

InnoMedia ESBC

Enterprise Session Border Controller

Release Notes

Date: June 06, 2015



About This Document

The InnoMedia ESBC Enterprise Session Border Controller is a device that provides SIP Trunking services and broadband Internet access. Designed for ease of installation and use, the InnoMedia ESBC will allow you to place SIP Trunking calls as well as receive regular telephone and fax calls.

The purpose of this guide is to give detailed software revision history information of the ESBC software. This document will account for all bug fixes, known issues, features added, and any important notes for the current software release. Each detailed changes will note the ESBC model that it applies. The latest software release is shown in the beginning of this document whereas the oldest is in the latter part of the document.



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Official Release Version 2.0.13.1-BUILD2

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-13-1-BUILD2.bin
- Sha1 checksum: 0322c930d242128c2910acb391432e32ec2c62a9
 - Release Date: May 20, 2015
- Size: 14,604,897 bytes

Note: This release note documents changes made since Version 2.0.13.0-Build2

Enhancements

Item#	Category	Applicable Models	Description
1	Network	ESBC 93xx	Support multiple logical layer 3 networks on the ESBC WAN interface.
2	Network	ESBC 95xx	DOCSIS 3 Cable Modem. Support DHCP option 60 in DHCP Discover message, carrying TLV string, the vendor class identifier defined in packet cable 1.5. pktc1.5:05310101010201170B0206090C01010D0101100109120200041301011401011501011601011706020001020100180100190101
3	Operation /WEB GUI	ESBC 9x78 ESBC 9x80	Append string to the model name on the top banner. <ul style="list-style-type: none"> • IP: to represent media transcoding • PRI: to represent PRI
4	Operation	All Models	Allow "Device Type" and "Region ID" to be optional parameters for the support of InnoMedia EMS.
5	Provisioning	All Models	Display provisioning log on the Administrative GUI
6	Provisioning	All Models	Allow provisioning URL input string for TFTP provisioning method.
7	SNMP	All Models	Support SNMP-SET on some OIDs. (See detailed list from "InnoMedia ESBC-9x-2-0-13-1-OR-SNMP-MIB-OID.pdf")
8	SNMP	All Models	SNMP traps. Support 2 destination servers each with different community strings.
9	EMS	All Models	Support ESBC WEB GUI access using FQDN via EMS
10	GUI	All Models	Add comments: For WEB GUI management, use VLAN ID for NATed traffic.
11	B2BUA	All Models	Add FortiVoice PBX to the list of PBX Profiles
12	ECMM	ESBC 95xx	Enhancing the algorithm to synchronize the time of day with DOCSIS 3 cable modem.



Bugs Fixed

Item#	Category	Applicable Models	Description
1	B2BUA	All Models	For a specific configuration (based on a customer default profile), FAX call dropped. When 100rel is enabled, the ESBC sends ACK with the CSeq of the UPDATE message, which is inconsistent with the 200 OK CSeq of server response. The ESBC will use the CSeq from the core SIP server instead.
2	B2BUA	ESBC 9x80 Models	When D channel down, the ESBC should reply with code 480 instead of 486 to the core SIP server.
3	B2BUA	All Models	For a specific configuration (based on a customer default profile), the ESBC will accept a 200 OK for non-standard call flow in a Call Forwarding scenario when ESBC sends INVITE message with 100rel and the SIP Server responds with 181 followed by a 200 OK whose tag parameter in the To header is different than the 181 message.
4	B2BUA	ESBC 9x80 Models	For a specific configuration (based on a customer default profile), ESBC is not playing a busy tone after SIP 486 response code is received from the core SIP server (only for outbound PRI calls when 183 response message is received and 100rel is enabled).
5	Network	All Models	Auto-backup does not execute at the configured backup frequency.
6	EMS	All Models	The ESBC provisioning client does not send HTTP post log message to the EMS after image header download.
7	EMS	All Models	The ESBC should respond to the EMS before reboot when the RESET command is triggered from the EMS.
8	ECMM	ESBC 95xx Models	The ESBC triggers ECMM reset when no inter-connection messages are seen in a certain time window to resynchronize network connections.

Known Issues

Important Notes

No.	Description
1	<p>All Models.</p> <p>If the current ESBC running version is 2.0.12.40 or below, the upgrade procedure to version 2.0.13.1 needs to update database structure and it takes around 10 minutes to complete the process.</p> <p>If the current ESBC running version 2.0.13.0 or above, the upgrade procedure takes around 5 minutes to complete the process.</p>
2	All Models.

	It is highly recommended that backup of the ESBC configurations before performing upgrade procedure.
3	<p>All Models.</p> <p>If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.</p>
4	<p>All Models.</p> <p>Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.</p>
5	<p>ESBC95xx model only.</p> <p>Since the ESBC version 2.0.10.69 or above, when the ESBC performs a soft-reboot and it does not reboot its embedded DOCSIS 3 Cable Modem module.</p> <p>It is recommended to upgrade that the ECMM version to version 3.1.6.52.12 or higher to ensure synchronization. Note the latest ECMM version till this ESBC release is 3.1.6.52.16.</p>



Official Release Version 2.0.13.0-Build2

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-13-0-Build2.bin
- Sha1 checksum: ca9b554014c6dbe751cd8f9465da348fbf719356
- Date: Aug. 7, 2014
- Size: 14,529,197 bytes

