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Fujitsu Technology Solutions

PCMX (Unix)  
Version V6.0B00  
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### **Release Notice**

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# 1 General remarks

The product PCMX provides an OSI oriented transport system (OSI level 4: transport protocol class 0), based on the socket-interface which is an inherent part of each Unix system. The interface to the transport protocol is realized by supplying a library to the applications. By using this library a PCMX application is able to communicate with a peer entity according to the Request for Comment 1006. The RFC 1006 describes how the application has to use the ISO transport protocol class 0, when both partners are connected over a TCP/IP network.

PCMX is delivered with the COMM-CD-PCMX and is part of openFT resp. openUTM. PCMX is available on all significant Unix systems (Linux, Solaris, HP-UX and AIX). *<Remove COMM\_CD\_PCMX, if PCMX will not be delivered as a CD in future.>*

This release note describes the dependencies of PCMX and gives information concerning its usage for the previous mentioned Unix systems. PCMX has been ported to the MS Windows systems, too.

These remarks apply to the released version of PCMX V6.0B00 in June 2012.

If one or more predecessor versions are skipped when this current product version is in use, it may be necessary to take into account of the information given by the release notes of the previous versions.

All product release notes including this one are available on the internet under the following URL: <http://manuals.ts.fujitsu.com>.

This release note is supplied with the mentioned products in the form of README files. Any information that came too late to be included in the printed documentation is noted in this file and is published as part of the correction release.

## 1.1 Ordering

PCMX V6.0B00 can be ordered from your local distributor. PCMX V6.0B is subject to the general terms and conditions of the software purchase, maintenance, usage and service agreement.

### 1.1.1 Licenses

The licenses are part of the contract that you entered into with Fujitsu Technology Solutions when you purchased PCMX. PCMX is a product for which a license must be purchased. Licenses are necessary in order to use the product. The user licenses for openFT resp. openUTM include the license for PCMX. In this case a license for PCMX is necessary, if and only if your applications use PCMX additionally without involving openFT or openUTM.

## 1.2 Delivery

PCMX V6.0B is supplied with COMM\_CD\_PCMX and it is part of the openFT resp. openUTM DVD. The data mediums are delivered together with the licenses, but it is possible to order these mediums separately. The COMM-CD-PCMX can be ordered by the number U13643-C5011, whereas the licenses are ordered by the number U10808-C128. *<Significance of the COMM\_CD.>*

### 1.3 Essential files of the product

With PCMX the following dynamic libraries are supplied:

```
<pcmxpath>/lib/libcmx.so
<pcmxpath>/[lib64 | lib/sparcv9]/libcmx.so
<pcmxpath>/lib/libpthreadcmx.so
<pcmxpath>/[lib64 | lib/sparcv9]/libpthreadcmx.so
```

where <pcmxpath> stands for /opt/SMAW/SMAWpcmx/ in Solaris and  
/opt in the other operating systems.

Explanatory remarks:

- In HP-UX the libraries have the suffix 'sl' instead of 'so'.
- For Linux-systems there are 3 different packages. Each package is a specific one for the corresponding processor architecture. On Linux the architectures IA32, INTEL64 and IA64 (Itanium) are supported.

### 1.4 Documentation

The documentation for PCMX V6.0A is available online in the internet under <http://manuals.ts.fujitsu.com>.

- /1/ CMX/CCP/XTI (Solaris)  
CMX - Programming Applications V6.0  
This manual describes the interface ICMX provided by the predecessor product CMX. There are minor differences between the interfaces provided by CMX and PCMX. These differences are described in the paper 'Migration from CMX to PCMX' (see below).
- /2/ Migration from CMX to PCMX  
You can access this paper online under <http://docs.ts.fujitsu.com/dl.aspx?id=bc6cf6a7-4875-442c-923c-3afb826ae77e>
- /3/ PCMX (Unix) – Betrieb und Administration  
This manual describes the administration and configuration of PCMX (but written in German).

## 2 Software extensions and corrected problems

Compared with its predecessor versions PCMX has been extended by the following features:

- /1/ A central logging daemon has been introduced. Error conditions and resource bottlenecks will be reported into this logging file in later versions of PCMX for a better investigation of errors.
- /2/ On Solaris a process can possess up to 4096 connections, if you increase the number of file descriptors held by a process correspondingly.
- /3/ `t_getaddrpart` called for a linklocal-address supplies the scope-id with its numerical value on Linux.

The current version of PCMX corrects the following errors:

- A0582525 More than 1024 connections for a process on Solaris.
- A0587500 An UTM application is not able to communicate sporadically.
- A0588515 `T_setopt`: the name of the directory can contain spaces.

