

Mitel BluStar Solution

DESCRIPTION



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1 SOLUTION OVERVIEW OF THE MITEL BLUSTAR ECO SYSTEM

1.1 MITEL BLUSTAR ECO SYSTEM

The BluStar Ecosystem is a range of clients and devices that address the increasing market needs for video collaboration and multi-media communications. It provides true unified communication and collaboration capabilities and is fully integrated with MiVoice MX-ONE.

BluStar takes business communications to a new level across a choice of devices and clients providing a consistent user experience by using video as the key mode of communication. BluStar productivity enhancing tools provide more choice and flexibility to answer the increasingly diverse communication needs of today's modern enterprise. As a BluStar user it is possible to use video across all BluStar devices and clients connected to the same MX-ONE.

The BluStar Ecosystem currently includes both devices and clients which consist of different hardware and software based components:

- Mitel BluStar 8000 Desktop Media Phone
- Mitel BluStar for Conference Room
- Mitel BluStar for PC
- Mitel BluStar for iPad
- Mitel BluStar for iPhone
- Mitel BluStar Server
- Mitel BluStar for Android.

In addition the BluStar Server provides Rich Presence and Contact information to:

- MMC Clients
- Mitel InAttend 2.0 users
- Lync federation.

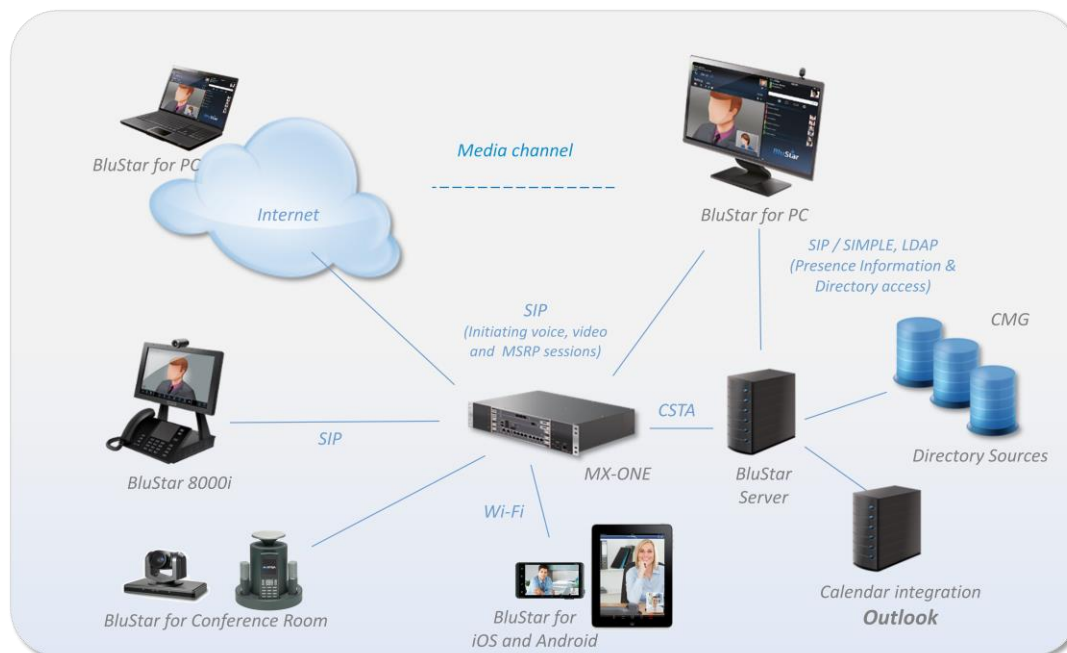
1.2 SYSTEM ARCHITECTURE

The Mitel BluStar clients are SIP based endpoints with a rich set of UCC features that connects directly to the MX-ONE and BluStar Server. Signaling and media rely on the device having data connectivity to an IP network and can operate on private or public IP networks. At start up, the clients register with the MX-ONE and BluStar Server using SIP and require a user license on the MX-ONE. Media (RTP) between the client and the terminating SIP end point is routed directly between endpoints (direct media), while signaling is routed and negotiated using SIP via the MX-ONE. In other cases media termination will be done through the MX-ONE.



