



Dialogic® DSI Signaling Servers
SS7G41 SIU Migration Guide

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Revision History

Revision	Release date	Notes
U01LGD, Issue 1	September 2011	General Availability
Last modified: September 2011		

Refer to www.dialogic.com for product updates and for information about support policies, warranty information, and service offerings.

1. Introduction

The purpose of this document is to aid customers who are migrating from the Dialogic® SS7G31 or SS7G32 (SS7G3x) Signaling Server to the Dialogic® SS7G41 Signaling Server operating in SIU mode.

Functional Overview

The following compares the functionality of the SS7G41 to the SS7G3x Signaling Server. The SS7G41:

- Is a 1U Signaling Server offering higher link density and lower power consumption than the 1U SS7G31 or 2U SS7G32.
- Supports the SS7MD and SS7LD Signaling Boards. Support for these new board types will require minor modifications to configuration files ported to the SS7G41 from SS7G3x systems.
- Uses the same Message based API to the SIU protocol stack or SIU management as the SS7G3x.
- Uses a simpler, more flexible licensing model to that for SS7G3x systems.

Rather than having separate TDM, M2PA and M3UA licenses support for these capabilities are included in the SIU and SWS 'mode' licenses. The numbers of SIU and SWS 'mode' licenses have been increased to allow users to select the transport capacity they require.

- Supports up to 65,535 circuits and/or 65,535 simultaneous transactions.
- Provides four Ethernet ports each providing 10/100/1000 Mbps. A card supporting an additional two Ethernet port is available as an additional purchasable option.
- When fitted with an SS7MD board the SS7G41 supports ATM signaling.
- When fitted with either an SS7LD or SS7MD board the SS7G41 support Signaling Monitoring including High-Z and Protective Monitoring Point monitoring.
- For high density solutions, when fitted with two SS7MD Signaling Boards the SS7G41 offers the same performance and greater signaling capacity than the SS7G32. Each SS7MD board provides up to 124 SS7 links, four HSL links or four ATM Cell Streams.
- For lower density solutions, when fitted with one SS7LD boards the SS7G41 offers greater performance and capacity than the low density SS7G31 equivalent. Each SS7LD board supports up to 16 SS7 links.
- Offers greater security and includes support for a Firewall, enhanced password and User account management.
- Supports a Web Browser management interface in addition to the existing Command Line Interface.
- Supports a lights out (Out of Band) management interface providing access to key system parameters and status indicators even when powered off.
- Provides additional diagnostics, measurements and status reports.
- Cannot cross connect timeslots between Signaling Boards or between PCMs within a board. In scenarios where voice and signaling are carried on the same PCM external

switching equipment should be used to strip the signaling from the PCM for processing by the Signaling Server.

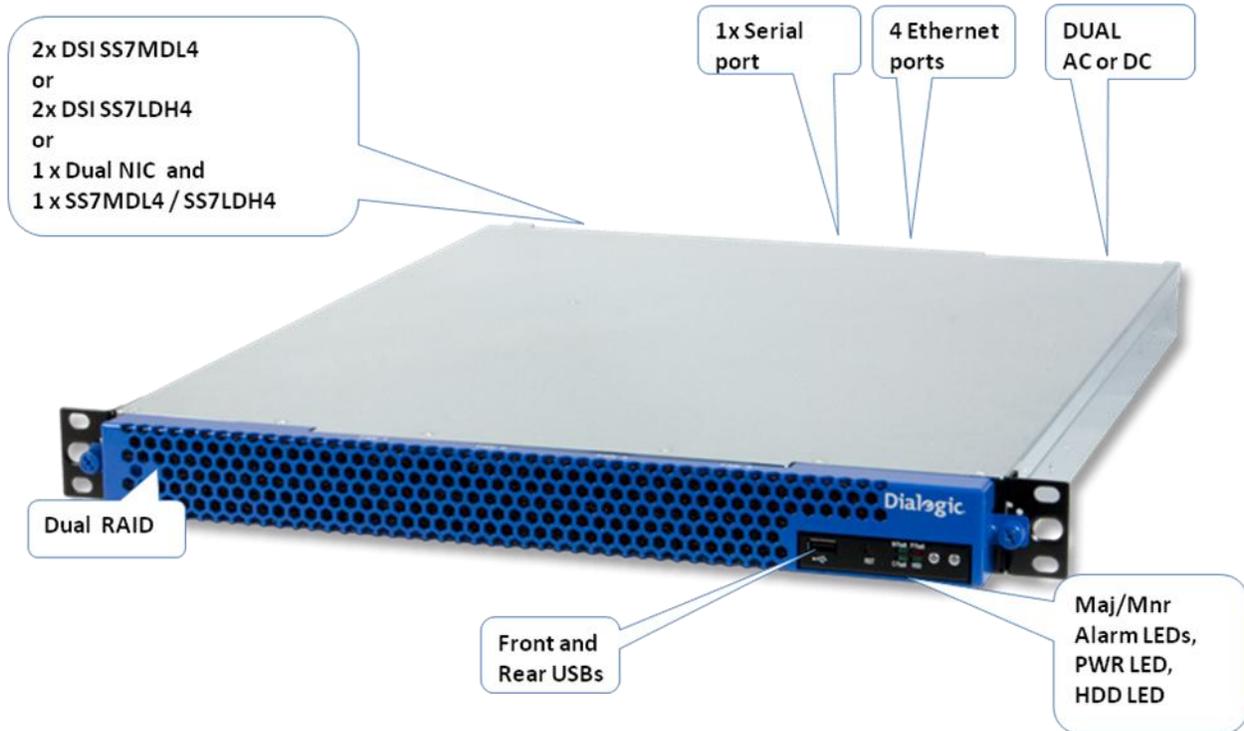
- Does not support unstructured PCMs and cannot use a BITS clock.
- The SS7G41 platform software may not be used on SS7G3x systems since it is not designed to operate on that hardware platform.

