

FUJITSU Software openUTM-Client (BS2000, Unix, Linux and Windows systems)
Carrier System UPIC

Version 6.4A
July 2016

Release Notice

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1 General

This Release Notice relates to the following

- in BS2000 systems: FUJITSU Software openUTM-Client(BS2000) V6.4A and FUJITSU Software openUTM-Client(BS2000) V6.4A incl. Encryption
- in Unix, Linux or Windows systems: FUJITSU Software openUTM-Client V6.4A and FUJITSU Software openUTM-Client V6.4A incl. Encryption and, as part of openUTM-Client, also as a local or remote client in the openUTM Enterprise Edition.

The products are uniformly called openUTM-Client and openUTM-Client incl. Encryption in the following.

openUTM-Client V6.4A and openUTM-Client V6.4A incl. Encryption are available for the operating systems FUJITSU BS2000, Solaris, Linux and Windows and other commonly available Unix systems (HP-UX, AIX, etc.).

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

This Release Notice is a summary of the major extensions, dependencies and operating information for openUTM-Client V6.4A and openUTM-Client V6.4A incl. Encryption.

The content refers to release level: July 2016.

All openSEAS product Release Notices including this one are available via the Internet under: <http://manuals.ts.fujitsu.com>

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.

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.

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

Function overview:

The UPIC carrier system allows a client application in all above-named operating systems to communicate with a server application running under openUTM in BS2000 and/or Unix, Linux or Windows systems. For the purposes of communication, openUTM server programs and client programs that are based on the UPIC carrier system can use the program interfaces CPI-C and XATMI. These interfaces comply with the X/Open definitions.

With these interfaces, you can program the same way in the client as well as in the server. Furthermore, openUTM provides the ability to program in the server with KDCS and in the client with CPI-C. The interfaces can be used in a C environment and in a COBOL environment. C++ classes can also be used.

1.1 Ordering

The product can be ordered from your local distributors.

The product is subject to the general terms and conditions of the software product purchase, maintenance, use and service agreement.

1.1.1 Licenses

The licenses are an integral part of the contract that you concluded with Fujitsu Technology Solutions when you purchased openUTM-Client and openUTM-Client incl. Encryption.

openUTM-Client V6.4A and openUTM-Client V6.4A incl. Encryption are licensed products, the use of which requires licenses.

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. 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.

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

If encryption is used, add-on user encryption licenses can be purchased together with the openUTM EED-DVD Crypt.

Export restrictions apply to delivery of openUTM-Client V6.4A incl. Encryption. If openUTM-Client incl. Encryption is to be used outside Germany a special export permit must be obtained in advance.

1.2 Delivery

The openUTM-Client(BS2000) V6.4A and openUTM-Client(BS2000) V6.4A incl. Encryption files are supplied via SOLIS.

The current file and volume characteristics are listed in the SOLIS2 delivery cover letter.

openUTM-Client(Unix, Linux and Windows systems) V6.4A is supplied on one openUTM EED-DVD which contains additional software products from the openUTM product family and communication products.

Additional licenses must be purchased for these products, insofar as they are not included in the licenses already purchased.

The same applies to the delivery of openUTM-Client(Unix, Linux and Windows systems) V6.4A incl. Encryption, which is delivered on a separate openUTM EED-DVD Crypt. This DVD contains all the components of the openUTM EED-DVD plus the CRYPT functions.

The openUTM EED-DVDs must be ordered separately.

1.2.1 Delivery components of openUTM-Client(BS2000) V6.4A and openUTM-Client(BS2000) V6.4A incl. Encryption

The openUTM-Client(BS2000) V6.4A and openUTM-Client(BS2000) V6.4A incl. Encryption delivery components are listed below.