Note: This release note documents changes made since Version 2.0.13.0-Build1

Features added

Change	ESBC Model	Description
1	ESBC 9x80	ESBC feature support to provide configurable mapping of SIP response codes and PRI cause codes in the Web GUI, "SIP Response Mapping". Provisioning Tags: PRI_MAPPING_PRI_CAUSE_TO_SIP_RESPONSE PRI_MAPPING_SIP_RESPONSE_TO_PRI_CAUSE
2	ESBC 9x80	On a PRI Call Forward call, the ESBC now supports an INVITE with Diversion Header.
3	All Models	Reminder message on the Home Page GUI if debugging syslog, call trace, or pcap capture is enabled.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	ESBC may reject the REGISTER message from the PBX if the domain is incorrect.
2	ESBC 95xx	When using SmartDQoS, RFC2833 packets sent from the PBX to the network may be dropped by the CMTS.
3	All Models	SIP ALG Voice Quality Metrics may show wrong PST time stamp in the syslog message.
4	All Models	Web GUI alert notification page may be incompatible with IE7.
5	All Models	ESBC may show duplicate profile IDs in the Web GUI after provisioning multiple profiles in the XML File.
6	All Models	Provisioning may repeat when leaving the Provisioning Tag value blank for LAN_NTP_SERVER_ENABLE
7	All Models	ESBC may not follow the heartbeat interval when set by the InnoMedia EMS Server.



Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED .



Official Release Version 2.0.13.0-Build1

Release information:

- ESBC 9xxx File Name: esbc-9x-2-0-13-0-Build1.bin
- Sha1 checksum: d865090688a73ffc76595c73493b9d378294a940
- Date: May 7, 2014
- Size: 14,514,146 bytes

Note: This release note documents changes made since Version 2.0.12.40-Patch7

Features added

Change	ESBC Model	Description
1	All Models	ESBC support for EMS Geographic Redundancy.
2	All Models	Add a PBX Profile Option "Forward Call Audit messages (OPTION and UPDATE) to PBX". This will allow OPTION and UPDATE messages to be forwarded directly to the PBX when received from the SIP Server.
3	All Models	ESBC Support for System ACL (Access Control list) to allow traffic to be accepted or rejected or dropped by the ESBC. Traffic can be received from the WAN or LAN and based on protocol, source subnet/mask, and range of ports.
4	All Models	Web GUI compatibility for Internet Explorer 8/9, Firefox 14, Chrome 21.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	Subnet Mask for "/31" is not allowed to be configured for the LAN/WAN Interface on the Web GUI or XML Tag.
2	All Models	Call Traces settings are not updated on the Web GUI due to javascript. Clearing browser cache is not needed after fix.
3	All Models	ESBC can not place the call forward when the PBX sends UPDATE message in a Ringing State.
4	All Models	ESBC may incorrectly parse PBX's SDP parameter, 'x=X-pc-csuites-rtcp:80/70' as 'a=rtcp:80' which may cause a rejected call with 505 message.
5	All Models	ESBC may not forward RTP Packets with Header Extension.
6	All Models	If the ESBC receives a 180 without a contact header, the message is dropped and not forwarded to the caller which results in no ringback tone.
7	All Models	603 Decline message responses from the LAN PBX is not shown in the SIP Call Traces.



8	All Models	If setting the XML Config File for provisioning with an incorrect IP Pool for the DHCP Server which is not in the same LAN subnet, it may cause the provisioning process to repeat.
9	All Models	If the string value of the tag SERVICE_PROVIDER is too long, it may cause a data write error.
10	All Models	If the value of the Provisioning Tag for Profile Names is more than 32 characters, it can not be written into the flash.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.40-Patch10

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-40-Patch10.bin
- Date: Dec. 13, 2014
- Size: 16,677,399 bytes

Note: This release note documents changes made since Version 2.0.12.40-Patch9

Features added

Change	ESBC Model	Description
1	ESBC 9x80	For a specific Customer_ID, the ESBC will accept a 200 OK for non-standard call flow in a Call Forwarding scenario when ESBC sends INVITE message with 100rel and the SIP Server responds with 181 followed by a 200 OK whose tag parameter in the To header is different than the 181 message.

Bugs Fixed

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.



5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.
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Official Release Version 2.0.12.40-Patch9

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-40-Patch9.bin
- Date: September 18, 2014
- Size: 16,677,719 bytes

Note: This release note documents changes made since Version 2.0.12.40-Patch7

Features added

Change	ESBC Model	Description
1	ESBC 9xxx	For a specific Customer_ID, the ESBC will respond PRACK for 183 messages such that the ESBC will not drop SIP UPDATE messages with SDP in the Ringing State.
2	ESBC 9x80	For incoming calls when PRI D-channel is currently at DOWN state, the ESBC will now send 480 Temporary Unavailable instead of 403 Forbidden.

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 9xxx	When using Always respond PRACK for 183 message, the ESBC may send ACK with different CSeq Number when the ESBC detects fax tone and sends UPDATE message. This caused fax calls to drop at timeout period.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the



	ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED .



Official Release Version 2.0.12.40-Patch7

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-40-Patch7.bin
- Date: Apr. 21, 2013
- Size: 16,677,019 bytes

Note: This release note documents changes made since Version 2.0.12.40-Patch3

Features added

Change	ESBC Model	Description
1	All Models	ESBC support of SNMP Trap Community Name. Provisioning Tag: SNMP_TRAP_COMMUNITY
2	All Models	Increase the string length to 40 characters for all SNMP Provisioning Values
3	ESBC 9x80	ESBC Support for interworking for default SIP Message Response and PRI Cause Codes
4	All Models	For a specific Customer_ID, the ESBC will accept a 200 OK for non-standard call flow when ESBC sends INVITE message with 100rel and the SIP Server responds with 183 followed by a 200 OK whose tag parameter in the To header is different than the 183 message.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	When using TFTP Provisioning, a CRC Error may cause several attempts to download a new software image.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.



2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.40-Patch3

Release Information

- ESBC 9xxx File Name: **esbc-9x-2-0-12-40-Patch3.bin**
- Date: **Dec. 8, 2013**
- Size: **16,675,862 bytes**

Note: This release note documents changes made since Version 2.0.12.40-Patch1

Features added

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	When using SIP ALG, the SIP messages are not passing the the Alert-Info Header through to the LAN Interface
2	All Models	The Force Firmware provisioning tag value set to 1 may cause the ESBC to perform an unnecessary upgrade.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.