Variants to Purchase

Product ID	Description
SS7G41A00Q	Signaling Server, AC, 0 boards
SS7G41AL1Q	Signaling Server, AC, 1 SS7LD board
SS7G41AL2Q	Signaling Server, AC, 2 SS7LD boards
SS7G41AM1Q	Signaling Server, AC, 1 SS7MD board
SS7G41AM2Q	Signaling Server, AC, 2 SS7MD boards
SS7G41D00Q	Signaling Server, DC, 0 boards
SS7G41DL1Q	Signaling Server, DC, 1 SS7LD board
SS7G41DL2Q	Signaling Server, DC, 2 SS7LD boards
SS7G41DM1Q	Signaling Server, DC, 1 SS7MD board
SS7G41DM2Q	Signaling Server, DC, 2 SS7MD boards

2. Hardware

The SS7G41 standalone platform is a 1U rack mountable chassis.



Note: The serial port (COM1) provided on the back panel of the SS7G41 is a RS232 port rather than the RJ45 used on SS7G3x systems. The serial port can be connected to a vt100 or vt100 emulator using a null modem cable for configuration and management of the product.

3. Documentation and Software

Documentation

The SS7G41 documentation set is comprised of the following documents:

- *Dialogic® DSI Signaling Servers SS7G41 Hardware*
- *Dialogic® DSI Signaling Servers SS7G41 Operators Manual*
- *Dialogic® DSI Signaling Servers SS7G41 SIU Developers Manual*
- *Dialogic® DSI Signaling Servers SS7G41 SWS Developers Manual*
- *Dialogic® DSI Signaling Servers SS7G41 Migration Guide*

User Accounts

The SS7G3x supported a single 'siuftp' account for FTP file transfer and a single 'admin' account for MMI access. When the 'siuftp' password was not set users could FTP/SFTP into the system using the default 'siuftp' password. When the MMI 'admin' password was not set users could log directly into the system without entering a password.

The 'siuftp' and 'admin' account have been replaced with a single initial faceless account 'siguser' which by default uses the password 'siguser'. The SS7G41 has been further enhanced to support the addition (CNUAI) and removal (CNUAE) of specific user accounts. To improve system security it is recommended that specific users accounts be added and the faceless 'siguser' account be removed.

When logging in via MMI user accounts, including the 'siguser' account are now required to enter a password.

Individual accounts may be granted specific access rights using the Account Control commands ACUPI, ACUPC, ACUPE and ACUPP. These commands determine what interfaces users are allowed to use (Web, Telnet and FTP) and the level of access (read only, full administrative) they may have.

Passwords for individual user account can be limited to a particular length of time where after expiry users will be required to specify a new password before being granted access to system management.

