

TANDBERG 3G Gateway R1 Software Release Document

TANDBERG

D50406, Rev 1.0

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1. Document Revision History

Rev 1.0 - Release of R1.0, Initial Version

2. Release Notes for TANDBERG 3G Gateway Software Version R1.0

2.1 Introduction

These release notes describe the features and capabilities included in the TANDBERG 3G Gateway software version R1.0 released on 30 Jan 2006.

2.1.1 New Product Abstract

The TANDBERG 3G Gateway, a new addition to the TANDBERG Product Line, is a device that will allow mobile users of standards-based H.324M mobile endpoints the ability to connect to an internal H.323 infrastructure seamlessly. The 3G gateway is designed to interoperate with many different Universal Mobile Telecommunications System (UMTS) networks, including CDMA2000 and WCDMA.



2.2 New Feature Overview

2.2.1 H.324M Compliance

The TANDBERG 3G Gateway is fully compliant with the H.324M and 3G standards, as recommended by the ITU-T and the 3GPP forum. As dictated by the standards, the gateway supports H.263 QCIF video and AMR (Adaptive Multi-Rate) audio; AMR audio will be transcoded to G.711 on the H.323 side of the call.

2.2.2 WNSRP

The 3G gateway is fully compliant with the newly ITU-ratified WNSRP standard, allowing for call setup time to be dramatically reduced. Most calls setup using the new WNSRP standard will reach full connectivity within 1 second.

2.2.3 H.235 Gatekeeper Authentication

As with all TANDBERG endpoints, the TANDBERG ISDN Gateway and TANDBERG MPS, the TANDBERG 3G Gateway supports standards-based H.235 Annex D Authentication for secure registration into an H.323 network. Within the Registration Request (RRQ) packet and all other RAS messages, the 3G gateway will provide a username and password along with a current timestamp to the gatekeeper to authenticate the incoming registration. The password is sent in an MD5 hash format to ensure for truly secure authentication. **Note:** connection to an NTP server will be required for authentication.

2.2.4 Global Address Book

In conjunction with TANDBERG Management Suite, the TANDBERG 3G Gateway supports Corporate Directories, as assigned by TMS. These address books will be utilized by inbound calling parties from the 3G side of the call to select the appropriate party with which to connect. For more information on this dial-in feature, see Section 2.2.5.3,

Directory Call Routing.

Note: TMS 11.0 or newer is required for this functionality.

2.2.5 H.324M-to-H.323 Calling

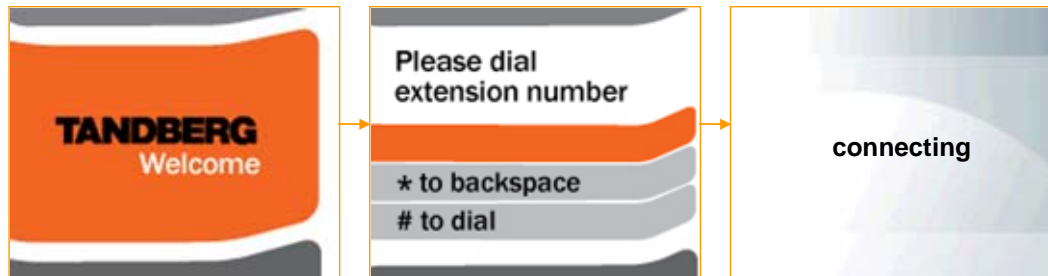
The 3G gateway supports three different methods of connecting from an H.324M-enabled endpoint to an endpoint that exists on the H.323 network: Direct Inwards Dialing (DID), Interactive Voice and Video Response (IV²R) and Directory Call Routing.

2.2.5.1 DID Call Routing

DID call routing allows for the direct mapping of an assigned ISDN number to an endpoint on the H.323 network. When mapped, an incoming call from an H.324M-compliant endpoint to that specific number will then be automatically routed through the 3G gateway to the appropriate H.323 endpoint without any further user intervention.

