

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

Version 6.3A  
January 2015

Release Notice

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# 1 General

This Release Notice relates to the following

- in BS2000: FUJITSU Software openUTM-Client(BS2000) V6.3A and FUJITSU Software openUTM-Client(BS2000) V6.3A incl. Encryption
- in Unix, Linux or Windows systems: FUJITSU Software openUTM-Client V6.3A and FUJITSU Software openUTM-Client V6.3A 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 V6.3A and openUTM-Client V6.3A 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 V6.3A and openUTM-Client V6.3A incl. Encryption.

The content refers to release level: January 2015.

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 V6.3A and openUTM-Client V6.3A incl. Encryption are licensed products, the use of which requires licenses.

In the openUTM server application environment in BS2000 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 V6.3A 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) V6.3A and openUTM-Client(BS2000) V6.3A 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 or Windows systems) V6.3A 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, Windows systems) V6.3A 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) V6.3A and openUTM-Client(BS2000) V6.3A incl. Encryption

The openUTM-Client(BS2000) V6.3A and openUTM-Client(BS2000) incl. Encryption delivery components are listed below.

Files:    Contents:

Module libraries:

SYSLIB.UTM-CLIENT.063 UPIC library

SYSLIB.UTM-CLIENT.063.WCMX UPIC library, transport system PCMX

SYSLNK.UTM-CL-CRYPT.063 Encryption library (for openUTM-Client(BS2000) incl. encryption only)

Sample programs / Utility routine:  
SYSLIB.UTM-CLIENT.063.EXAMPLE sample programs

Documentation:  
SYSFGM.UTM-CLIENT.063.D German Release Notice  
SYSFGM.UTM-CLIENT.063.E English Release Notice  
SYSSII.UTM-CLIENT.063 Structure information for IMON

### 1.2.2 Delivery components of openUTM-Client (Unix and Linux systems) V6.3A and openUTM-Client(Unix and Linux systems) V6.3 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) V6.3A and openUTM-Client (Windows systems) V6.3A 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

Unwise.exe	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
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for UPIC add-ons:

C++ Class CUpic:

CUpic.dll	Runtime library	<install-PATH>\sys
CUpic.lib	Link library	<install-PATH>\sys
	sample programs	<install-PATH>\sample

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>

Manuals displayed with an order number can be ordered as printed versions.

### 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

Die X/Open-Handbücher sind auch im Web (siehe oben) verfügbar. Sie können gedruckt im Buchhandel unter der ISBN bezogen werden.

## 2 Software extensions

### 2.1 New functions

In addition to the 32-bit version, the UPIC client is also available on Windows systems in a 64-bit version.

## 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 or 64-bit	:	< 10 MB

## 3.2 Software configuration

### openUTM-Client(BS2000) V6.3:

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	V6.3A, if encryption is used in UTM applications
openCRYPT-SERV	as of V1.3 on S Server for encryption with cryptobox
openCRYPT-SOFT	as of V1.3 for SQ-Server

### openUTM-Client(Unix, Linux systems) V6.3

Solaris	32/64-bit	as of V10
Linux(SuSE)	32/64-bit	as of SLES 10
Linux(RedHat)	32/64-bit	as of RHEL 5
HP-UX (PA-RISC)	32-bit	as of V11.31
HP-UX (Itanium)	32-bit	as of V11.31
IBM-AIX	32-bit	as of V6.1

Note: This version supports HP-UX (PA-RISC) for the last time.

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

PCMX(Solaris)	6.0B00
PCMX(Linux)	6.0B00
PCMX(HP-UX)	6.0B00
PCMX(AIX)	6.0B00

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

When using openUTM client V6.3 with runtime system CMX, the version supplied with the DVD has to be used.

### openUTM-Client(Windows systems) V6.3

Windows 7 / Server 2008 R2	32/64 Bit
Windows 8.1 / Server 2012	32/64 Bit

Visual Studio 2005 or higher

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

Visual Basic	V6.0
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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 (Unix-, Linux- und Windows-Systeme)	as of V6.0
openUTM (Unix-, Linux- und Windows-Systeme)	as of V6.1 (required when using the new Client V6.1 functions)



### 3.3 Product installation

#### 3.3.1 BS2000

The product is normally installed using the SOLIS procedure.

#### 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:

```
./xpinstall
```

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

```
./xpinstall.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

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

##### UPIC add-ons

- C++ Class CUpic
- CUpic Sample

##### XATMI

- XATMI Runtime
- XATMI Development
- XATMI Sample

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

If the component 'UPIC add-ons' is selected, the subcomponent 'C++ Class CUpic' is automatically selected.

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

By default, the product is installed on the C: drive in the folder "\Program Files\upicw32" on 32-bit systems or "\Program Files\upicw64" on 64-bit systems; this specification can, however, be changed during installation.

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 V6.3A (incl. encryption) must be completely uninstalled before UPIC V6.3A (without encryption) is installed.

The product can be uninstalled by calling UnInstall.cmd.

openUTM-Client V6.3A 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 on migrating to openUTM-Client V6.3A**

Any UPIC programs previously created will still run.

All other information relevant for using the product can be found in the manual openUTM-Client V6.3 for the UPIC Carrier System.

### **3.4.2 Compilation, linking and starting in BS2000**

The SYSLIB.UTM-CLIENT.063.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.063 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.063 library before you link your UPIC application. When linking your application, you must also link the module SYSLNK.UTM-CL-CRYPT.063. Alternatively, you can replace the L member UPICNOENCR of the library SYSLIB.UTM-CLIENT.063 by the L member UPICENCR of the library SYSLNK.UTM-CL-CRYPT.063.

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

#### Set / read the protocol version:

The UPIC protocol was modified and rendered incompatible during the transition from OpenUTM client (UPIC) V3.4 to OpenUTM client (UPIC) V4.0. In order to ensure that UPIC clients  $\geq$  V4.0 continue to communicate with UTM applications  $<$  V4.0, two functions have been introduced via which the UPIC protocol version V3.4 can be set or scanned:

- EXTRACT\_COMMUNICATION\_PROTOCOL
- SET\_COMMUNICATION\_PROTOCOL

These functions are no longer necessary as openUTM client (UPIC) V6.3 does not always support communication with partners with versions  $<$  V4.0. These functions are supported syntactically in the form of a workaround for the last time in openUTM-Client (UPIC) V6.3A, but without a selection option for the protocol version.

#### C++ classes:

This version supplies C++ classes in UPIC for the last time.

### 3.6 Incompatibilities

#### Use on Unix /Linux systems:

As of openUTM-Client (UPIC) V6.3A, libraries are only supplied as dynamic libraries on the Solaris, Linux, HP-UX-Risc and HP-UX-Itanium platforms. If - as before - static libraries were used to bind the client program, the bind procedures must be modified.

Static libraries but not dynamic libraries are supplied for AIX systems.

#### Use on Windows systems:

File directories:

As of openUTM Client (UPIC) V6.3A, the client is supplied for a 32-bit and a 64-bit environment. The root directory for a 32-bit environment is *upicw32* and *upicw64* for a 64-bit environment. The names of underlying subdirectories will be identical in future for all bit environments. The file names for the examples *uptac* and *xatmi* have been modified so that they are identical for both environments.

XATMI file directory:

As of UTM Client (UPIC) V6.3A, the files required for the XATMI functionality are now always stored in the UPIC subdirectory *xatmi*; the directory can no longer be freely selected. The UPIC bind procedure may have to be modified.

### 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

HP PA-RISC, e.g. series 9000,

HP Itanium

Other platforms on request

2 GHz CPU or better, at least 256 MB RAM