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FUJITSU Software openUTM-Client (Unix, Linux and Windows systems),  
Carrier System OpenCPIC

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Version 4.0A  
February 2017

Release Notice

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# 1 General

\*1 This Release Notice relates to the OpenCPIC carrier system V4.0 on Unix, Linux and Windows systems as part of openUTM-Client in openUTM Enterprise Edition.

\*1 openUTM-Client programs serve as clients for openUTM server installations on all existing platforms.

\*1 This Release Notice is a summary of the major extensions, dependencies and operating information with respect to OpenCPIC carrier system (Unix, Linux and Windows Systems) V4.0.

\*1 The content refers to release level: February 2017.

\*1 All changes since the release level from March 2009 are marked in the left margin.

\*1 - Marking \*1 = release level V4.0A50 from February 2017

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\*1 All openSEAS Product Release Notices including this one are available on the Internet under the following URL:

\*1 <http://manuals.ts.fujitsu.com>

\*1 Any changes that came too late to be included in the documentation are noted in this file and published as part of a correction release.

\*1 If you skip one or more previous versions when you install this product, you must note the information from the Release Notices (and README files) of the previous versions.

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Overview of functions:

OpenCPIC offers the programming interface X/Open® -CPI-C (Common Programming Interface for Communication) based on the protocol OSI-TP (Open System Interconnection Distributed Transaction Processing). This allows communication between CPI-C application programs and application programs on remote systems which use the OSI-TP protocol.

## 1.1 Ordering

The product can be purchased from your local distributors.

The general terms and conditions for sales, maintenance, software provision and software support agreements apply for the product.

### 1.1.1 Licensing

\*1 The licenses are part of the contract that you entered into with Fujitsu Technology Solutions when you purchased OpenCPIC.

OpenCPIC V4.0 is a licensed product, the use of which requires licenses.

\*1 In the openUTM server application environment in BS2000 Systems the openUTM-Client licenses must be purchased for the number of users simultaneously accessing the server.

\*1 openUTM-Client licenses must be purchased for one user each for development, testing and runtime or for runtime only. There are separate runtime licenses for the UPIC carrier system or in conjunction with the carrier systems OpenCPIC and UPIC. The software is purchased with a software package that contains the product DVD and a user license for development.

- \*1 In the openUTM server application environment in Unix, Linux or Windows systems the openUTM-
- \*1 Client licenses are included in the licenses for openUTM Enterprise Edition. The software is sup-
- \*1 plied on the openUTM EED-DVD.

## 1.2 Delivery

- \*1 openUTM-Client (Unix, Linux and Windows systems) is supplied on one openUTM EED-DVD which contains additional software products from the openUTM product family and communication products.
- Additional operation rights must be purchased for these products insofar as they are not included in the operation rights already purchased.

## 1.3 Documentation

### 1.3.1 Availability

- \*1 The Documentation is available in the Internet:
- \*1 <http://manuals.ts.fujitsu.com>
- \*1 The manuals are shipped as pdf files on the product medium.
- \*1 The manual mentioned above is valid for the Windows version; deviations are described in the manual supplement file MAN01, installed with the product.

### 1.3.2 Documentation of the Open Group interfaces

The program interfaces CPI-C, TX and XATMI are not described in the OpenCPIC manual. They are described in the following X/Open documentation:

<u>Title:</u>	<u>Order number:</u>
Distributed Transaction Processing The XCPI-C Specification, Version 2 X/Open CAE Specification	ISBN 1 85912 135 7
Distributed Transaction Processing The XATMI Specification X/Open CAE Specification	ISBN 1 85912 130 6
Distributed Transaction Processing The TX (Transaction Demarcation) Specification X/Open CAE Specification	ISBN 1 85912 094 6

- \*1 The X/Open manuals are available on the web (see above) or can be obtained in printed form from
- \*1 bookstores quoting the ISBN number.