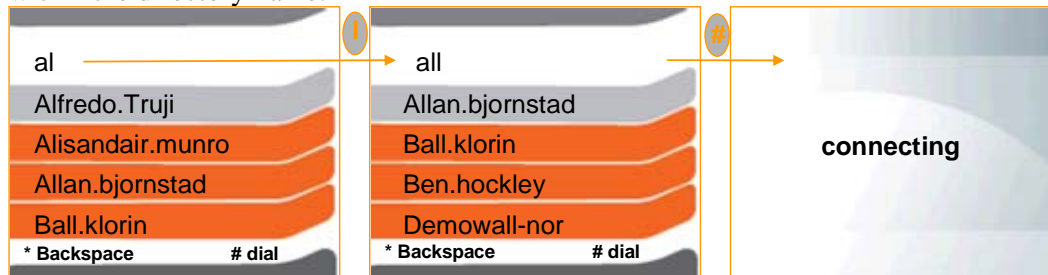
2.2.5.2 IV²R Call Routing

The TANDBERG 3G Gateway will support IV²R call routing for incoming calls from the 3G network to the H.323 network. When connected to number designated to IV²R, the 3G endpoint will receive both audio and video response prompting for the entrance of the remote party's extension (E.164 Alias). This extension, once entered, will be used by the gateway to route the call to the appropriate H.323 endpoint.



2.2.5.3 Directory Call Routing

The gateway supports the ability for a 3G endpoint to dial into the system and, using a user-friendly graphical directory displayed on the handset, connect to different endpoints within the network without having to know any of the contact information of the endpoint to be called. Set by TANDBERG Management Suite, the Corporate Directory feature will allow the end user to navigate through all of the entries or search for a specific entry based on key letters that exist within the directory name.



2.2.6 H.323-to-H.324M Call Routing

In order to route calls from an H.323 endpoint to the H.324M network, a service prefix must be configured within the gateway that will serve as the routing mechanism within the H.323 network. Upon registration to a gatekeeper, the TANDBERG 3G Gateway will specify the configured service prefix to be used in routing all future calls from an H.323 endpoint to an endpoint on the 3G network.

2.2.7 Local Management

2.2.7.1 RS-232 Control

The TANDBERG 3G Gateway has 2 DB-9 serial ports that may be used for configuration and administration. The serial ports are also used for initial configuration using the embedded set-up wizard. Software upgrades may also be monitored via the serial ports.

In order to connect to either one of the RS-232 ports on the unit, a null modem cable will be required between the gateway and the terminal. Any RS-232 emulation can be used, such as Microsoft HyperTerminal. The default connectivity parameters are:

- Baud Rate: 115200 bps
- Start Bits: 8
- Stop Bits: 1
- Parity: None

2.2.8 Remote Management

2.2.8.1 HTTP Management

The TANDBERG 3G Gateway has an embedded web interface for control. This interface offers a user friendly, graphically-driven method to configure and control the gateway on all features and functionality. The HTTP service is enabled by default.

Note: When both HTTP and HTTPS management protocols are enabled, any web browser that connects to the gateway on HTTP will be automatically re-directed to an HTTPS connection.

You can disable the HTTP service on the 3G gateway either through the embedded web interface or through telnet, SSH or the Dataport on the back of the unit. To disable it through the embedded web interface, navigate to System Configuration, Misc, uncheck the HTTP Service check box, click 'Save' and then click 'Restart'. To disable through the telnet, SSH or Dataport on the system, connect to the device and issue the command 'xconfiguration http mode: off'. Once confirmed, the box must be restarted for the change to take effect.

Note: if the gateway is restarted, all active calls will be disconnected.

2.2.8.2 HTTPS Management

The TANDBERG 3G Gateway has a secure, embedded web interface for control. This interface operates over a secured connection and offers a user friendly, graphically-driven method to configure and control the gateway on all features and functionality. The HTTPS service is enabled by default. **Note:** When both HTTP and HTTPS management protocols are enabled, any web browser that connects to the gateway on HTTP will be automatically re-directed to an HTTPS connection.

You can disable the HTTPS service on the gateway either through the embedded web interface or through telnet, SSH or the Dataport on the back of the unit. To disable it through the embedded web interface, navigate to System Configuration, Misc, uncheck the HTTPS Service check box, click 'Save' and then click 'Restart'. To disable through the telnet, SSH or Dataport on the system, connect to the device and issue the command 'xconfiguration https mode: off'. Once confirmed, the box must be restarted for the change to take effect.

Note: if the gateway is restarted, all active calls will be disconnected.

2.2.8.3 Telnet

The 3G gateway has an embedded telnet server for configuration and administration. By default, the telnet sever on the gateway is disabled, but may be enabled if desired.

You can enable the telnet service on the gateway either through the embedded web interface or through the API via an SSH or the local dataport connection. To enable it through the embedded web interface, navigate to System Configuration, Misc, check the Telnet Service check box, click 'Save' and then click 'Restart'. To enable through the SSH or Dataport on the system, connect to the device and issue the command 'xconfiguration telnet mode: on'. Once confirmed, the box must be restarted for the change to take effect.

Note: if the gateway is restarted, all active calls will be disconnected.

