

Fujitsu Technology Solutions

TOM-REF (BS2000/OSD)  
Version 3.0B  
April 2009

Release Notice

Alle Rechte vorbehalten, insbesondere gewerbliche Schutzrechte.  
Änderung von technischen Daten sowie Lieferbarkeit vorbehalten.  
Haftung oder Garantie für Vollständigkeit, Aktualität und Richtigkeit der angegebenen Daten und Abbildungen ausgeschlossen.  
Wiedergegebene Bezeichnungen können Marken und/oder Urheberrechte sein, deren Benutzung durch Dritte für eigene Zwecke die Rechte der Inhaber verletzen kann. Weitere Einzelheiten unter  
[http://ts.fujitsu.com/terms\\_of\\_use.html](http://ts.fujitsu.com/terms_of_use.html)

Copyright © Fujitsu Technology Solutions 2009

Release Notice TOM-REF V3.0B

<b>1 General</b>	<b>2</b>
1.1 Ordering	2
1.2 Delivery	2
1.3 Documentation	8
<b>2 Technical information</b>	<b>10</b>
2.1 Resource requirements	10
2.2 Software configuration	10
2.3 Product installation	10
2.4 Product use	12
2.5 Obsolete functions	13
2.6 Incompatibilities	13
2.7 Restrictions	13
2.8 Procedure in the event of errors	13
<b>3 Software extensions</b>	<b>14</b>
3.1 WINDOWS interface via FHS-DOORS.	14
3.2 Extending the FLG object	14
<b>4 Hardware support (not applicable)</b>	<b>14</b>

# 1 General

TOM-REF V3.0B00

BS2000

Data dictionary system

TOM-REF is a data dictionary system that stores the data about applications in BS2000 \*) and makes it available. It is used preferably in the area of commercial software created with the COBOL programming language. It can be used in all development phases, serving as a database for planning, creating, operating, maintaining and servicing software.

TOM-REF documents the system structure of an application by describing separate objects (programs, modules, data, etc.) and the relationships that occur between these objects (object calls another object, object contains another object).

The most important services provided by TOM-REF include the uniform object descriptions, provision of usage lists (e.g. which modules use a specific copy) and the generation of copy paths.

This Release Notice is a summary of the major extensions, requirements and operating information with regard to TOM-REF V3.0B00 under the BS2000 operating system \*).

The release level is that of June 1996.

## 1.1 Ordering

TOM-REF V3.0B00 can be ordered from your local distributors and is subject to the general terms and conditions of the software product use and service agreement.

## 1.2 Delivery

The TOM-REF V3.0B00 files are delivered via SOLIS.

---

\*) BS2000 is a registered trademark of Fujitsu Technology Solutions.

Delivery components

-----

1. Files required for preinstallation:

PAM pages	File name	Meaning
3447	SYSLIB.TOM-REF.030	Product library
9	SYSPRC.TOM-REF.030	Installation procedure
33	SYSFGM.TOM-REF.030.D	Release Notice (German version)
36	SYSFGM.TOM-REF.030.E	Release Notice (English version)
6	SYSSII.TOM-REF.030	Information file for IMON.

2. Files required at runtime:

PAM pages	File name	Meaning
444	TOM.REF	Phase
66	TOM.REF.ERRMSG	Message file
2736	TOM.REF.LNKLIB	Module library which is merged into the central TOM load module library during installation
12	TOM-REF.INSTALL.PRC	Installation procedure
3	TOMREF.SPF	Special function / call procedure

3. Extensions of the standard structure catalog

PAM pages	File name	Meaning
48	TOM.REF.MACLIB	Macro library
60	TOM.REFADMIN	Administration program for extending the standard structure catalog

30	TOM.REFADMIN.DOC	Administration program description
3	TOM.REFADMIN.PRC	Administration program call procedure
144	TOM.REFIO.OML	Library containing the large TOMREFIO module and its description
6	TOM-REF.REFVAL.PRC	Procedure for defining user relationships

4. Files required for running the migration program

PAM pages	File name	Meaning
6	SYSPRC.TOM-REF.030.MIGRATION	Migration procedure
144	SYSPRG.TOM-REF.030.SAVE-DD	Program which saves or restores the data dictionary
273	SYSPRG.TOM-REF.030.CONVERT-DD	Migration program
3	SYSPRC.TOM-REF.030.DPAGE-SESAM	Procedure for SESAM support (V14.1) in TOM-REF