FTP/SFTP Access

FTP, while still supported on the SS7G41, is disabled by default and may be activated using the ACPOS MMI command. It is recommended for security reasons that SFTP be used rather than FTP for file transfers.

After using SFTP to logon to a SS7G41 a user should change directory to the 'ftpuser' subdirectory (on the SS7G3x this was the 'siuftp' subdirectory). 'ftpuser' is the user accessible directory where config.txt, licenses and software should be placed. 'ftpuser' has a syslog subdirectory containing diagnostics produced by the system.

See the *SS7G41 Operators Manual* for detailed information.

Web Browser Management

A Web Browser Based Management Interface has been introduced. This interface operates above the existing MML management and provides the ability to view configuration, status and statistics as well as change configuration and perform maintenance actions from a web

browser. The browser offers more user-friendly command names, parameter and enumerations and has built in help for commands and parameters. Additionally the interface provides web access to the user 'ftpuser' directory to view config.txt and documents previously SFTP'd onto the system as well as log files (PCAP, MMI etc) for diagnostic purposes. Logging into the Web Browser management interface requires a user to enter the IP address of the SS7G41 as a URL e.g. 'http://192.168.0.1' and then once the landing page has been reached enter their user name and password.

See the *SS7G41 Operators Manual* for detailed information.

Globalcall Operation

As discussed above, by default the 'siuftp' account has been removed and replaced with a default 'siguser' account. The Globalcall SIU interface typically expects to send files via FTP to a user account named 'siuftp'. When migrating to a SS7G41 to avoid changes to Globalcall configuration a 'siuftp' account can be added as a new user account using ACUAI command and FTP activated using the ACPOS MMI command, Global can then use the 'siuftp' account for FTP access.

Software Installation

SIU and SWS operating modes each have their own software distribution:

- ss7g40-siu.tgz
- ss7g40-sws.tgz

When upgrading software the appropriate software distribution should be installed. On receipt users will find that the SS7G41 has a default SIU and SWS distribution already fitted, it is recommended however that users upgrade their systems to the latest appropriate distribution available from the Dialogic website.

The distribution files are different from those used on the SS7G3x platform and will be ignored by that platform if any attempt is made to install them on it.

Software updates should be installed by SFTP in a similar manner to that used on the SS7G3x as follows:

1. SFTP onto the SS7G41 using the default account 'siguser' and password 'siguser'.
2. Change directory to the ftpuser subdirectory.
3. Transfer the ss7g40-siu.tgz or ss7g40-sws.tgz software distribution to the server.
4. Restart the server using MMI or Web browser management.

See the *SS7G41 Operators Manual* for detailed information.

Licensing

In a similar manner to SS7G3x system, the SS7G41 allows the purchase of SIU or SWS mode licenses as well as optional software licenses for User Part protocols on the SIU. The SS7G41 is shipped without a software license. A SWS or SIU license must be present on the SS7G41 before a user can switch to SIU or SWS mode.

Note: The SS7G41 can be run unlicensed for up to one hour allowing users to evaluate SIU or SWS operation using the MNRSI command with the 'RESTART' parameter set to a value of 'EVALUATION'.

Various SWS or SIU licenses are available for purchase. The license determines the amount of throughput available at the transport layer to the system (MTP links or SIGTRAN link

equivalent). For a given license size, customers can choose to allocate resources (TDM, SIGTRAN etc) up to the license limit.

SIU Mode Licensing

For SIU licenses, MTP2, MTP3, M2PA, M3UA, ISUP and SCCP capabilities are included in the license. There is no license limitation on Circuits, Dialogs or Associations however throughput (calls/s or transactions/s) is limited by the underlying throughput allowed by the license at a transport layer.

TCAP, MAP, INAP and IS41 which can also be run on a SIU are available as separate licenses.

The support licenses for SIU mode are as follows.

Product ID	Description
SS7SBG40SIU8	SIU License , 8 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40SIU16	SIU License , 16 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40SIU32	SIU License , 32 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40SIU64	SIU License , 64 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40SIU128	SIU License , 128 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40SIU256	SIU License , 256 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, ISUP & SCCP
SS7SBG40TCAP	SIU TCAP
SS7SBG40MAP	SIU MAP
SS7SBG40IS41	SIU IS41
SS7SBG40INAP	SIU INAP

SWS Mode Licensing

For SWS licenses MTP2, MTP3, M2PA, M3UA, SCCP, TCAP and MAP are included.