5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.
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Official Release Version 2.0.12.40-Patch1-OR

Release Information

- **ESBC 9xxx File Name:** esbc-9x-2-0-12-40-Patch1-OR.bin
- **Date:** Oct. 3, 2013
- **Size:** 16,676,102 bytes

Note: This release note documents changes made since Version 2.0.12.39-Patch6

Features added

Change	ESBC Model	Description
1	ESBC 95xx	The virtual IP Address used to communicate and interface with the Embedded Cable Modem can be configured in the Web GUI and as a Provisioning Tag, CM_IF_CONFIG. Note: The ECMM SW version, 3.1.6.52.12 must be used when changing the Virtual IP Address.
2	All Models	The SW Release Version Extension is now shown on the Web GUI.
3	All Models	Only for customer specified configuration default settings, all LAN ports are disabled.
4	All Models	Only for customer specified configuration default settings, LAN Port 1 is changed from Bridge Port to NAT/Voice Port.
5	All Models	The default value of "Place call among SIP UAs as internal call" is change to Disabled.
6	All Models	The default vale of "Display name of Test Agent" is changed as Null.
7	All Models	In scenarios of Call Forwarding where a NAT device may be between the ESBC and the WAN Media Gateway, the ESBC will now send a dummy RTP packet to allow the NAT device to send media back to the ESBC.
8	All Models	The ESBC supports a Default RTP Gateway feature on the LAN side. When configured in the Network-LAN settings, the ESBC will allow all RTP Traffic to be sent to a Default Router to be routed accordingly without the need to configure the Static Routes. The provisioning tag, LAN_RTP_DEFAULT_GW, can be used for this feature.
9	All Models	The ToS bits for both Signaling and RTP can be configured on the egress direction of the LAN NAT/Voice Ports. This feature can be configured in the Web GUI in Network-Voice QoS. The provisioning tags, TOS_ENABLE_LAN, TOS_SIP_SIGNALING_LAN and TOS_VOICE_TRAFFIC_LAN can also be used.
10	All Models	SIP REGISTER messages will be blocked by default if originating from the WAN network.



11	ESBC 9x80	ESBC support for the PRI BERT (Bit Error Rate Test) in the Diagnostics Web GUI. The ESBC will display the error statistics in real time during the test with the results after the test is completed. Note: The ESBC PRI Spans will be disabled while running the Diagnostics Web GUI.
12	All Models	For SIP ALG, if the domain in the Request URI is non existent or can not be resolved, the ESBC handles it in any of the following: <ol style="list-style-type: none"> 1. The Outbound Proxy Mapping – feature to configure an outbound proxy in the Web GUI, Telephony-SIP ALG-Setting or provisioning tag, SIP_ALG_OUTBOUND_PROXY_MAPPING 2. If the Route Header exists in the SIP message, the ESBC will forward the message using the value in the Route Header. 3. DNS Static Record – feature to configure a DNS Static record to resolve the Domain in the Request URI. This configuration can be configured in the Web GUI, Telephone-SIP ALG-Setting or provisioning tag, SIP_ALG_DNS_STATIC_RECORD
13	All Models	For License Control using SIP ALG, The ESBC will now calculate the number of calls (for the licensing limit) that are answered when receiving a 200 OK. Otherwise, the ESBC will reject the call with a 503 message.
14	All Models	The ESBC displays the SIP ALG registration status in the Web GUI, Telephony-SIP ALG-Status
15	All Models	The ESBC supports the SHMR (SIP Header Manipulation Rules) for SIP ALG. The feature is displayed in the Web GUI, Telephony-SIP ALG-SHMR.
16	All Models	The ESBC supports the SIP Firewall feature for SIP ALG. This feature is displayed in the Web GUI, Telephony-SIP ALG-Firewall.
17	All Models	The ESBC supports the ability to tag the ToS bits for all SIP ALG signaling packets and RTP for the WAN and LAN directions.
18	All Models	The ESBC supports the ability to capture SIP ALG packets in the Web GUI, Telephony-Tools-Call Trace.
19	All Models	To avoid any configuration conflicts when Provisioning is enabled, the following features will be greyed out in the Web GUI: <ol style="list-style-type: none"> 1. Firmware Update 2. Import XML Config 3. Import Config To enable these features, Provisioning must be Disabled.
20	All Models	Added new option in the Web GUI to configure the Syslog option to None.
21	All Models	ESBC support for new SNMP OID to set the ESBC back to Factory Restore Defaults. systemFactoryReset .1.3.6.1.4.1.3354.1.3.2.1.8.18



22	All Models	Remove redundant SNMP MIB OID definitions in the MIB File. Refer to the esbc-2-0-12-40-Patch1-SNMP-MIB.TXT and esbc-2-0-12-40-Patch1-SNMP-MIB-OID.DOC for the latest support MIB Objects.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	The Web GUI may have a slow response when running Syslog Messages. Note: It is highly recommended for the Syslog to be configured to None during normal operations.
2	All Models	The Web GUI may become blocked after changing the LAN IP and Trunk Settings as the Web browser waits for a response from the ESBC.
3	All Models	In some cases, the SNTP client may fail to synchronize with the SNTP Server.
4	All Models	In special cases, incoming calls may fail to a DID UserID with "+".
5	All Models	In special call scenarios, an outbound call may fail if INVITE message contains a fake SDP when receiving an INVITE message without SDP from the PBX.
6	All Models	In the Call Trace, PRACK messages are not shown.
7	All Models	SIP ALG calls may get rejected for incoming SIP Forking scenarios.
8	All Models	SIP ALG registration records are not cleared when the Voice/NAT LAN IP Address is changed.
9	All Models	In the Call Trace for capturing packets, RTPevent messages and fragmented packets are not captured.
10	All Models	In the Call Trace diagrams, SIP UA with prefix "+" does not show any traces.
11	All Models	The Call Trace diagrams can not be loaded correctly in Chrome browser.
12	All Models	The ESBC does not respond to the SNMP MIB Object, sipCommonStatusCodeTable.
13	All Models	The ESBC does not respond to get the USER_ID_LIST via SNMP.
14	All Models	The ESBC does not respond to the Lineinfo OID using SNMP Walk.



Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39-Patch6

Release Information

ESBC 9xxx File Name: **esbc-9x-2-0-12-39-Patch6.bin**
 Date: **May 2, 2013**
 Size: **16,551,131 bytes**

Note: This release note documents changes made since Version 2.0.12.39-Patch5

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Improved the mapping of SIP Message response codes to the ISDN Q.931 Disconnect Cause Codes. This allows the PBX to handle various Disconnect Cause Codes sent by the ESBC based on the SIP Message responses received from the Service Provider softswitch.

Bugs Fixed

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39-Patch5

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-39-Patch5.bin
- Date: March 31, 2013
- Size: 16,549,416 bytes

Note: This release note documents changes made since Version 2.0.12.39-Patch4

Features added

Bugs Fixed

No.	ESBC Model	Description
1	All Models	When the second provisioning update is performed after a new SW upgrade, the ESBC performs an unintended switch to the backup image which may be an earlier code version.
2	All Models	ESBC does not send an SNTP Request to the 2 nd SNTP Server if the 1 st server is unreachable.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39-Patch4

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-39-Patch4.bin
- Date: March 12, 2013
- Size: 16,550,995 bytes

Note: This release note documents changes made since Version 2.0.12.39-Patch3

Features added

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC95xx	ESBC System Time does not automatically synchronize and begins to drift if the ESBC is configured to use ToD (DQoS Settings) to synchronize time with the Embedded Cable Modem.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39-Patch3

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-39-Patch3.bin
- Date: January 30, 2013
- Size: 16,548,893 bytes

Note: This release note documents changes made since Version 2.0.12.39-Patch2

Features added

Change	ESBC Model	Description
1	All Models	Support 4 bytes of the version number display in the InnoMedia EMS system (w.x.y.z)
2	All Models	Improvements to the 50ms on/off DTMF detection.
3	All Models	Support for updated Service Provider factory default settings.
4	ESBC 95xx	When a call is placed on hold using a flash hook, the ESBC will not change the Service Flow state to Admitted.
5	ESBC 95xx	When call is placed on hold, the ESBC will send a keep alive RTP packet every 45 seconds.
6	All Models	ESBC will not send SIP INFO message when DTMF is sent for FXS calls.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	The ESBC Call Trace utility does not show the re-INVITE message when a call forward is placed by the PBX
2	All Models	The ESBC intermittently does not respond to UPDATE messages from the SIP Proxy.
3	ESBC 9x80	PRI fax calls may fail when the ESBC receives fax tone after the 183 message but before the 200 OK message.
4	All Models	Web GUI issue when creating bulk SIP UA accounts starting from an account ending with x999
5	All Models	The Default Route tag cannot be imported using the Web GUI XML Import feature.
6	ESBC 9x80	The Web GUI statuses of the B-channels are greyed out while the Span status is green. Calls can still be placed but the B-channel status is incorrect.



Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39-Patch2

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-39-Patch2.bin
- Date: November 21, 2012
- Size: 16,533,944 bytes

Note: This release note documents changes made since Version 2.0.12.39

Features added

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	Fax calls placed on the FXS ports always fail after the first attempt when the initiator sends fax without picking up the handset.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.39

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-39.bin
- Date: August 21, 2012
- Size: 16,373,074 bytes

Note: This release note documents changes made since Version 2.0.12.36

Features added

Change	ESBC Model	Description
1	ESBC 9x78	Initial SW version compatible to models ESBC 9378-4B and ESBC 9578-4B. Web GUI will reflect the Model and enable all functionality that corresponds to the ESBC 9x78.
2	All Models	Improved the Web GUI compatibility with Web Browsers: IE6, IE7, IE8, IE9, Firefox 14, and Chrome 21.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	When receiving INVITE message with Tel-URI, the 200 OK response is incorrect as the Contact Header is set to tel:number@ip:port. It is modified so that the Contact Header is set to sip:number@ip:port.
2	All Models	Blind Transfer fails when using Microsoft Lync PBX
3	All Models	Fax calls fail when 200 OK is sent with SDP attribute with a=silenceSupp:off----. A space is needed between "off" and "---"
4	All Models	The FXS port cannot playback DTMF Tones when the 2833 DTMF is 50ms On and 50ms Off.
5	ESBC 9x80	When resetting the counter, the "Slips" in the PRI Statistics does not reset.
6	ESBC 9x80	Span 2 sometimes show "D-channel Down" when running bulk call load test with Asterisk PRI PBX
7	ESBC 9x80	Some Off-Net to PRI T.38 incoming fax calls may fail
8	All Models	In the Syslog Web GUI, the Kernel Enable option is not unchecked when selecting the Uncheck All button
9	All Models	After deleting the SHMR Rule, the parent page does not refresh.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.12.36

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-12-36.bin
- Date: April 26, 2012
- Size: 16,361,621 bytes

Note: This release note documents changes made since Version 2.0.11.72

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Support D-channel ID in the Facility Message for TBCT call transfers
2	ESBC 9x80	Added 2 new SNMP Traps: PRIReceiveReleaseProtocolError, PRIDchannelUpDown
3	ESBC 9x80	Disable TBCT/RLT Call Transfers by default
4	All Models	Support downgrade tab in the Web GUI with the following features: Restore to Default while keeping provisioning and Internet Configuration, Disable the downgrade feature when provisioning is enabled.
5	All Models	Changed wording from DMS to EMS on Web GUI, CLI, and Provisioning Tags.
6	ESBC 9x80	Merged Call Traces for Consulted Call Transfer with a NOTIFY message.
7	All Models	Removed 2 SNMP Traps: Interface up/down and Cold/Warm Start
8	All Models	Changed provisioning selection wording from VSP5K to SecHTTP
9	ESBC 9x80	Added more enhancements for the lower level handling of error frames from the PBX under a heavy load.
10	All Models	Enhanced the performance of the processor and the memory utilization to allow Syslog Network tracing with a high capacity call load
11	All Models	Update to latest Provisioning Tags list.
13	ESBC 93xx	Support for A3.3 HW version
14	All Models	Enhanced the ESBC performance of the memory utilization when using the SHMR feature.