Library contents

- Module library: TOM.REF.LNKLIB

TYP	NAME	DATE	NAME	DATE
(R)	DDLPRM	1996-09-09	N2CHARTS	1989-09-28
(R)	PASCALIF	1996-09-09	PR0004	1996-05-14
(R)	REFCOPY	1996-09-09	REFN2	1996-09-09
(R)	REFTAB	1996-03-18	REFVAL	1996-03-18
(R)	RF0010	1996-09-09	RF0030	1996-09-09
(R)	RF0060	1996-09-09	RF0340	1996-09-09
(R)	RF1000	1996-09-09	RF2000	1996-09-09
(R)	RF3000	1996-09-09	RF5000	1996-09-09
(R)	RF8000	1996-09-09	RF9000	1996-09-09
(R)	RF9040	1996-09-09	RF9060	1996-09-09

(R)	RF9070	1996-09-09	RF9100	1996-09-09
(R)	RF9200	1996-09-09	RF9700	1996-09-09
(R)	RF9800	1996-09-09	RF9997	1996-09-09
(R)	RI9940	1996-09-09	SESGEN	1996-09-09

28 (R) -ELEMENT(S) IN THIS TABLE OF CONTENTS

TYP	NAME	DATE	NAME	DATE
(S)	TOMREF.RES	1996-03-13	TOMREF.SDC	1996-03-13
(S)	TR0000.RES	1996-08-27	TR0000.SDC	1996-08-27
(S)	TR0001.RES	1996-03-13	TR0001.SDC	1996-03-13
(S)	TR0002.RES	1996-03-13	TR0002.SDC	1996-03-13
(S)	TR0003.RES	1996-03-13	TR0003.SDC	1996-03-13
(S)	TR0005.RES	1996-03-13	TR0005.SDC	1996-03-13
(S)	TR0008.RES	1996-03-13	TR0008.SDC	1996-03-13
(S)	TR0009.RES	1996-03-13	TR0009.SDC	1996-03-13
(S)	TR0010.RES	1996-03-13	TR0010.SDC	1996-04-02
(S)	TR0012.RES	1996-03-13	TR0012.SDC	1996-04-02
(S)	TR0020.RES	1996-03-13	TR0020.SDC	1996-04-02
(S)	TR0030.RES	1996-03-13	TR0030.SDC	1996-04-02
(S)	TR0040.RES	1996-03-13	TR0040.SDC	1996-04-02
(S)	TR0042.RES	1996-03-13	TR0042.SDC	1996-04-02
(S)	TR0060.RES	1996-03-13	TR0060.SDC	1996-03-13
(S)	TR0062.RES	1996-03-13	TR0062.SDC	1996-04-02
(S)	TR0063.RES	1996-03-13	TR0063.SDC	1996-04-02
(S)	TR0064.RES	1996-03-13	TR0064.SDC	1996-04-02
(S)	TR0065.RES	1996-03-13	TR0065.SDC	1996-04-02
(S)	TR0100.RES	1996-03-13	TR0100.SDC	1996-04-02
(S)	TR0120.RES	1996-03-13	TR0120.SDC	1996-04-02
(S)	TR02.RES	1996-03-13	TR02.SDC	1996-03-13
(S)	TR0200.RES	1996-03-13	TR0200.SDC	1996-03-13
(S)	TR0340.RES	1996-03-13	TR0340.SDC	1996-04-02
(S)	TR0400.RES	1996-03-13	TR0400.SDC	1996-04-02
(S)	TR0430.RES	1996-03-13	TR0430.SDC	1996-04-02
(S)	TR1000.RES	1996-03-13	TR1000.SDC	1996-03-13
(S)	TR1010.RES	1996-03-13	TR1010.SDC	1996-04-02
(S)	TR1060.RES	1996-03-13	TR1060.SDC	1996-04-02
(S)	TR1080.RES	1996-03-13	TR1080.SDC	1996-04-02
(S)	TR1090.RES	1996-03-13	TR1090.SDC	1996-04-02
(S)	TR1100.RES	1996-03-13	TR1100.SDC	1996-04-02
(S)	TR1110.RES	1996-03-13	TR1110.SDC	1996-04-02
(S)	TR1130.RES	1996-03-13	TR1130.SDC	1996-04-02
(S)	TR2000.RES	1996-03-13	TR2000.SDC	1996-03-13
(S)	TR2010.RES	1996-03-13	TR2010.SDC	1996-04-02
(S)	TR2020.RES	1996-03-13	TR2020.SDC	1996-04-02
(S)	TR2030.RES	1996-03-13	TR2030.SDC	1996-04-02
(S)	TR2040.RES	1996-03-13	TR2040.SDC	1996-04-02
(S)	TR2050.RES	1996-03-13	TR2050.SDC	1996-04-02
(S)	TR2070.RES	1996-03-13	TR2070.SDC	1996-04-02
(S)	TR2100.RES	1996-03-13	TR2100.SDC	1996-04-02
(S)	TR2110.RES	1996-03-13	TR2110.SDC	1996-04-02
(S)	TR2120.RES	1996-03-13	TR2120.SDC	1996-04-02
(S)	TR2130.RES	1996-03-13	TR2130.SDC	1996-04-02
(S)	TR2140.RES	1996-03-13	TR2140.SDC	1996-04-02
(S)	TR3000.RES	1996-03-13	TR3000.SDC	1996-03-13
(S)	TR3010.RES	1996-03-13	TR3010.SDC	1996-04-02
(S)	TR3030.RES	1996-03-13	TR3030.SDC	1996-04-02
(S)	TR3040.RES	1996-03-13	TR3040.SDC	1996-04-02
(S)	TR3060.RES	1996-03-13	TR3060.SDC	1996-04-02
(S)	TR5000.RES	1996-03-13	TR5000.SDC	1996-04-02