## 3 Technical information

### 3.1 Resource requirements

The hard disk requirements are low. They do not exceed 5 MB in total. For the different processor architectures the requirements are listed in detail:

Architecture	/etc	/opt	/usr
Solaris Sparc (32/64 bit)	4 KB	2,7 MB	
Solaris x86	4 KB	1,7 MB	
IBM /AIX		1,1 MB	1,2 MB
HP-UX (PA-RISC)		2,2 MB	1,7 MB
HP-UX (IA64)		2,2 MB	1,7 MB
Linux (IA32)		1,8 MB	0,6 MB
Linux (Intel64)		1,8 MB	1,2 MB
Linux (IA64)	4 KB	1,8 MB	1,2 MB

A process is not able to establish more than 1024 connections at a time. On Solaris this limit has been increased to up to 4096 connections. Therefore it is necessary to increase the number of file descriptors held by such a process properly.

### 3.2 SW-Configuration

PCMX is executable under the following operating systems:

Solaris Sparc	32/64 bit	as of V9
Solaris Intel		
Linux (Suse)	32/64 bit	as of SLES 9
Linux (Red Hat)	32/64 Bit	as of RHEL 4
HP-UX (PA-RISC)	32 Bit	as of V11i
HP-UX (Itanium)	64 Bit	as of V11.23
AIX	32 Bit	as of V5.3

*< Some of the mentioned OS releases have reached already EOL, f.e So1 9?; the table has to be updated >*

PCMX is released for the enterprise distributions of Novell/Suse (SLES) and RedHat (RHEL). But PCMX can be installed on every Linux-system, which uses the package-manager RPM for updating its software configuration. PCMX contains a procedure `/opt/bin/Eval_PCMX_on_Linux`, which checks whether PCMX is executable on that Linux-system. You do not claim maintenance support for PCMX under that operating system in the case of errors even if the procedure did not reveal any problems during its execution.

### 3.3 Product installation

PCMX can be updated within a computer system, if the name of the package has not been changed in between. In that case the old package has to be removed prior to the installation of the new package. The packages of PCMX have been renamed in Linux from CMX to PCMX and in Solaris to SMAWpcmx to avoid mistakes with the previous product CMX.

The following table lists the names of the packages for the different operating systems:

Operating system	Package name
AIX	CMX
HP-UX	CMX
Linux	PCMX
Solaris	SMAWpcmx

Additionally different packet managers are responsible for the software configuration. The following table explains the different commands used checking, installing and removing of a package:

Architecture	Check	Installation	(Update)Inst.	Removal
Solaris	pkginfo ...	pkgadd ...	pkgadd ...	pkgrm
Linux	rpm -qa ...	rpm -i ...	rpm -U ...	rpm -e ...
AIX	lspp	installp	installp	Installp -u
HP-UX	swlist ...	swinstall ...	swinstall ...	swremove

### 3.4 Product use

The product can be used by an application directly after its installation. It is important that you exit running applications before you are doing an upgrade-installation. By this the applications are running immediately with the installed objects after their restart.

### 3.5 Withdrawn functions

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### 3.6 Incompabilities

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### 3.7 Restrictions

PCMX provides the interface ICMX to the OSI transport layer. The slight differences to the predecessor product are described within the paper 'Migration from CMX to PCMX'.

Due to the different architecture the RFC1006 protocol entity is part of the application program with PCMX and it is no longer a central component of the kernel, which is used by all CMX-applications. By this options can be configured only in a process specific manner, and the restricted features of the administration can only be done for the corresponding Unix process.

If you have more than one application which accepts incoming connection requests, it is no longer possible to reach these applications over the port 102; because only one application is able to listen for incoming calls on a port. If you have more than one application within the system, you have to bind them to different ports. When a client initiates a connection to its partner it has to replace the address of the partner by that one with the changed port number. The 'migration from CMX to PCMX' is described in the 'migration'-paper in detail.

If you switch on tracing with PCMX V6.0 you are able to specify spaces in a given directory name. In order to differ between spaces which separate the several trace options and spaces used in the directory name, there are three methods of quoting: backslash, single quotation mark and double quotes. With PCMX V6.0B a backslash and single quotation marks can be used to denote the space resp. the directory name. With the next version double quotes can be used, too.

### **3.8 Procedure in the case of errors**

The following documentation is necessary for diagnosis purposes if an error occurs:

- A detailed description of the error situation including the time when the error occurs.
- (Correction-)Version of PCMX in use.
- Exact details of the computer type.

All error documentation should be as complete as possible. The following error documentation is required:

- Cores-Files of the crashing programs together with its image.
- Trace files which document the erroneous behavior (error during attachment; mistakes in the cooperation with the partner, data transfer stopped by the application and so on).

## **4 Hardware Support**

Support is provided for the hardware systems, on which the previous described software configuration of PCMX V6.0 B00 is executable. This includes:

- FTS PRIMERGY-systems
- FTS PRIMEPOWER and SPARC Enterprise Systems
- SUN SPARC and X86-systems
- HP-systems, e.g. series 9000 with PA-RISC or Itanium processors.
- IBM pSeries.