Bugs Fixed

Issue #	ESBC Model	Description
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1	All Models	In the Web GUI, some call detailed history shows BE instead of UGS for the QoS.
2	All Models	Time stamp for calls may be incorrect when viewed from the EMS Server
3	All Models	SHMR Rule GUI does not return expected error prompt and always displays import failure.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 or above does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from 2.0.10.70 or above, to any version before 2.0.10.70 release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.11.72

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-11-72.bin
- Date: February 29, 2012
- Size: 16,332,381 bytes

Note: This release note documents changes made since Version 2.0.10.70.

Features added

Change	ESBC Model	Description
1	All Models	“Set From Header for Outgoing calls” in the Trunk SIP Profile is used for both CallerID and Caller Display Name.
2	All Models	“Keep-alive Interval” in the Trunk SIP Profile is now defaulted and set to 0 as Disabled
3	ESBC 95xx	“Maximum Number of Dynamic Service Flows” in the DQoS settings is defaulted and set to 24
4	All Models	“Enable Session Timer” in the Trunk SIP Profile is defaulted and set to checked
5	All Models	“SIP Session Time” in the SIP Parameters is defaulted and set to checked
6	All Models	ESBC supports SIP Notify and responds with 200 OK to acknowledge provisioning requests: Report (send existing ESBC Configuration to a server), Reboot (re-provision by rebooting), and Resync (re-provision without rebooting). SIP Notify GUI in the Provisioning is added to configure the FTP Server to send the ESBC Configuration upon receiving Report.
7	All Models	ESBC supports HTTPS Provisioning method with HTTPS certificates when challenged by the server.
8	All Models	ESBC supports HTTPS Provisioning with the following HTTPS Get Request format that includes device attributes: MAC Address, SW version, serial number, and model.
9	All Models	ESBC supports CableLabs ESG DHCP Provisioning mechanism that includes requesting DHCP Options 6, 7, 12, and 15 in Option 55 and using TFTP as the method for requesting Config file.
10	All Models	ESBC supports VoIP voice quality metrics sent out using SIP Publish.
11	All Models	Add SLA tag in the Voice Quality Web GUI to display voice quality distribution over a period of time.
12	All Models	Add Voice Quality information in the Call History Record List which includes the MOS information,
13	All Models	Add VQMon tab in the Call Quality Logs to show the raw data

		for Voice Quality Metrics.
14	All Models	For Registration with the SIP Server, the ESBC supports adding a header: Allow-event=vq-rtcpvr which can be enabled or disabled in the Trunk SIP Profile
15	All Models	ESBC supports SIP-PBX to use GIN registration on the ESBC LAN side. No configuration is needed on the ESBC.
16	All Models	ESBC supports TLS registration for server authenticating ESBC, ESBC authenticating server, or both.
17	All Models	Test Agent for the ESBC supports SIP Header: Require:answermode.
18	All Models	ESBC supports SIP Header Manipulation Rules that allow the ESBC to manipulate SIP Messages on the fly. Scripts are needed to be imported for the rules to take effect. The SHMR is only supported when using B2BUA
19	All Models	ESBC supports SIP Firewall rules that enables the ESBC to have rules to accept, reject, or drop SIP Messages. Scripts are needed to be imported for the rules to take effect.
20	All Models	Call Trace Capture utility provides the ESBC with the ability to capture SIP, RTP, and/or PRI messages and save it as a pcap file used by Ethereal or Wireshark. Files can be stored locally, external flash, or sent directly to an FTP Server. The Web GUI configuration is in the Call Trace in "Capture" tab.
21	All Models	ESBC supports the ability to add History-Info SIP Header and a configurable option to enable/disable Loop Detection in the Trunk SIP Profile.
22	All Models	ESBC supports B2BUA with Caller performing the Call Transfer feature. For ESBC 9x80, this includes PRI calls using TBCT and RLT
23	ESBC 9x80	ESBC PRI calls support the ability to use Silence Suppression
24	ESBC 9x80	ESBC PRI with T.38 fax uses bit rate with the value sent from the network if the SDP Offer is from the network. If the SDP Offer is from the ESBC, then the ESBC will use the smaller value for the T.38 bit rate.
25	All Models	ESBC now support G.726 packing order selection: Cisco AAL2 or RFC3351 for FXS and PRI (ESBC 9x80)
26	ESBC 9x80	For ESBC PRI Outbound calls, if the ESBC does not receive 18x message before receiving the 200 OK, the ESBC will add "Alerting" message followed by Connect message.
27	All Models	Management Controls for the ESBC that allows the operator to remove the ESBC from service for routine maintenance or a version upgrade.
28	All Models	ESBC supports the ability to export the ESBC current configuration to XML format that can also be used for provisioning.
29	All Models	ESBC local syslog capacity is increased to 5000 records
30	All Models	ESBC Syslog provides new function to enable/disable the kernel log.



30	ESBC 95xx	The ECMM (192.168.100.1) can now be accessed using the Management Port rather than limited to the Bridge Port. The ECMM Web GUI can be accessed on the Management Port.
31	ESBC 9x80	The ESBC supports new Installation GUI for Technician and Customer logins with limited configurations and information.