There is no license limitation on Dialogs or Associations however throughput (calls/s or transactions/s) is limited by the underlying throughput allowed by the license at a transport layer.

Product ID	Description
SS7SBG40SWSM8	SWS License , 8 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP
SS7SBG40SWSM16	SWS License, 16 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP
SS7SBG40SWSM32	SWS License, 32 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP
SS7SBG40SWSM64	SWS License, 64 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP
SS7SBG40SWSM128	SWS License, 128 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP
SS7SBG40SWSM256	SWS License, 256 link equivalent (TDM or Sigtran) Includes MTP, M3UA, MP2A, SCCP, TCAP & MAP

Software Option Purchase

The process to purchase software licenses is the same as the SS7G3x. An order should be placed via the normal sales channel using the item market name for the software option.

At this point in the process, there is no need to know details of the specific SS7G41 on which the option will be installed.

The order (a License Certificate) will ship through the normal supply channels.

Activation of the license for a particular SS7G41 is web based and performed at the following URL:

<http://membersresource.dialogic.com/ss7/license/license.asp>

(or an alternative URL if listed on the License Certificate.)

The user is asked for the License ID from the certificate, the UNIT ID (which can be obtained using CNSYP command) of the target SS7G41 and some further basic information.

Once this information is entered, the form should be submitted. A confirmation will be sent indicating that the request has been submitted and within two working days, a License File will be provided by email.

Note: When activating licenses, each license that is to run on the system should be entered in the activation form, for subsequent activations the original licenses as well as the new ones should be entered. Full details of the licenses will be included in the license file for reference.

See the *SS7G41 Operators Manual* for more detailed information on the purchase of software licenses.

Software Option Installation

The License File should be renamed `sgw.lic` and transferred via SFTP to the `siguser` (or equivalent) account on the SS7G41 in the same manner as the `config.txt` file. The SS7G41 should be restarted at which point the license file shall be applied.

See the *SS7G41 Operators Manual* for more detailed information on the installation of software licenses.

4. Configuration and Maintenance

Migrating a config.txt File

When operating in SIU mode, the system takes its configuration information from the config.txt file. Most configuration commands remain unchanged, the section below identifies the minor changes required when migrating from an SS7G3x system to an SS7G41:

- SS7_BOARD command

Boards on the SS7G41 are fitted in positions 0 and 1 the <bpos> parameter on the SS7_BOARD command should therefore be either 0 or 1.

The board type should be changed to either SS7LD or SS7MD depending on the board fitted.

Note: Newly fitted or replaced Signaling Boards must also be activated using the CNBOS MMI command as described in the [CNBOS](#) bullet later in this document.

- LIU_CONFIG command

In a similar manner to SS7_BOARD the board position element of the <pcm> parameter should be set to either position 0 or 1.

- .MTP_LINK command

In a similar manner to SS7_BOARD the <bpos> and <bpos2> should be set to either position 0 or 1.

Note: As switching of timeslots is not allowed on the SS7G41 <bpos2> should always have the same value as <bpos>.

The SS7MD and SS7LD boards have a single processor and therefore the <blink> parameter, unlike the SS7HDP which required a compound parameter, should be entered as a single value indicating the index of the logical signaling processor (SP) channel (on the board) allocated for this signaling link.

- STREAM_XCON

Support for this command has been removed as the available SS7 boards do not support the H.100 bus and cannot cross connect data between boards.

- SIU_HOSTS

The SIU_HOSTS command is only valid for the SIU operating mode. It should not be specified for SWS or TEST modes.

- SIU_INSTANCE and SIU_ADDR

Previously while the SS7G3x did not use any data from the SIU_INSTANCE and SIU_ADDR commands it did allow users to enter them. To avoid ambiguity with the SIU instance and Local IP addresses entered via MMI support for these commands

have been removed and if entered in a config.txt file will result in an error being reported.

MMI

The SS7G41 introduces a number of new MMI commands supporting User Account and Firewall configuration as well as commands that provide additional measurements and diagnostics. Additionally, the format of some display commands has changed including the names of some of the display parameters. These new and changed commands are fully documented in the *SS7G41 Operators Manual* and it is outside the scope this *SS7G41 Migration Guide* to document them here.

This section instead addresses commands and parameters whose usage has changed from that on the SS7G3x and requires different user action.

