Fujitsu Software BS2000 openNet Server

Version V21.0B

November 2024

Release Notice

1 General

This Release Notice is a summary of the major extensions, dependencies and operating information with respect to openNet Server V21.0B under the BS2000 operating system.

*2 **Release level of content is valid as of November 2024.**

*1 Changes to release level November 2023 are marked with *1.
*2 Changes to release level June 2024 are marked with *1.

This and other current Release Notices are available online: https://bs2manuals.ts.fujitsu.com

openNet Server provides the basic BS2000 communication services.

A list of components of openNet Server V21.0B is provided in chapter "1.2 Delivery".

PLUS, VTSU-B and XHCS-SYS have separate, dedicated Release Notices.

If one or more previous versions are skipped when this product version is used, the information from the Release Notices (and README files) of the previous versions must also be noted.

1.1 Ordering

openNet Server V21.0B is part of the package BS2000 OS DX V1.0B. It cannot be ordered separately. The components of openNet Server V21.0B are bunched together in the single technical supply unit BS2OS.ONETSERV V1.0B.

The general contract terms and conditions concerning the use and support of software products are valid for openNet Server V21.0B.

1.2 Delivery

BS2OS.ONETSERV V1.0 files are supplied via SOLIS.
The following release units are part of the BS2OS.ONETSERV V1.0B delivery units:

*2	BCAM	V25.0C00
*2	BCAM-DIAG	V01.0A06
	BCAM-GEN	V25.0B00
*2	CMX(BS2000)	V01.4A04
*2	DCAM	V21.0B01
*2	DCM-DIAG	V01.1A03
*2	IPSEC	V01.4A04
	LWRESD	V21.0A00
	PLUS	V09.1B00
	PRNGD	V01.1A02

*2	SOCKETS	V21.0B02
	VTSU-B	V21.0B00
*2	VTSUTRAC	V13.3A02
	XHCS-SYS	V21.0A03

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

1.3 Documentation

The documentation for openNet Server V21.0B consists of the following parts. New editions for openNet Server V21.0B are marked with *.

	Manual	Version	Typ
*	BCAM	V25.0	User Guide
	CMX	V1.0	User Guide
	DCAM COBOL	V13.3	User Guide
	DCAM Makros	V13.3	User Guide
	DCAM Program Interfaces	V13.3	User Guide
	IPSec Internet Security in BS2000/OSD	V1.4	User Guide
	IPv6 Conversion Guide Level 1	V4.0	User Guide
	PRNGD (Described in the interNet Services Administrator manual)	V1.1	Administrator Guide
	SNMP Management openNet Server	V4.0	User Guide
	SOCKETS	V21.0	User Guide
	VTSU	V11.0	User Guide
	XHCS	V2.0	User Guide

The documentation is available on the Internet at https://bs2manuals.ts.fujitsu.com.

There you will find both individual manuals and (under the "Softbooks" tab) the ISO image of a DVD with the entire inventory.

The manuals may be supplemented with README files. These contain changes and extensions to the manual of the product concerned.

2 Software extensions

In the following, the extensions and improvements compared to the previous version openNet Server V21.0A are described.

- Block unencrypted connection requests (CR A0616404).
  To increase the security of a system, a functionality was desired to accept only encrypted connections to BS2000 (stunnel).

  With the help of the command MODIFY-BCAM-OPTIONS AVAILABILITY-OPTIONS= *PARAMETERS(SECURE-CONNECTION=*ON/*OFF) the rejection of unencrypted connection requests can be activated or deactivated. The command SHOW-BCAM-OPTIONS OPTION= *AVAILABILITY can be used to display whether access restrictions are currently activated.

  Corresponding access rules can be stored in the file SYSDAT.BCAM.APPLICATIONS as of BCAM V25.0B. Conditions for rejecting defined NEA applications (REJECT list) and exceptions to them (EXCEPTION list) can be defined in this file. They only apply if SECURE-CONNECTION=*ON is set. Optionally, if SECURE-CONNECTION=*ON is set, rejected connection attempts can be logged in SATLOG.

- Displaying the processor name for stunnel connections (CR A0617156)
  Since several years it is possible to connect to a BS2000 system through an encrypted connection thanks to stunnel. However, in this case, the host name of the BS2000 system instead of the real processor name is entered into the connection data and the real processor name is not visible.

  As of BCAM V25.0B, the real processor name is now determined and passed on. This means, that even for stunnel connections, the real processor name is used in the SHOW-JOB-STATUS command and in SECOS.

- Extension of the netstat program to display the stunnel connection
  With the function "netstat -tpo", connection information on the current, own stunnel connection can be output.

- New mode for syntax checking of BCAM commands (CR A0616430)
  The command CALL-BCAM-COMMANDS enables the syntax check of BCAM commands in a file. For each command, it is returned whether it is syntactically correct.