Files: Contents:

Module libraries:

SYSLIB.UTM-CLIENT.064 UPIC library

SYSLIB.UTM-CLIENT.064.WCMX UPIC library, transport system PCMX

SYSLNK.UTM-CL-CRYPT.064 Encryption library (for openUTM-Client(BS2000) incl. encryption only)

Sample programs / Utility routine:
SYSLIB.UTM-CLIENT.064.EXAMPLE sample programs

Documentation:
SYSFGM.UTM-CLIENT.064.D German Release Notice
SYSFGM.UTM-CLIENT.064.E English Release Notice
SYSSII.UTM-CLIENT.064 Structure information for IMON

1.2.2 Delivery components of openUTM-Client (Unix and Linux systems) V6.4A and openUTM-Client(Unix and Linux systems) V6.4A incl. Encryption

- COBOL COPY elements	<upicpath>/copy-cobol85
	<upicpath>/netcobol
- C header files	<upicpath>/include
- makefile sample (Example of linking an UTM-UPIC program)	<upicpath>/shsc/upic.m
- Sample program (incl. makefiles and runnable programs)	<upicpath>/sample
- Link libraries	<upicpath>/sys
- Link libraries on Systems with POSIX threads	<upicpath>/sys
- Source file for the conversion tables	<upicpath>/kcsaeea.c

for XATMI

- COBOL COPY elements	<upicpath>/xatmi/copy-cobol85
	<upicpath>/xatmi/netcobol
- XATMIGEN utility routine	<upicpath>/xatmi/ex
- C header files	<upicpath>/xatmi/include
- Link libraries	<upicpath>/xatmi/sys

openUTM-Client will run under 32-bit and 64-bit Solaris and Linux systems. Both variants are installed in a single installation operation. The files listed above are present twice:
under <install-PATH>/32/... for the 32-bit variant and
under <install-PATH>/64/... for the 64-bit variant.

upicpath has the following equivalent (depends on the platform):

- <upicpath> == <install-PATH> or
- <upicpath> == <install-PATH>/32 or
- <upicpath> == <install-PATH>/64

1.2.3 Delivery components of openUTM-Client (Windows systems) V6.4A and openUTM-Client (Windows systems) V6.4A incl. Encryption

Runtime system:

upicw32.dll or upicw64.dll
upicws32.dll or upicws64.dll
utmcnv32.dll or utmcnv64.dll
upicw.dll

upcryp32.dll or upcryp64.dll (for openUTM-Client incl. Encryption only)

Diese Laufzeitbibliotheken befinden sich im Verzeichnis <install-PATH>\sys.

Development system:

upicw32.lib or upicw64.lib	Link library	<install-PATH>\sys
upicws32.lib or upicws64.lib	Link library	<install-PATH>\sys
upicw.lib	Link library	<install-PATH>\sys

upic.h	C header file	<install-PATH>\include
kcsaeea.c	ASCII-EBCDIC conversion table	<install-PATH>\utmcnv
kcxaent.c	ASCII-EBCDIC conversion table	<install-PATH>\utmcnv
resource.h	C header file	<install-PATH>\utmcnv
utmcnv32.def or utmcnv64.def	Module definition file	<install-PATH>\utmcnv
utmcnv32.rc or utmcnv64.def	Resource compiler file	<install-PATH>\utmcnv
CMCOBOL	COBOL COPY element	<install-PATH>\copy-cobol

Examples:

upicfile.smp	Example of a side information file	<install-PATH>
	Various sample programs	<install-PATH>\sample

UnInstall.cmd	Uninstallation program	<install-PATH>
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for XATMI

Runtime system:

xtgen32.exe or xtgen64.exe	XATMIGEN utility	<install-PATH>\ex
xtclt32.dll or xtclt64.dll	Runtime library	<install-PATH>\sys

Development system:

xtclt32.lib or xtclt64.lib	Link library	<install-PATH>\sys
xatmi.h	C header file	<install-PATH>\include
xatmidef.h	C header file	<install-PATH>\include

Examples:

Various sample programs		<install-PATH>\samples
-------------------------	--	------------------------

Comment:

The openUTM client functions as a 32-bit program and as a 64-bit program on 64-bit Windows systems. A prompt is issued on these systems during the installation about the version to be installed the 32-bit version under <install-PATH>\upicw32 or the 64-bit version under <install-PATH>\upicw64

If you wish to use both versions on a computer, e.g. for test purposes, you can install both versions consecutively.

1.3 Documentation

1.3.1 Availability

The documentation is available online in the Internet under <http://manuals.ts.fujitsu.com>

The manuals are shipped as pdf files on the product medium.

1.3.2 Documentation of the Open Group interfaces

Title: Order number:

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

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

2 Software extensions

2.1 New functions

There are no functional enhancements in openUTM-Client V6.4.