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 95xx	ESBC may have no voice when using DQoS if the established incoming call uses an asymmetrical packetization rate.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from this version, 2.0.10.70, to any version before this release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.10.70

Release Information

- **ESBC 9xxx File Name:** esbc-9x-2-0-10-70.bin
- **Date:** February 7, 2012
- **Size:** 15,972,508 bytes

Note: This release note documents changes made since Version 2.0.10.69.

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Support TBCT/RLT with Asterisk version 1.8.8.0 or higher. The Asterisk may have an issue that sends multiple Facility messages before receiving the Disconnect messages.
2	ESBC 9x80	If the ESBC does not receive a SIP 180 message before the 200 OK message, the ESBC will now send "Alerting" message to the PBX followed by "Connect" message.

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 9x80	RLT Transfer may not work if the Digital Line Ringback Tone for outbound calls is configured as "ALWAYS" or "Enable" for server sending early media for inbound calls.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved



	before and after upgrading to this version.
4	If downgrading from this version, 2.0.10.70, to any version before this release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database. A Rollback software can also be performed if the backup image is the version that is desired.
5	Provisioning downgrade from version, 2.0.10.70, is NOT RECOMMENDED.



Official Release Version 2.0.10.69

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-10-69.bin
- Date: December 21, 2011
- Size: 15,972,894 bytes

Note: This release note documents changes made since Version 2.0.10.68.

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Enabled RTCP for PRI calls per Metaswitch Interoperability Tests.
2	ESBC 9x80	Enabled the Silence Suppression option for PRI calls using G.711 and G.726 per Metaswitch Interoperability Tests.
3	ESBC 9x80	ESBC will perform a full software reboot instead of only a DHCP Discover when initiated by an SNMP command of "docsDevResetNow" to the ECMM

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	Registration was not sent out when SIP Proxy is configured with an FQDN and SIP Server Redundancy is disabled.

Known Issues

Important Notes

No.	Description
1	For a full system firmware update of the ESBC, the ESBC firmware must be upgraded first to version 2.0.10.68 or above before the ECMM firmware to allow for proper synchronization. If the ESBC is not upgraded prior to the CM upgrade, then, a manual ESBC reboot is required to ensure proper synchronization.
2	Since ESBC version, 2.0.10.69 does not reboot the ECMM when the ESBC performs a reboot, it is recommended that the ECMM version is 3.0.4.52 or



	higher to ensure synchronization.
3	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
4	If downgrading from this version, 2.0.10.69, to any version before this release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database.
5	Provisioning downgrade from version, 2.0.10.69, is NOT RECOMMENDED .



Official Release Version 2.0.10.68

Release Information

- **ESBC 9xxx File Name:** esbc-9x-2-0-10-68.bin
- **Date:** December 5, 2011
- **Size:** 15,966,894 bytes

Note: This release note documents changes made since Version 2.0.10.56.

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Implementation of Restart Maintenance Mechanism: <ol style="list-style-type: none"> 1. When the D-channel of the ESBC comes up, the ESBC will send a Restart Message after 5 seconds. 2. The ESBC will send a Restart Message to the PBX for each Idle Channel individually within a configurable interval whose duration is determined by a configurable timer. Default timer is 1 hour. 3. The ESBC will invoke a Restart Message to the PBX if there is no response from the PBX to an ISDN Message.
2	ESBC 9x80	The ESBC will move to the next available B-channel for an incoming call if the PBX sends a Release Message with "Channel Unavailable (44)" or "Circuit Congestion (34)" code when the setup is unsuccessful. The ESBC option for this feature is "Prefer to hunt a channel which is idle for more than 5 seconds" in the PRI Span Group setting (Default: Enabled). The ESBC will also trigger a Restart Message to the PBX for this case.
3	ESBC 9x80	The ESBC will move to the next available B-channel for an incoming call if the PBX sends a Release Message with "Network Temporary Failure (41)" code when the setup is unsuccessful. The ESBC option for this feature is "Prefer to hunt a channel which is idle for more than 5 seconds" in the PRI Span Group setting (Default: Enabled). The ESBC will NOT trigger a Restart Message to the PBX for this case.
4	ESBC 9x80	The ESBC sends STATUS ENQUIRY to PBX periodically for active PRI calls, and determine the action from the "STATUS" replied from PBX. The default is enabled with the interval is 300 seconds.
5	ESBC 9x80	Add more B-channel status information on the Web GUI: "Restarting" and "Remote out of service"
6	ESBC 9x80	Implemented "Always, Never, and As-needed" options for "Play

		Ringback Tone for outbound calls". These options may be used depending on PBX and Network configurations for ringback generation. Refer to ESBC Administrator's Manual for more Release Information.
7	ESBC 9x80	Added "Ignore 183/Early media for outbound calls" option. This option may be used depending on the Network configurations for ringback generations. Refer to ESBC Administrator's Manual for more details information.
8	ESBC 9x80	Implemented "Enable Early Media for inbound calls" to support early media generated by the PBX for Incoming Calls.
9	ESBC 9x80	Implemented improvements for processing T.38 fax switch handling.
10	ESBC 9x80	Enhanced multi-thread synchronization to eliminate any possible racing condition.
11	ESBC 9x80	Modified so that ESBC does not reboot when PRI parameters are modified and saved, but D-channel will be down for a few seconds.

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 9x80	Resolved DTMF "D"tone playback
2	ESBC 9x80	Resolved T.38 Fax related redundancy controls and during full load conditions.

Known Issues

Issue	ESBC Model	Description
1	ESBC 9x80	Modem calls with G.729 preferred CODEC may not switch over to G.711

Important Notes

No.	Description
1	It is recommended that for ESBC 95xx models, the Cable Modem version must be 3.1.4.49 or higher.
2	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
3	If downgrading from this version, 2.0.10.68, to any version before this release, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup can be used to restore the database.
4	Provisioning downgrade from version, 2.0.10.68, is NOT RECOMMENDED.