- To make the output more readable, an option is offered with which an output is only made to the screen if the command syntax is incorrect. This can be achieved with the new option value *ERROR-ONLY for the operand SYNTAX-CHECK-ONLY.

- Extension of the help text of message BCA0777 (CR A0617138)
  The help text of the message BCA0777 is extended on customer request. Thus, occurring errors connected to the message BCA0777 can be better understood by users and measures can be taken more quickly.

- Extension of the command SHOW-PROCESSOR-ATTRIBUTES
  According to the command SHOW-ROUTE-ATTRIBUTES, the value *OWN can also be specified

in the operand PROCESSOR-NAME of the command SHOW-PROCESSOR-ATTRIBUTES as of BCAM V25.0B.

*1 2.1 Changes with Service Pack SP 24.1

*1 2.1.1 BCAM V25.0B01

*1 In BCAM, SYSDAT.BCAM.APPLICATIONS is no longer delivered empty. Instead, the entries for
*1 $DIALOG access from the SE Manager (for *SECURE-CONNECTION) are predefined there.

*1 2.1.2 SOCKETS V21.0B01

*1 Improved checking of call parameters in function getipnodebyname().

*2 2.2 Changes with Service Pack SP 24.2

*2 2.2.1 BCAM V25.0C

*2 New TCP timestamps function (RFC 7323)
*2 This option can be activated via MODIFY-BCAM-OPTIONS. It increases throughput by up to 30%.
*2 Important: Both partners must understand and have activated TCP timestamps.

*2 2.2.2 BCAM-DIAG V01.0A06

*2 Support for the new BCAM version.

*2 2.2.3 CMX(BS2000) V01.4A04

*2 Since SPARC libraries will no longer be delivered in the future, the corresponding objects have
*2 been removed from the SYSSII file with the parameter NO-MORE-DELIVERED=YES.

*2 2.2.4 DCAM V21.0B01

*2 DCAM V21.0B01 offers the same functionality as the previous version DCAM V21.0B.
*2 In addition to error corrections, there have been adjustments to BS2000 OS DX V1.0 and the new production environment.

*2 2.2.5 DCM-DIAG V01.1A03

*2 Support for the new DCAM version.

*2 2.2.6 IPSEC V01.4A04

*2 Since SPARC libraries will no longer be delivered in the future, the corresponding objects have
*2 been removed from the SYSSII file with the parameter NO-MORE-DELIVERED=YES.

*2 2.2.7 SOCKETS V21.0B02

*2 SOCKETS V21.0B02 offers the same functionality as the previous version SOCKETS V21.0B01.
*2 In addition to bug fixes, support for time calculation after 2042 has also been added.

*2 2.2.8 VTSUTRAC V13.3A02

*2 Since SPARC libraries will no longer be delivered in the future, the corresponding objects have
*2 been removed from the SYSSII file with the parameter NO-MORE-DELIVERED=YES.

3 Technical information

3.1 Resource requirements

*2 The following resources are required for BCAM V25.0C:

Static requirement per generated LAN connection: ca. 2MB.

Dynamic requirement:
- depending on communication load
- depending on operating option Dynamic Right Sizing
  (if the option is enabled, more memory may be required)

Memory classes 1-5 are used.

It is recommended not to change the system-depending size of resident memory selected by BCAM for data communications. In other words, it is not necessary to specify RESMEM in the DCSTART, DCOPT and BCMOD commands. Increasing the size of the BCAM pool is an option to improve performance if a memory bottleneck was diagnosed.

LWRESD requires minimum virtual memory of 32 MB.

3.2 SW configuration

openNet Server V21.0B will run under SE server as of BS2000 OS DX V1.0B

When certain functions are used, openNet Server V21.0B also requires the following products:

Product	Version	
SDF-P	as of 2.5H	if S variables are used
SECOS	as of 5.6A	if SAT is used with RSC
CRYPT	as of 21.0A	if IPSec is used

3.3 Product installation

Installation of the product openNet Server with the IMON installation monitor is mandatory. You must follow the information concerning installation in the delivery cover letter and in the product documentation as well as the information in this Release Notice.

Before calling IMON, you must carry out the actions listed in the delivery cover letter as Installation requirements.

After these actions have been executed you have to install the product with IMON.
The necessary inputs and the sequence of the installation are described in the IMON documentation.

3.4 Product use

Configuration files:
When upgrading from older openNet Server versions ensure that the version number is included in the names of the configuration files of some of the components (e.g. LWRESD and IPSEC).
Thus, the new configuration files have to be adapted before using the products, because existing settings are not automatically transferred.