3 Technical information

3.1 Resource requirements

Hard disk space for the installation:

BS2000	:	approx. 5,6 MB (2800 PAM PAGES)
		without encryption components
	:	approx. 600 KB (300 PAM PAGES)
		Encryption components
SUN-SOLARIS 32/64-bit:	<	50 MB
LINUX/x86 32/64-bit:	<	10 MB
HP-UX 32-bit :	<	10 MB
IBM-AIX 32-bit :	<	10 MB
Windows 32/64-bit:	<	10 MB

3.2 Software configuration

openUTM-Client(BS2000) V6.4:

BS2000	as of V8.0
DSSM	as of V4.3B
JV	as of V15.0A
openNetServer	as of V3.3A
CMX	as of V1.4A
CRTE	as of V2.8E in BS2000/OSD-BC V8.0
CRTE	as of V2.9A in BS2000/OSD-BC V9.0
CRTE	as of V10.0A in BS2000 OSD/BC V10.0
C/C++ (BS2000)	V3.2A
COBOL85	as of V2.3A
openUTM-CL-CRYPT	V6.4A, if encryption is used in UTM applications
openCRYPT-SERV	as of V1.3 on S Server for encryption with openCrypto-Box (on special release)
openCRYPT-SOFT	as of V1.3 for SQ-Server

openUTM-Client(Unix, Linux systems) V6.4

Solaris	32/64-bit	as of V10
Linux(SuSE)	32/64-bit	as of SLES 11
Linux(RedHat)	32/64-bit	as of RHEL 6
HP-UX (Itanium)	32-bit	as of V11.31
IBM-AIX	32-bit	as of V6.1

The following are supplied with the product for communication over TCP/IP:

PCMX(Solaris)	6.0B10
PCMX(Linux)	6.0B10
PCMX(HP-UX)	6.0B10
PCMX(AIX)	6.0B10

The use of PCMX is only license-free in connection with openUTM Client.

When using openUTM Client V6.4 with runtime system CMX, the version supplied with the DVD has to be used.

openUTM-Client(Windows systems) V6.4

Windows	32/64-bit	as of Windows 7
Windows Server	32/64-bit	as of Windows Server 2008 R2

Visual Studio 2005 or higher

PCMX32	as of V5.0A80 (32-bit)
PCMX64	as of V5.0A90 (64-bit)

Visual Basic V6.0

For Client-Server communication:

openUTM(BS2000)	as of V6.0
openUTM(BS2000)	as of V6.1 (required when using the new Client V6.1 functions)

openUTM as of V6.1
(Unix, Linux and Windows systems)

3.3 Product installation

3.3.1 BS2000 systems

The product installation of openUTM-Client(BS2000) has to be executed with the Installation monitor IMON. The information of the installation has to be followed as described in the supply letter and the manual of the product.

The necessary inputs and the process of the installation with IMON are described in the manual of IMON.

3.3.2 Unix/Linux systems

openUTM-Client(Unix systems/Linux) is installed using the installation methods usual on the computer system concerned.

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

```
pkgadd -d <DVD>/<package>.pkg
```

rpm is used for installation on **Linux-Intel**:

```
rpm -i --nodeps <DVD>/<package>.rpm --ignorearch [--prefix=<location>]
```

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

```
./xpininstall
```

On **HP-UX** installation is started by calling:

```
./xpininstall.sh
```

3.3.3 Windows systems

The installation is started by utm.msi or utm-crypt.msi.

The remainder of the procedure is self-explanatory.

The product must be installed under the Administrator account on Windows.

3 components are offered during installation:

- UPIC carrier system
- UPIC add-ons
- XATMI

A "Details" button is provided for each of these components. Clicking this button shows the following breakdown of the installation (subcomponents):

UPIC carrier system

- UPIC Runtime with PCMX
- UPIC Runtime w/o PCMX
- UPIC Development
- Samples

XATMI

- XATMI Runtime
- XATMI Development
- XATMI Sample

The UPIC carrier system and its subcomponent 'UPIC with PCMX' has installed by default.

If the component 'XATMI' is selected, the subcomponent 'XATMI Runtime' is automatically selected.