(S) TR6010.RES	1996-03-13	TR6010.SDC	1996-04-02
(S) TR8000.RES	1996-03-13	TR8000.SDC	1996-03-13
(S) TR8010.RES	1996-03-13	TR8010.SDC	1996-04-02
(S) TR8020.RES	1996-03-13	TR8020.SDC	1996-04-02
(S) TR8030.RES	1996-03-13	TR8030.SDC	1996-04-02
(S) TR8040.RES	1996-03-13	TR8040.SDC	1996-04-02
(S) TR8080.RES	1996-03-13	TR8080.SDC	1996-04-02
(S) TR8090.RES	1996-03-13	TR8090.SDC	1996-04-02
(S) TR8888.RES	1996-03-13	TR8888.SDC	1996-03-13
(S) TR9000.RES	1996-03-13	TR9000.SDC	1996-03-13
(S) TR9010.RES	1996-03-13	TR9010.SDC	1996-03-13
(S) TR9012.RES	1996-03-13	TR9012.SDC	1996-03-13
(S) TR9013.RES	1996-03-13	TR9013.SDC	1996-03-13
(S) TR9014.RES	1996-03-13	TR9014.SDC	1996-03-13
(S) TR9015.RES	1996-03-13	TR9015.SDC	1996-03-13
(S) TR9016.RES	1996-03-13	TR9016.SDC	1996-03-13
(S) TR9017.RES	1996-03-13	TR9017.SDC	1996-03-13
(S) TR9019.RES	1996-03-13	TR9019.SDC	1996-03-13
(S) TR9020.RES	1996-03-13	TR9020.SDC	1996-03-13
(S) TR9030.RES	1996-03-13	TR9030.SDC	1996-03-13
(S) TR9040.RES	1996-03-13	TR9040.SDC	1996-03-13
(S) TR9050.RES	1996-03-13	TR9050.SDC	1996-03-13
(S) TR9060.RES	1996-03-13	TR9060.SDC	1996-03-13
(S) TR9070.RES	1996-03-13	TR9070.SDC	1996-03-13
(S) TR9072.RES	1996-03-13	TR9072.SDC	1996-03-13
(S) TR9073.RES	1996-03-13	TR9073.SDC	1996-03-13
(S) TR9074.RES	1996-03-13	TR9074.SDC	1996-03-13
(S) TR9075.RES	1996-03-13	TR9075.SDC	1996-03-13
(S) TR9076.RES	1996-03-13	TR9076.SDC	1996-03-13
(S) TR9078.RES	1996-03-13	TR9078.SDC	1996-03-13
(S) TR9079.RES	1996-03-13	TR9079.SDC	1996-03-13
(S) TR9080.RES	1996-03-13	TR9080.SDC	1996-04-02
(S) TR9083.RES	1996-03-13	TR9083.SDC	1996-03-13
(S) TR9084.RES	1996-03-13	TR9084.SDC	1996-03-13
(S) TR9087.RES	1996-03-13	TR9087.SDC	1996-03-13
(S) TR9088.RES	1996-03-13	TR9088.SDC	1996-04-02
(S) TR9090.RES	1996-03-13	TR9090.SDC	1996-03-13
(S) TR9100.RES	1996-03-13	TR9100.SDC	1996-03-13
(S) TR9102.RES	1996-03-13	TR9102.SDC	1996-03-13
(S) TR9200.RES	1996-03-13	TR9200.SDC	1996-03-13
(S) TR9210.RES	1996-03-13	TR9210.SDC	1996-03-13
(S) TR9300.RES	1996-03-13	TR9300.SDC	1996-03-13
(S) TR9700.RES	1996-03-13	TR9700.SDC	1996-03-13
(S) TR9702.RES	1996-03-13	TR9702.SDC	1996-03-13
(S) TR9704.RES	1996-03-13	TR9704.SDC	1996-03-13
(S) TR9800.RES	1996-03-13	TR9800.SDC	1996-03-13
(S) TR99.RES	1996-03-13	TR99.SDC	1996-03-13
(S) TR9900.RES	1996-03-13	TR9900.SDC	1996-03-13
(S) TR9910.RES	1996-03-13	TR9910.SDC	1996-03-13
(S) TR9920.RES	1996-03-13	TR9920.SDC	1996-03-13
(S) TR9930.RES	1996-08-27	TR9930.SDC	1996-08-27
(S) TR9970.RES	1996-03-13	TR9970.SDC	1996-04-02
(S) TR9980.RES	1996-03-13	TR9980.SDC	1996-04-02
(S) TR9990.RES	1996-03-13	TR9990.SDC	1996-04-02