Subsystems:
The following subsystems exist in connection with openNet Server V21.0B:

BCAM	BCAM-CMD	BCAM-COS
BCAM-SM2	DCAM	DCAM-COS
DCM-DIAG	CMX-TU	CMX-TP
CMX-11	IPSEC	PRNGD
SOC-TP	SOC6	SOC6-X8 (only x86)
VTSU	VTSUTRAC	XHCS-SYS

CMX-11 is the TU subsystem for CMX applications. CMX-TU exists to ensure compatibility with existing TU applications.

BCAM options:
The following BCAM Options must not be changed, otherwise there may be problems in the internal control LAN (MCNPR; Management Control Network Private):

IPV6-SUPPORT
IPV6-PREFIX-LEN-CTRL
MULTICAST

SOCKETS:
SOCKETS V21.0B, which is included in openNet Server V21.0B, is shipped with the subsystem SOC6.
The entries used by the SOCKETS V21.0B subsystem remain open during linkage. They are only satisfied by the subsystem when the application is started.
The SOC6 subsystem is always loaded into the address space above 16 MB, i.e., all user programs that use it must be executable in 31-bit address mode and advance run mode (AMODE/RMODE).
The SYSDOC.SOCKETS.210.OSS library contains the Open-Source components and the corresponding license texts.
Socket programs, that were compiled with the headers from SYSLIB.SOCKETS.210,
cannot run on systems with subsystem version <V21.0.

SAT:
Quantity problems may occur when logging BCAM events (memory bottlenecks) if applications do not function according to specification and thereby create a flood of SAT messages. For example, if BCAM is restarted without first stopping POSIX, the BCAM-EVENT BAO (open TSAP) is written constantly into the SATLOG file as a failure entry.

System Exit:
The system exit function 02 offers the option of controlling use of the BCAM transport system. BCAM reports opening of TSAPs and active/passive attempts to start communication relationships, regardless of the interface functionality.

The exit routine is called if the following two conditions are true:

- System exit function 02 was enabled in BCAM with MODIFY-BCAM-OPTIONS.
- A TSAP is opened in BCAM or BCAM detects a communication request.

3.5 Discontinued functions (and those to be discontinued)

None

3.6 Incompatibilities

None

3.7 Restrictions

IPSec:
NAT Traversal in IKEv1 and IKEv2 cannot be used in this version.

3.8 Procedure in the event of errors

SYSLNK.BCAM-DIAG.010 is supplied with openNet Server V21.0B and this also contains the main modules of older versions. SYSLNK.BCAM-DIAG.010 is renamed to SYSLNK.BCAM.DUMP by SOLIS.

If ASTRID is to run under an ID other than TSOS, test privileges 8,1 must be entered in the user entry of the ID concerned. This is necessary because ASTRID uses AIDSYS and issues the OPTION TESTPRIV=(8,1), DUMP=YES command internally.

In the event of an error, the following information is required for diagnostics purposes depending on the nature of the problem:

- Detailed problem description

- System environment:
  - BS2000 computer:
    - Computer name, computer address (IP address, Ethernet address)
    - BS2000: version, loader
    - BCAM, DCAM, CMX, SOCKETS: version, loader or correction level
    - Application: name, version, port number (TCP)
    - Protocols used: TCP, ISO
  - Partner computer:
    - Computer name, computer address
    - System: BS2000 / SINIX / PC
    - Operating system version, correction level
    - Application: name, version, port number (TCP)
  - Hardware:
    - LAN (Gigabit/10Gigabit)
    - HNC use
    - Firmware level
    - Router in use?

- Environment:
  - Prior software upgrade?
  - Prior hardware upgrade?
  - Prior loader change?
  - Prior use of new reps?

- Documentation:
  - ASTRID (BCAM), DIANA (DCAM), IPSECDIA (IPSec): always
  - Rep file: if possible
  - RDF source: as required
  - CONSLOG: as required
  - SERSLOG: as required
  - HERSLOG: as required
  - System or DCS dumps that are requested under the TSN BCAM, BCAT, BCAF, BCAC, BCA0, BCAH, BCAS or under the user task.

With reproducible problems, you should turn on the DCM traces via DCDIAG command before the problem occurs (see the BCAM manual for a description).

You can use the /BCSET command to change diagnostics maintenance parameters. It may only be used by the personnel specified in the manual since wrong usage may cause errors.
With SLEDs the class 4 memory is necessary.

You can use the PING4 and PING6 programs to check the accessibility of partner systems over IP routes (see the BCAM manual for a description).

The possible options for the programs PING4, PING6, DIG, NSLOOKUP and TRACEROUTE can be read in the online help (ping4/ping6/dig/nslookup -h, traceroute --help).

4 Hardware requirements

openNet Server V21.0B runs on all BS2000 as of OS DX V1.0B business servers which fulfil the software requirements.

Peripheral devices:

The /390 systems are connected on a SE server by means of a HNC, which is part of the Net Unit (NU) of the SE server.