Official Release Version 2.0.10.56

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-10-56.bin
- Date: November 4, 2011
- Size: 15,955,232 bytes

Note: This release note documents changes made since Version 2.0.10.14.

Features added

Change	ESBC Model	Description
1	All Models	In the System – Information Web GUI, the PCB version will now display the layout version extension.
2	ESBC 9x80	Line Hunting sequence for PRI Inbound calls supports ascending or descending. If both spans are using the same group and the selection is descending, the ESBC will select Span 2 Channel 23 as the first B-channel
3	ESBC 9x80	ISDN Q.931 signaling messages and call flows are now shown in the Call Trace Web GUI with updated call trace module.
4	ESBC 9x80	Statistics information for T1 Span Low-level errors are shown in the “Digital Line” on the Web GUI.
5	ESBC 9x80	T1/E1 supports T.38 fax initialization parameters and redundancy parameters.
5	All Models	License Control for limiting sessions using SIP Trunking or SIP ALG. Current units from InnoMedia production will initially limit up to 4 SIP Trunking sessions or 4 SIP ALG sessions. If more sessions are needed, License Keys must be purchased and imported into the device. If calls are made when the ESBC is already at it’s license limit, an email and SNMP Trap can be sent to the administrator. The end user will receive a busy tone when in SIP Trunking Mode. A SIP message of 503 Temporarily Unavailable will be sent back to the originating device. The License Control will not limit the call sessions from the FXS ports or the PRI Spans.
6	All Models	Implemented a dedicated Management Port for the LAN side used only for managing the ESBC on the LAN side using Web GUI or SSH only. SIP Traffic can not be used on this LAN port. The Management port must be configured with a separate IP Subnet that is not the same as the SIP Trunking LAN port. An additional DHCP server can also be enabled. If the Management port is enabled, Web GUI and SSH can not be accessed by any other LAN port. If the Management port is disabled, Web GUI and SSH can still be accessed by the SIP Trunking ports.



7	All Models	Added LAN Interface Web GUI for selecting the various services dedicated for the LAN ports. The services include: NAT/Voice ports (for SIP Trunking or SIP ALG), Bridge port, Router port, Management port.
8	All Models	FXS ports now support Ground Start for analog PBXs.
9	ESBC 9x80	Implementation to support PRI Supplementary Services: TBCT (NI-2, AT&T 4ESS and Lucent 5ESS) and RLT (Nortel DMS100). This allows the ESBC to support call transfers and call forwarding with Transmission of Facility-based ISDN Supplementary Services and send out SIP Refer to the SIP Trunking core network, which will then disconnect the 2 B-channels. To enable the support for this feature, the "Transmission of Facility-based ISDN Supplementary Services" and "Enable Transfer" options must be enabled.
10	ESBC 95xx	Removed the capability for the Cable Modem to reboot simultaneously when the ESBC reboots. It is recommended that the Cable Modem version, 3.1.3.43, is used in conjunction with this ESBC version. This Cable Modem version enables Service Flow protection in case a flow is active but does not have any traffic through it.
11	All Models	ESBC now support Day Lights Savings Time with a moving date. The first, second, third, fourth or last Sunday of the selected month can be configured for the Day Light Savings Time.

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	If there is a SIP Registration or Authentication Failure on the IP-PBX side, the call will not be shown in the SIP Trace utility.
2	All Models	In the Router Web GUI, if "none" is selected, all other parameters can not be blank.
3	All Models	In the SNMP System Name, the input field does not allow spaces.
4	All Models	After entering a UserID in the Test Agent settings, the field can not be deleted after when clicking on Apply.
5	All Models	When using the System Auto Backup, the password field does not allow '\$' character.
6	All Models	When using Static Mode on the LAN side and Default Route on the WAN side for SIP Trunking, the Digit Translation for removing digits did not work.
7	ESBC 9x80	The Web GUI did not allow to assign a SIP UA to a PRI Span with a Default Route.



Known Issues

Important Notes

No.	Description
1	It is recommended that for ESBC 95xx models, the Cable Modem version must be 3.1.3.43.
2	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
3	If downgrading from this version, 2.0.10.56, to 2.0.10.14 is required, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup from version 2.0.10.14 can be used to restore the database.
4	Provisioning downgrade from version, 2.0.10.56 to 2.0.10.14, is NOT RECOMMENDED.



Official Release Version 2.0.10.14

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-10-14.bin
- Date: October 28, 2011
- Size: 15,823,612 bytes

Note: This release note documents changes made since Version 2.0.10.13.

Features added

Change	ESBC Model	Description
1	ESBC 9x80	Added ISDN protection mechanism of any racing condition where an ISDN Setup message is received on a B-channel while still processing the release from a previous call which may result in cross-talk.

Bugs Fixed

Known Issues

Important Notes

No.	Description
1	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
2	If downgrading from this version, 2.0.10.14, to 1.0.x.x is required, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup from version 1.0.9.27 can be used to restore the database.
3	Provisioning downgrade from version, 2.0.10.13 to 1.0.x.x, is NOT RECOMMENDED.



Official Release Version 2.0.10.13

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-10-13.bin
- Date: September 5, 2011
- Size: 15,823,729 bytes

Note: This release note documents changes made since Version 2.0.10.4.

Features added

Change	ESBC Model	Description
1	All Models	When performing a SW Reset on the ESBC, the CM will also perform a reboot. This enhancement will ensure that all DQoS Service Flows are deleted.

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 9x80 Models	ESBC did not send out RELEASE COMPLETE in a timely fashion in some cases after receiving a RELEASE message from the PBX, resulting in the channel resource not available from the PBX (102 error code) when the next call setup is requested from ESBC to PBX.
2	ESBC 9x80 Models	When the ESBC sends a RESTART ISDN message to the PBX, the ESBC does not properly put this restarted channel back to the available pool of channels.