212 (S) -ELEMENT(S) IN THIS TABLE OF CONTENTS

- Macro library: TOM.REF.MACLIB

TYP	NAME	DATE	NAME	DATE
(M)	REFGRP	1989-01-10	REFINT	1989-01-10
(M)	REFOTH	1989-01-10	REFREL	1989-01-10
(M)	REFTYP	1989-01-10	REFVGR	1990-08-10
(M)	REFVIN	1989-01-10	REFVN2	1991-06-19
(M)	REFVOT1	1991-06-19	REFVPG1	1991-08-29
(M)	REFVPG2	1991-07-23	REFVST	1995-04-18

12 (M)-ELEMENT(S) IN THIS TABLE OF CONTENTS

- Module library: TOM.REFIO.OML

TYP	NAME	DATE
(D)	TOMREFIO.DOC	1995-06-30

1 (D)-ELEMENT(S) IN THIS TABLE OF CONTENTS

TYP	NAME	DATE
(R)	TOMREFIO	1996-09-09

1 (R)-ELEMENT(S) IN THIS TABLE OF CONTENTS



### 1.3 Documentation

The following User Guide can be ordered from Fujitsu Technology Solution. The predecessor of TOM-REF V3.0B00 is TOM-REF V3.0.

Article	Order number
TOM-REF (BS2000) Version 3.0 Data Dictionary System User Guide	U5238-J-Z125-4 (German) U5238-J-Z125-4-7600 (English)

In addition to the above User Guide and the BS2000-GA manuals, the following documentation is either necessary or may be of help for working with TOM-REF:

Article	Order number
TomDoors Version V5.0 Working with the Graphical User Interface	U22877-J-Z125-2 (German) U22877-J-Z125-2-7600 (English)
TOM-CA (BS2000) COBOL Code Analysis User Guide Version 3.0A	U2230-J-Z125-5 (German) U2230-J-Z125-5-7600 (English)
TOM-M (BS2000) Toolmanager Monitor Introductory Manual Version 4.2	U20673-J-Z127-1 (German) U20673-J-Z127-1-7600 (English)
TOM-M (BS2000) Toolmanager Monitor Reference Manual Version 4.2	U20672-J-Z127-1 (German) U20672-J-Z127-1-7600 (English)
TOM-M (BS2000) Toolmanager Monitor for COBOL, COLUMBUS, COLUMBUS85 User Guide	U20671-J-Z127-1 (German) U20671-J-Z127-1-7600 (English)
TOM-M (BS2000) Toolmanager Monitor for Assembler, C, FORTRAN User Guide Version 4.2	U20669-J-Z127-1 (German) U20669-J-Z127-1-7600 (English)

UDS-DDA (BS2000) UDS Data Dictionary Connection User Guide Version 1.0	U5138-J-Z87-1 (German) U5138-J-Z87-1-7600 (English)
TOM-REFG (BS2000) Interface for Structures Maintained by Data Dictionaries User Guide Version 2.1	U3160-J-Z87-3 (German) U3160-J-Z87-3-7600 (English)
TOM-JA (BS2000) JCL Analysis User Guide Version 02.0A00	U3997-J-Z87-2 (German) U3997-J-Z87-2-7600 (English)
TOM-TA (BS2000) Text Analysis User Guide Version 1.0B	U2229-J-Z87-2 (German) U2229-J-Z87-2-7600 (English)
SESAM/SQL-DDA V3.0 (BS2000/OSD) User Guide Version 3.0	U5209-J-Z125-3 (German) U5209-J-Z125-3-7600 (English)

## 2 Technical information

### 2.1 Resource requirements

TOM-REF V3.0B00 can be used on systems with at least 4 MB of main memory.

Approximately 3000 PAM pages of disk storage space is required.

### 2.2 Software configuration

Operating system: Host:	BS2000	as of version 10.0
Operating mode:	Dialog operation	
Software:	EDT	as of version 16.3
	TOM-TI	as of version 3.0C
Supplementary software:	TomDoors-M	as of version 5.0
	TOM-REFG	as of version 2.1A30
	TOM-CA	as of version 3.0B00
	TOM-JA	as of version 2.0A00
	TOM-TA	as of version 1.0C00
	TOM-SQLT	as of version 1.0
	UDS-DDA	as of version 1.0
	SESAM/SQL-DDA	as of version 2.0

### 2.3 Product installation

Caution: Reading the files in and installing TOM-REF V3.0B00 will make TOM-REFG unusable. User extensions to the standard structure catalog will be lost.

If necessary, the user extensions must be taken over into the TOM-REF.REFVAL.PRC procedure and TOMREFG reinstalled.

The contents of the customer tape are taken over into the system. After reading the customer tape in via SOLIS, the TOM-REF administrator must start the TOM-REF preinstallation procedure SYSPRC.TOM-REF.030. This procedure installs TOM-REF to the ID specified by the administrator. TOM-REF is then installed as described later.

If user extensions have been made to the structure catalog of an existing TOM-REF installation (V1.1 - V3.0), it is imperative that the TOM-REF.REFVAL.PRC file is saved before the new version is installed, so that the extensions can be taken over in the new file (see note below).

The Release Notice is on the tape and can be printed with:

```
/PRINT-FILE SYSFGM.TOM-REF.030.D,CONTROL-CHARACTERS=EBCDIC  
or  
/PRINT-FILE SYSFGM.TOM-REF.030.E,CONTROL-CHARACTERS=EBCDIC
```

Installation is carried out with a supplied installation procedure. It must be started under the \$TSOS ID or the installation ID of the TOM products.

With this procedure,:

1. the special function TOMREF.SPF is transferred into a selectable TOMLIB and modified there.
2. the TOM-REF load module library is merged into the central TOM load module library.

Call: /DO TOM-REF.INSTALL.PRC <,procedure parameters>

All procedure parameters are keyword parameters.  
The following parameters are preset:

Parameter	Meaning	Preset
&NKZ	short name symbol and	TOM
&PROJECT	project of the TOMLIB in which the special function is to be written	CENTRAL
&PRE/&SUF	switch for TOM installation with prefix/suffix	OFF (=without prefix/suffix)
&TOMOML	TOM load module library	TOM.OML
&LMS	library utility name	LMS
&LMSID	and ID (without \$)	TSOS
&ASSEMBH	assembler compiler name and	ASSEMBH
&ASSUID	ID (without \$)	TSOS
&LIST	installation log file name	TOM-REF.INSTALL.LST

The following parameters are additionally requested in dialog during the installation process:

&PREFIX: (only if PRE=ON) TOM installation prefix.