- MMHPP

The MMI Help command which provided help for MMI Commands and parameter has been removed and replaced with a more user-friendly help system.

Help is provided by simply enter ?<command> for a help on a MMI command or ?<parameter> for help on a particular MMI parameter e.g.

?CNSYS

To be reminded about what help is available simply type '?' and then the return key.

Note: when activated Popup help is also available on the Web Browser MMI interface.

- CNSYS and CNSYP

The DMHOST parameter has been migrated to the 'Host Configuration' set of MMI commands, CNHSS and CNHSP. The CNHSP command will also display the parameters entered on the SIU_HOSTS config.txt command.

The MODE parameter has been migrated to the 'Dual Configuration' set of MMI commands, CNDUS and CNDUP. The CNDUP command will also display the parameters entered on the SIU_REM_ADDR config.txt command. The values used in the MODE parameter have also change to be either 'MODEA', if the Signaling Server is operating in A Mode or 'MODEB', if the Signaling Server is operating in B Mode.

The CONTACT, LOCATION and SYSID can now accept whitespace as well as alphanumeric ASCII text.

The FTPSER parameter has been migrated to the 'System Policy' MMI commands ACPOS and ACPOP. The command manage system policy including activation/deactivation of the FTP, TELNET, HTTP servers on the system.

- MNRSI

The values used for the RESTART parameter have change to:

SOFT - The system will restart the Signaling Server application software. SOFT resets may be used for a more rapid system restart after updating system configuration.

- PREVIOUS - The system will restart the Signaling Server software reverting to the previous version of software if available.

- HARD - The system will undergo a full system restart resetting the hardware, operating system and Signaling Server application software.
- EVALUATION - The system will be restarted in one hour evaluation mode with all licensable capabilities available for use.
- HALT - The system will shut down without a subsequent restart.

When restarting a system if MNRSI is entered without any parameter the system will perform a SOFT restart rather than the previous HARD restart.

- CNURI/CNURE

The CNURI and CNURE commands that performed dynamic configuration addition and removal have been deprecated and replaced with individual object specific commands that perform the same function. The following dynamic addition/removal commands have been introduced:

CNCGI - Configuration Circuit Group Initiate
CNPCI - Configuration PCM Initiate
CNACI - Configuration ATM Cell Stream Initiate
CNLSI - Configuration SS7 Link Set Initiate
CNSLI - Configuration SS7 Link Initiate
CNCRI - Configuration MTP route Initiate
CNMLI - Configuration SS7 Monitor Link Initiate
CNSTI - Configuration SIGTRAN link Initiate
CNLAI - Configuration SIGTRAN Local Application Server Initiate
CNSRI - Configuration SIGTRAN route Initiate
CNRAI - Configuration SIGTRAN Remote Application Server Initiate
CNRLI - Configuration SIGTRAN Remote Application Server List Initiate
CNGLI - Configuration SIGTRAN Gateway List Initiate
CNSBI - Configuration SIGTRAN Bind Initiate
CNSSI - Configuration Sub-System Resource Initiate
CNCSI - Configuration Concerned Sub-System Resource Initiate

CNCGE - Configuration Circuit Group End
CNPCE - Configuration PCM End
CNACE - Configuration ATM Cell Stream End
CNLSE - Configuration SS7 Link Set End
CNSLE - Configuration SS7 Link End
CNCRE - Configuration MTP route End
CNMLE - Configuration SS7 Monitor Link End
CNSTE - Configuration SIGTRAN link End
CNLAE - Configuration SIGTRAN Local Application Server End
CNSRE - Configuration SIGTRAN route End
CNRAE - Configuration SIGTRAN Remote Application Server End
CNRLE - Configuration SIGTRAN Remote Application Server List End
CNGLE - Configuration SIGTRAN Gateway List End
CNSBE - Configuration SIGTRAN Bind End
CNSSE - Configuration Sub-System Resource End

CNCSE - Configuration Concerned Sub-System Resource End

- CNBOS

The CNBOS command is used to associate a board position with a board type and board serial number. The board serial number does not need to be explicitly set or changed as it is determined automatically

This command is not required for boards fitted by Dialogic as this configuration action will already have been performed. If a board is added or replaced then the board type should be set (or unset and reset when replacing) and the system restarted after which it will extract the new serial number of the board.