2.2.8.4 SSH

The 3G gateway has an embedded SSH (Secure Shell) server for configuration and administration. SSH provides a CLI (command line interface) similar to telnet but over a secure, encrypted connection. Enabled by default, the SSH server may be disabled if desired.

You can disable the SSH service on the gateway either through the embedded web interface or through telnet or the Dataport on the back of the unit. To disable it through the embedded web interface, navigate to System Configuration, Misc, uncheck the SSH Service check box, click 'Save' and then click 'Restart'. To disable through the telnet or Dataport on the system, connect

to the device and issue the command 'xconfiguration ssh mode: off'. Once confirmed, the box must be restarted for the change to take effect.

Note: if the gateway is restarted, all active calls will be disconnected.

2.2.8.5 SNMP

The TANDBERG 3G Gateway has an embedded SNMP manager for proactive reporting of problems and systems status. Programs such as TANDBERG Management Suite (TMS) and HP OpenView require this feature in order to function properly. The SNMP manager can be disabled if desired. The SNMP service is enabled by default.

You can disable the SNMP service on the gateway either through the embedded web interface or through telnet, SSH or the Dataport on the back of the unit. To disable it through the embedded web interface, navigate to System Configuration, Misc, uncheck the SNMP Service check box, click 'Save' and then click 'Restart'. To disable through the telnet, SSH or Dataport on the system, connect to the device and issue the command 'xconfiguration snmp mode: off'. Once confirmed, the box must be restarted for the change to take effect.

Note: if the gateway is restarted, all active calls will be disconnected.

2.3 Supplemental Notes to Manuals

2.3.1 Hardware Versions

The TANDBERG 3G Gateway is available in two different hardware options: ISDN PRI Option and ISDN BRI Option. These options are installed from the factory. The PRI option allows for a full ISDN PRI to be installed with the system, thereby providing the network for up to 30 (E1) or 23 (T1) concurrent calls. When the BRI card is installed in the gateway, the system will allow for up to 4 BRIs to be installed, supporting up to 8 concurrent calls.

2.3.2 References/Related Documents

TANDBERG Website – <http://www.tandberg.net>

For all documentation, please see the TANDBERG Support Website at <http://www.tandberg.net/support/documentation.php>.

See the following documents for more information on the TANDBERG 3G Gateway:

D13841 TANDBERG 3G Gateway User Manual

D115196 TANDBERG 3G Gateway Installation Sheet

2.3.3 Network Support

The TANDBERG 3G Gateway will exist both on an H.323 IP network and an H.324M ISDN network and is designed to connect together the two networks for those protocols only. The H.323 side of the device is intended to be connected to an 802.3 IP network, while the H.324m side can connect to either an ISDN PRI or up to 4 ISDN BRIs.

2.3.4 Layer 4 Ports Used

Function	Port	Type	Direction
Gatekeeper RAS	1719	UDP	↔
Gatekeeper Discovery	1718	UDP	↔
SSH (Includes SCP)	22	TCP	↔
Telnet	23	TCP	↔
HTTP	80	TCP	↔
HTTPS	443	TCP	↔
SNMP (Queries)	161	UDP	↔
SNMP (Traps)	162	UDP	⇒
NTP	123	UDP	↔
Incoming H.323 Call	1720	TCP	↔
Incoming H.323 RTP	25000-27000	UDP	↔
Incoming H.323 RTCP	25000-27000	UDP	↔

⇒ Outbound

↔ Bi-Directional

2.4 Changes and Improvements since previous version

Version R1.0 is the initial software release for the TANDBERG 3G Gateway.

2.5 Known Limitations

2.5.1 TANDBERG

Equipment	Limitations
TANDBERG 3G Gateway ver R1.0	Calls to any service with a poster (IVR and phonebook) do not timeout.
TANDBERG 3G Gateway ver R1.0	The gateway does not currently support Resource Available Indicator (RAI), primarily used to signal when no resources are available.
TANDBERG 3G Gateway ver R1.0	The first entry of the phonebook within the gateway cannot be used. In order to resolve this issue, create an arbitrary entry within the first slot of the directory.
TANDBERG 3G Gateway ver R1.0	The gateway currently only supports one phonebook from TMS. Adding more than one phonebook will result in no phonebook being displayed.
TANDBERG 3G Gateway ver R1.0	Adding new services to the 3G gateway will result in the disconnection of all active calls. Please ensure services are added in a manner that will not disrupt normal operation.