&SUFFIX: (only if SUF=ON) TOM installation suffix.

&TOMUID: TOM installation ID.  
&UDSDDA: query (Y/N) whether the product UDS-DDA is installed.  
&ASSIGN: start or cancel the installation procedure after displaying the current parameter values.

An installation log is written as default into the file TOM-REF.INSTALL.LST. It can be printed with

```
/PRINT-FILE TOM-REF.INSTALL.LST,CONTROL-CHARACTERS=EBCDIC
```

(see also the chapter "Procedure in the event of errors").

## 2.4 Product use

The extension of the structure catalog for COBOL85, SQL V2.0 and ESQ L leads to incompatibility between the TOM-REF V2 and V3.0B00 data dictionaries. A V2 data dictionary can be converted into V3.0B00 format with a migration procedure.

Call : /DO SYSPRC.TOM-REF.030.MIGRATION

The following parameters are queried in dialog during the procedure run:

&USID : data dictionary ID  
&NKZ : data dictionary short name symbol  
&DDNAME : data dictionary name (e.g. TOMRF1)  
&PROJECT: data dictionary project

The migration program makes the following changes to the data dictionary:

1. eliminates the objects that are no longer supported
2. customizes the part structures for COBOL85, SQL V2.0 and ESQ L.

A log file is created with objects that must be customized manually by the TOM-REF administrator.

It is recommended to run the following functions in TOM-REF after customizing:

1. The service function 'Check objects and relationships'
2. The service function 'Reestablish TOMREFI' under 'Administration'

The old data dictionary files (TOM-REF V2.0) are prefixed with 'SAVE'. These files can be deleted when the customizing has been correctly concluded.

## **2.5 Obsolete functions**

---

## **2.6 Incompatibilities**

The implemented part structure catalog extensions for supporting the COBOL85, ESQL and SQL-V2.0 (pre)compiler lead to incompatibilities with the V2 data dictionary. The V2 data dictionary must be converted to the new format with the supplied migration procedure.

## **2.7 Restrictions**

---

## **2.8 Procedure in the event of errors**

TOM-REF V3.0B00 error messages are, if possible, to be accompanied by an exact description of the error (with the preceding series of functions) and the following documents in file form:

- TOM-REF installation log
- current contents of the load module library (TOM.OML)
- call procedure (special function TOMREF.SPF)
- any used data dictionary with the corresponding TOMLIB and the REFVAL module used (from the load module library)

## 3 Software extensions

Only the extensions and enhancements over the previous version TOM-REF V3.0B00 are described in the following section.

### 3.1 WINDOWS interface via FHS-DOORS.

TOM-REF V3.0B00 now offers a user-friendly graphical user interface, which simplifies working with TOM-REF. The Formplag-Doors screen masks were changed to use semantic resources (SDC files). These resources were then optimized with the FHS-DOORS semantic editor and the Dialog Builder editor (RES files). The resources are stored in TOM.OML and are downloaded automatically to the PC with the first call. Further information can be found in the manual TomDoors V5.0: Working with the Graphical User Interface.

The downloading and display of the PC-masks work correctly with TomDoors V5.0A10 or higher.

Comments:

-----

The K2 key may not be pressed during such a resource transfer, which only occurs once per TOM-REF screen. Interrupting the download in this way would cause errors in either the resource transfer or the TOM-REF screen.

Chapter 1.2 contains a list of the resources (SDC and RES elements). These resources can be transferred manually to the PC concerned during TOM-REF installation to avoid the downloading. The resources are set up for a screen resolution of 800 x 600. With other resolutions, either the TOM-REF masks are only partially displayed or only part of the screen is used.

### 3.2 Extending the FLG object

The FLG object (field group) was extended by two data fields for the COBOL rename clause, since this clause is now analyzed by TOM-CA V3.0B00 (see also the README file).

## 4 Hardware support (not applicable)

---