## 2 Software extensions

- \*1 OpenCPIC V4.0A50 is a porting to Linux 32 Bit systems.
- \*1 Extensions on the earlier version:
  - TX interface support, i.e. distributed transaction processing
  - Database connection via the XA interface
  - \*1 - Transmission of user ID and password to OpenUTM-COBOL interface (only Linux/Unix systems)

## 2.1 New functions

- \*1 There are no functional enhancements in OpenCPIC V4.0A50.

# 3 Technical information

## 3.1 Resource requirements

- \*1 Hard disk space for the installation:
  - \*1 SOLARIS SPARC 32 Bit : < 24 MB
  - \*1 LINUX 32 Bit : < 4 MB
  - \*1 AIX 32 Bit : < 10 MB
  - \*1 Windows 32 Bit : < 10 MB

About 2 MB of working memory is required in current operations.  
This value is greater if many connections with long messages are executed.

## 3.2 Software configurations

- \*1 openUTM-Client (Unix, Linux systems)
  - \*1 Solaris as of V10
  - \*1 Linux(SuSE) as of SLES 11
  - \*1 Linux(RedHat) as of RHEL 6
  - \*1 AIX as of V6.1
- \*1 The following are supplied with the product for communication over TCP/IP:
  - \*1 PCMX(Solaris) 6.0B10
  - \*1 PCMX(Linux) 6.0B10
  - \*1 PCMX(AIX) 6.0B10
- \*1 The use of PCMX is only license-free in connection with openUTM Client.
- \*1 When using openUTM Client V6.4 with runtime system CMX, the version supplied with the DVD has to be used.
- \*1 openUTM-Client (Windows systems)
  - \*1 Windows as of Windows 7
  - \*1 Windows Server as of Windows Server 2008 R2
- \*1 Visual Studio 2005 or higher
- \*1 PCMX32 as of V5.0A80 (32-Bit)
- \*1 for Client-Server communication:
  - \*1 openUTM (BS2000) as of V6.0
  - \*1 openUTM (Unix, Linux and Windows systems) as of V6.1

## 3.3 Product installation

### \*1 3.3.1 Unix/Linux systems

\*1 OpenCPIC is installed using the installation methods usual on the computer system concerned.

\*1 pkgadd is used for installation on **Solaris**:

\*1 `pkgadd -d <DVD>/ <prod-dir>/<package>.ds`

\*1 rpm is used for installation on **Linux**:

\*1 `rpm -i --nodeps <DVD>/ <prod-dir>/<package>.rpm --ignorearch [--prefix=<location>]`

\*1 On **AIX** installation is started by calling:

\*1 `./xpininstall` in the directory `<DVD>/<prod-dir>`

#### \*1 **Note:**

openUTM-Client V4.0 comprises 3 parts:

\*1 - OpenCPIC V4.0A50

\*1 - UPIC V6.4A

\*1 - PCMX V6.0B10

You need the OpenCPIC V4.0 package if you want to use the program interfaces "X/Open CPI-C Version 2" and TX.

\*1 If you want to use the XATMI program interface, you must also install the UPIC V6.4 package.

\*1 When using OpenCPIC, the versions of PCMX supplied with the DVD have to be used.

### 3.3.2 Windows systems

\*1 On **Windows** installation is started by calling:

\*1 `setup.exe` in the directory `<DVD>/WINDOWS/Opencpic`

The program must be called using a user ID with administration rights.

#### \*1 **Note:**

openUTM-Client V4.0 comprises 3 parts:

\*1 - OpenCPIC V4.0A40

\*1 - UPIC V6.4A

\*1 - PCMX-32 V5.0A80

You need the OpenCPIC V4.0 package if you want to use the program interfaces "X/Open CPI-C Version 2" and TX.

\*1 If you want to use the XATMI program interface, you must also install the UPIC V6.4 package.

\*1 When using OpenCPIC, the versions of PCMX supplied with the DVD have to be used.

## 3.4 Product use

### \*1 3.4.1 Notes for upgrading to OpenCPIC V4.0A50

\*1 All other information relevant for using the product can be found in the manual openUTM-Client V4.0 for the OpenCPIC Carrier System.