2.5.2 Aethra

Equipment	Limitations
Aethra VegaStar ver 6.0.18	When connected in a video call to the Aethra, video will not be transmitted from the Aethra to the 3G endpoint as the Aethra does not open up a video channel to the 3G gateway.

2.5.3 Cisco

Equipment	Limitations
Cisco CallManager ver 4.1(3)SR2	When a call is connected between a 3G endpoint and an SCCP endpoint registered to Cisco CallManager, no audio or video will be received in either direction.
Cisco IPVC 3540 ver 3.2.224	In order to transmit and receive video between the 3G endpoint and the conference on the Cisco IPVC, the conference must be forced to QCIF.

2.5.4 Polycom

Equipment	Limitations
Polycom MGC 25/50/100 ver 7.0.2.6	When the 3G Endpoint calls into an active conference on the Polycom MGC, the endpoint will be placed into 'Secondary' mode within the conference, resulting in no video being transmitted or received by either end. Audio will function normally.
Polycom MGC Gateway 25/50/100 ver 7.0.2.6	When connecting a call between a 3G endpoint and an ISDN endpoint through the 3G gateway and the Polycom MGC Gateway, no audio or video will be received by the 3G endpoint. In addition, the ISDN endpoint will not receive any audio and the local video will be looped back.

2.5.5 RADVISION

Equipment	Limitations
RADVISION GW-P20 ver 4.0.0.40	When connecting a call between a 3G endpoint and an ISDN endpoint through the 3G gateway and the RADVISION GW-P20, no audio or video will be received by the 3G endpoint. In addition, the ISDN endpoint will not receive any audio and the local video will be looped back.
RADVISION ViaIP MCU ver 4.0.31	When the 3G Endpoint calls into a conference on the RADVISION ViaIP MCU, no video will be received by either side of the call. Audio will function normally.

2.6 Interoperability Testing

The following systems have been tested and verified compatible with this software release.

2.6.1 Gatekeepers

Equipment	Software Revision
RADVision ECS	3.6.0.5
Cisco MCM	12.3(13a)
Polycom PathNavigator	7.00.03

2.6.2 Gateway Interoperability

Equipment	Software Revision
TANDBERG Gateway	G2.1, G3.0
RADVision gw-P20	4.0.0.40
Polycom MGC 25/50/100	7.0.2.6
Cisco CallManager	4.1(3)SR2

2.6.3 MCU Interoperability

Equipment	Software Revision
TANDBERG MCU	D3.4, D3.5, D3.6
TANDBERG MPS	J1.1, J2.0, J2.1, J2.2, J3.0
Polycom MGC 25/50/100	7.0.2.6
RADVision ViaIP MCU	4.0.31
Cisco IPVC 3540	3.2.224
Codian MCU 4210	1.3(1.4)

2.6.4 Endpoint Interoperability

Equipment	Software Revision
TANDBERG MXP	F1.4, F1.5, F2.5, F2.6, F3.0, F3.2, F4.0
TANDBERG 150	L1.1, L1.2, L2.2, L3.0, L3.1
TANDBERG Classic Series	B1.2, B2.4, B3.4, B4.3, B5.1/B5.11, B6.2/E1.2, B7.4/E2.4, B8.4/E3.4, B9.1/E4.1, B10.0/E5.0
Polycom iPower 9000/970	6.2.0.1208
Polycom iPower 680	6.2.0.1208
Polycom FX	6.0.5
Polycom ViewStation	7.5.4
Polycom MP512	7.5.4
Polycom SP 384	7.5.4

Polycom VSX	8.03
Polycom PVX	8.0.0.0522
Sony PCS-1	3.14
Sony PCS-TL50	2.11
VTEL Galaxy	2.2.0.070
Microsoft NetMeeting	3.01
VCON Vpoint	6.5
Aethra VegaStar	6.0.18

2.6.5 Mobile Phone Interoperability

Manufacturer	Model
Fujitsu	F700i, F700iS, F880iES, F881iES, F900i, F900iC, F900iT, F901iC, F901iS
LG	U8110, U8120, U8130, U8138
Mitsubishi	D701i, D900i, D901i, D901iS
NEC	e313, e616, N2101V, N700i, N900i, N900iS, N900iG, N901iC, N901iS, 703N(002), 802N(010), 802N(180), 802N(429)
Nokia	6630, 6680, N70, N90, 702NK2
Panasonic	P2102V, P700i, P900i, P900iV
Samsung	Z100, Z107V
Sanyo	SA700iS
Sharp	SH700i, SH700iS, SH901iC, SH901iS, SH902i, 902SH(108), 902SH(379)
SonyEricsson	V800, Z1010, 802SE(181), 802SE(124)