Known Issues

Important Notes

No.	Description
1	It is highly recommended that a full database backup of the ESBC is saved before and after upgrading to this version.
2	If downgrading from this version, 2.0.10.13, to 1.0.x.x is required, it must be done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup from version 1.0.9.27 can be used to restore the database.
3	Provisioning downgrade from version, 2.0.10.13 to 1.0.x.x, is NOT RECOMMENDED.



Official Release Version 2.0.10.4

Release Information

- ESBC 9xxx File Name: esbc-9x-2-0-10-4.bin
- Date: August 25, 2011
- Size: 15,823,910 bytes

Note: This release note documents changes made since Version 1.0.9.27.

Features added

Change	ESBC Model	Description
1	ESBC 9x80 Models	Default Route Mode for a PRI Span Group. The ESBC can be configured for 1 SIP UA to be a Default Route and be assigned to a PRI Span Group. This will allow the ESBC to be configured without any DID Numbers.
2	ESBC 9x80 Models	Line Voltage drop is less than 300mS for a Software Reboot (for Main Boards of A3 and beyond only).
3	All Models	Digit Translation Feature allows modifying the calling number and/or called number for both incoming and outgoing calls.
4	ESBC 9x80 Models	Rename the terminology on PRI Span Settings Page: Clock Mode -> Clock Source, Master -> Internal, Slave -> Line
5	ESBC 9x80 Models	ESBC support for PRI Signaling Type using PRI-CPE

Bugs Fixed

Issue #	ESBC Model	Description
1	ESBC 9x80 Models	Improved the Web GUI Performance for assigning SIP UAs to a PRI Span
2	ESBC 9x80 Models	Protection against B-channel stuck after failed fax calls on the PRI Interface.

Known Issues

Important Notes

No.	Description
1	It is highly recommended that a full database backup of the ESBC is saved before upgrading to this version.
2	If downgrading from this version, 2.0.10.4, to 1.0.x.x is required, it must be

	done using the Web GUI. In the GUI downgrade, a Restore to Default MUST be checked. A saved database backup from version 1.0.9.27 can be used to restore the database.
3	Provisioning downgrade from version, 2.0.10.4 to 1.0.x.x, is NOT RECOMMENDED.



Official Release Version 1.0.9.27

Release Information

- ESBC 8xxx File Name: esbc-8x-1-0-9-27.bin
- Date: June 2, 2011
- Size: 15,302,837 bytes

- ESBC 9xxx File Name: esbc-9x-1-0-9-27.bin
- Date: June 2, 2011
- Size: 15,304,285 bytes

Note: This release note documents changes made since Version 1.0.8.98.

Features added

Change	ESBC Model	Description
1	All Models	SIP Server Auto-Discovery and Redundancy Feature. The ESBC supports DNS SRV/NAPTR/A Record Lookup as well as a manual SIP Proxy List. SIP Options is implemented as a pinging mechanism to the server.
2	All Models	Default Router Mode for a specific SIP UA. The ESBC can be configured for 1 SIP UA to be a Default Router. This will allow the ESBC to be configured without any DID Numbers. The ESBC will assume that all (unspecified??) DIDs are part of the SIP UA with Default Router Mode.
3	All Models	VLAN ID Tagging for Router Port, Bridge Port and SIP Trunking NAT Port

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	ESBC hangs when using the Test Agent feature as the caller. This issue is related to 183 Early Media.
2	All Models	SNMP Community Names did not support special characters such as "@"
3	ESBC 9x80 Models	Low voice volume on the far end side. Default PRI Gain Level have been increased for better voice quality.
4	ESBC 9x80 Models	Gain Level Settings for the PRI Digital Line did not work.

Known Issues

Important Notes



Official Release Version 1.0.8.98

Release Information

- ESBC 8xxx File Name: esbc-8x-1-0-8-98.bin
- Date: March 16, 2011
- Size: 15,717,008 bytes

- ESBC 9xxx File Name: esbc-9x-1-0-8-98.bin
- Date: March 16, 2011
- Size: 15,719,171 bytes

Note: This release note documents changes made since Version 1.0.8.76.

Features added

Change	ESBC Model	Description
1	All Models	Support for GIN Registration. The ESBC configuration for this setting is in the Trunk SIP Profile.
2	All Models	SIP Transport method for B2BUA can be configured to use TCP, UDP, Auto or TLS.
3	All Models	Supports several Provisioning Methods: HTTP, HTTPS, TFTP, VSP5K, DHCP. For DHCP, Option 66 and 67 can be used to specify the server name and the configuration filename and path.
4	All Models	Bulk Assigning SIP UA on the Web GUI. Have the ability to map existing UAs to PRI, FXS, LAN PBX

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	ESBC GUI for the Provisioning Configuration File Path can only accept up to 32 characters. Will now allow up to 128 characters.
2	All Models	ESBC failed to download image using TFTP Provisioning.

Known Issues

Important Notes

Official Release Version 1.0.8.76

Release Information

- ESBC 8xxx File Name: esbc-8x-1-0-8-76.bin
- Date: February 22, 2011
- Size: 15,714,664 bytes

- ESBC 9xxx File Name: esbc-9x-1-0-8-76.bin
- Date: February 22, 2011
- Size: 15,716,839 bytes

Note: This release note documents changes made since Official GA Release Version 1.0.8.72.

Features added

Bugs Fixed

Issue #	ESBC Model	Description
1	All Models	Web GUI does not allow to edit an existing Trunk SIP Profile Setting. Always shows a duplication error message.
2	All Models	SIP UAs can not register using Authentication to the SIP Proxy due to 401 response with a different source port.

Known Issues

Important Notes

