SUN Solaris (Intel)	IA32	Linux390	/390
platform	type of CPU																		
SUN Solaris (Sparc)	sparc																		
Linux	IA32																		
	Itanium																		
HP-UX	PA-RISC																		
	Itanium																		
AIX	RS6000																		
SUN Solaris (Intel)	IA32																		
Linux390	/390																		
Technical requirements for software	<p>openFT for Unix systems executable as of the stated OS versions:</p> <ul style="list-style-type: none"> ▪ SUN Solaris (SPARC): as of Solaris 9 SMAWpcmx as of V6.0A50 01 and SMAWcmx V6.0B00 resp. ▪ Linux (x86): as of Suse 8.1 oder Red Hat 9.0 with kernel 2.4.19 o or a Linux distribution that is compatible to the above PCMX as of V6.0A50 01 ▪ Linux (Itanium): as of kernel 2.6.9 release 4 (Red Hat Enterprise Linux AS release 4) or a Linux distribution that is compatible to the above PCMX as of V6.0A50 01 ▪ HP-UX (PA-RISC): as of V11.11 and fully compatible versions CMX as of V6.0A50 ▪ HP-UX (Itanium): as of V11.23 and fully compatible versions CMX as of V6.0A50 ▪ AIX: as of V5.3 and fully compatible versions CMX as of V6.0.5.1 ▪ SUN Solaris (x86): as of Solaris 10 SMAWpcmx V6.0A50 01 ▪ Linux390: Suse 8.1 with kernel 2.4.21 or a Linux distribution that is compatible to the above 																		
User interface	English und German, others on request.																		
Installation	By the customer on the basis of the release notice																		
Documentation	Manuals (English and German) for users and system administrators, in printed form via http://fsc-manualshop.com/ or as PDF files; also available on the Internet via http://www.fujitsu-siemens.com/openft																		
Demands on the user	Unix systems knowledge and if necessary knowledge of the partner system																		
Training	Courses are held in the Technical Training Academy von Fujitsu Siemens Computers under the currently valid conditions. For further information see http://training.fsc-mediaserver.com/elearningmedia/tectrac/																		
Conditions	This software product is supplied to the customer under the conditions for the use of software products against instalments or a single payment																		
Warranty	Class: A Delivery format: Machine language																		
Ordering and delivery	This software product may be obtained from your local Fujitsu Siemens Computers regional office																		