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

not applicable

## 3.6 Incompatibilities

\*1 Valid for Linux/Unix systems only:  
The "X/Open CPI-C Version 2" program interface is not fully upward compatible with the original version of "X/ Open CPI-C".  
This means that openUTM-Client V4.0 carrier system OpenCPIC is not fully upward-compatible with openUTM-Client V3.4 carrier system OpenCPIC.

A full list of all incompatibilities is provided in Appendix G of "X/Open CPI-C Version 2".

The most important changes are:

a) The `Accept_Conversation` call (`CMACCP`) operates differently when there is no incoming conversation. The old CPI-C specification gave the return code `CM_OPERATION_INCOMPLETE` and a conversation ID, and `Wait_For_Conversation` (`CMWAIT`) was then entered to wait for the next incoming conversation. CPI-C Version 2 returns `CM_PROGRAM_STATE_CHECK` on `CMACCP` if there is no incoming conversation. Programs that are required to handle several conversations must use the following callups instead of `CMACCP`:

- `Initialize_For_Incoming` (`CMINIC`)
- `Set_Processing_Mode` (`CMSPM`) `processing_mode=CM_NON_BLOCKING`
- `Accept_Incoming` (`CMACCI`)

b) In the old CPI-C specification, all functions were of the type `CM_RETCODE`, e.g.

```
extern CM_RETCODE CMACCP();  
In CPI-C Version 2, all functions are type void, e.g.  
#define CM_ENTRY extern void  
    CM_ENTRY CMACCP();
```

Programs that checked the return value of the functions in the past must now check the parameter `cm_return_code`.

c) CPI-C Version 2 has some new return codes for errors, e.g.

`CM_OPERATION_NOT_ACCEPTED` is returned for all callups if the last callup for the relevant conversation ID returned `CM_OPERATION_INCOMPLETE`.  
The old version always returned `CM_PROGRAM_STATE_CHECK` in this situation.

If you wish to use the original version of "X/Open CPI-C", you need the `OPENCPIC2 V2.0` package of delivery unit `openUTM-LU62Gate`. You particularly need this package if:

- you use the product `openUTM-LU62Gate`,
- you wish to continue to use programs bound to `openUTM-Client V3.4`.
- you retranslate and rebind the programs created with `openUTM-Client V3.4`, if these programs use some of the properties of the old CPI-C version that are mentioned in "Incompatibilities" below.

In the above cases, you do not need the OpenCPIC V4.0 package. However, OpenCPIC V4.0 and OPENCPIC2 V2.0 can be freely installed the same computer.

The OPENCPIC2 V2.0 package is identical to the OpenCPIC package of openUTM-Client V3.4. It is important that you generate all new CPI-C applications using the new program interface.

### 3.7 Restrictions

By usage of TX within OpenCPIC Server-Server-Connection only up to 3 connections are possible at this time.

### 3.8 Procedure in the event of errors

The following information is required to pinpoint the causes of errors:

- exact description of the error situation
- version information of the software involved
- information about computer type

Where possible, you should recreate the error situation with a trace activated.

The following may be useful as error documentation:

- CPI-C or XATMI program as source
- full contents of the directory <install-dir>/PROT
- CPI-C trace where CPI-C applications are being used
- XATMI trace where XATMI applications are being used

- \*1 UTM documents are also required for the diagnosis of errors that occur in the context of UTM use:
- \*1 - UTM-KDCDEF generation
- \*1 - UTM/USER dumps
- \*1 - SYSLOG

## 4 Hardware support

- \*1 Support is provided for the hardware on which the operating system versions listed in Chapter 3.2 can run, concluding:
- \*1 All systems based on x86 technology, e.g. laptops, PCs, PRIMERGY systems, SPARC systems, e.g. SPARC Enterprise Server, other Unix systems:
- \*1 IBM pSeries
- \*1 other platforms on request