By default, the product is installed on the drive C into the following folder

Windows 64-bit system:

- 64-bit: "%environment variable ProgramFiles%\upicw64"
- 32-bit: "%environment variable ProgramFiles(x86)\upicw32"

Windows 32-bit system:

- 32-bit: "%environment variable ProgramFiles%\upicw32"

The setup Program of openUTM-Client incl. Encryption has the following settings:

If an encryption library is already present on the computer, it is overwritten by itself. If a non-encryption library is present, it is overwritten by the encryption library. If no encryption library is present, the encryption library is installed.

The setup program for the non-encryption version has the following settings:

If a non-encryption or an encryption library is present on the computer, this is never overwritten. If no encryption library is present, the non-encryption library is installed.

If an encryption library is to be replaced by a non-encryption library, UPIC V6.4A (incl. encryption) must be completely uninstalled before UPIC V6.4A (without encryption) is installed.

The product can be uninstalled by calling UnInstall.cmd.

openUTM-Client V6.4A can also be uninstalled from the Control Panel. The Control Panel is opened by selecting Start/Settings/Control Panel. Double-click on the "Add/Remove Programs" icon to open the Software Properties dialog box. Proceed as described in this dialog box.

Files and folders which were not created by the installation program are not deleted. These files and any superordinate folders must be deleted manually.

3.4 Product use

3.4.1 Notes for migration to openUTM-Client V6.4A

Any UPIC programs previously created will still run.

All other information relevant for using the product can be found in the manual openUTM-Client V6.4 for the UPIC Carrier System.

3.4.2 Compilation, linking and starting in BS2000 systems

The SYSLIB.UTM-CLIENT.064.EXAMPLE library that is supplied with the product contains the member UPTAC.C. This C source is a simple sample program for creating a client.

Note that the "partner name" in the upicfile must always be specified in two parts.

A client application can be linked with the BINDER. The SYSLIB.UTM-CLIENT.064 library contains a sample procedure, with which you can link a client application.

If you want to use the openUTM-Client with Encryption, you must remove the L member UPICNOENCR from the SYSLIB.UTM-CLIENT.064 library before you link your UPIC application. When linking your application, you must also link the module SYSLNK.UTM-CL-CRYPT.064. Alternatively, you can replace the L member UPICNOENCR of the library SYSLIB.UTM-CLIENT.064 by the L member UPICENCR of the library SYSLNK.UTM-CL-CRYPT.064.

3.4.3 Notes for use on Windows systems

Application programs must be compiled with the option UTM_ON_WIN32 and additionally with the option UTM_ON_WIN64 if UPIC 64-bit is used whereat windows.h must be included before upic.h or xatmi.h.

For UPIC, windows.h must also be included for console applications. If this is not done, various macros (VOID, WINAPI) used in upic.h or xatmi.h must be defined explicitly.

One of the libraries upicw32.lib respectively upicw64.lib, upicws32.lib respectively upicws64.lib or upicw.lib must be linked in when linking a UPIC application.

The library xtclt32.lib respectively xtclt64.lib must be linked in when linking an XATMI application.

For UPIC, the multithread-capable runtime libraries must be linked in.

3.5 Discontinued functions (and those to be discontinued)

32-bit UPIC applications on Unix, Linux and Windows systems:

This version supports running of UPIC applications in 32-bit mode on Unix, Linux and Windows systems for the last time.

3.6 Incompatibilities

not applicable

3.7 Restrictions

not applicable

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

The following may be useful as error documentation:

- UPIC program as source
- Side information file (upicfile)
- UPIC phase with runtime environment
- UPIC trace files and UPIC logging file
- XATMI trace when using XATMI applications

For errors that occur in combination with the UTM application, the following additional UTM documentation is required:

- UTM-KDCDEF generation
- UTM/USER dumps
- SYSLOG

4 Hardware support

Support is provided for the hardware on which the operating system versions named below can run:

All systems based on Intel x86 technology, e.g. laptops, PCs, PRIMERGY systems, Itanium-based systems, SPARC systems, e.g. SPARC Enterprise System

Other Unix systems:

IBM pSeries

ia64 HP Server, e.g. HP rx2800

Other platforms on request

2 GHz CPU or better, at least 256 MB RAM