Note! Three/four part conference with video must be initiated by BluStar 8000 or BluStar for Conference Room.

1.3 MITEL BLUSTAR/MIVoice MX-ONE SOLUTION OVERVIEW



BluStar overview

1.4 APPLICATION INTEGRATION

1.4.1 SESSION BORDER CONTROLLER (SBC) FOR ACCESSIBILITY

The BluStar client supports connectivity through a Session Border Controller (SBC) to provide the user with the same voice and video functionality from anywhere without being connected to the corporate network. The BluStar endpoints can use an SBC by either configuring an outbound proxy or use the full DNS host name of the MX-ONE in the SIP URI and make sure to use an official host name that can be resolved by the public DNS servers outside of the office network.

A local cache mechanism (in the soft clients) is used to store directory entries, so searching can be done locally rather than communicating with the external directories. This allows the ability to search even if a connection to the external directory could not be established.

The BluStar client is verified with Ingate SIParator 5.0 version: 4.9.2.

1.4.2 MITEL CMG AND MITEL BLUSTAR WEB

CMG can be integrated with the BluStar Server as well as the BluStar clients as a directory source through the LDAP interface.

1.4.3 MICROSOFT

BluStar provides integration with Microsoft environments in three different areas. From the BluStar Server there is a possibility to integrate with Lync servers in order to federate presence and line state information from BluStar to Lync users and from Lync to BluStar users. On the Client side it is possible to integrate the BluStar for PC application with the Microsoft Office environment. In this set-up the Office applications will be enriched with the BluStar communication services. Finally the BluStar for PC plug-in for Lync offers the customer to use Lync for UCC functionality while they use MX-ONE and BluStar for communication services from within the Lync client.

2 MITEL BLUSTAR ECO END-POINTS

2.1 MITEL BLUSTAR 8000

The Mitel BluStar 8000 is a powerful desktop video conferencing and collaboration tool that is designed to enhance the way you communicate and collaborate. Offering true HD video conferencing, the Mitel BluStar 8000 uses the latest in video and communications technology to enable a natural high quality video experience. With its advanced business collaboration features and applications, the 8000i is a productivity enhancing desktop media phone that is intelligent, intuitive and easy to use.



HD Video and Sound

The Mitel BluStar 8000 has a 13 inch touch screen offering full 1280 x 720 video image resolutions. The built-in 720p HD camera with its 70 degree field of view captures a wide angle image.

Supporting standards based H.264 video and SIP call control, the 8000 delivers true 720p HD video conferencing at a rate of 30 frames per second. With four voice tracking microphones, three speakers for enhanced audio sound, and G.722 wideband audio support, the BluStar 8000i truly delivers superior HD sound quality.

Powerful Collaboration

The built-in collaboration features of the BluStar 8000 enable a natural and intuitive way of collaborating and communicating. Peer-to-peer video calls or multi-way video conferencing provide a rich in-person communication experience quickly and conveniently.

BluStar 8000 provides basic support for BluStar application sharing as offered via BluStar for PC.



Intuitive User Interface

The BluStar 8000 offers a suite of features that make communicating a simple and instinctively natural experience. Biometric fingerprint reading efficiently identifies users and makes Hot Desking from any BluStar device an effortless task – personalized and natural access no matter where you are. The intuitive touch control user interface on the Mitel BluStar 8000 makes a powerful communication tool that brings natural collaboration to every desktop.

Video Standards & Features

- H.264 AVC video
- Up to 30 frames per second refresh rate
- True 720p HD 1280x720 video resolution
- Ad-hoc conferencing capabilities for four-way conferencing without the need of a multi-conference unit (MCU)
- Picture in picture self view
- Magic Mirror to view transmit image prior and during call
- Simultaneously view and run up to 3 applications while participating in active video conference calls
- Variable Bit Rate (VBR) technology to optimize bandwidth utilization

Audio Standards & Features

- Wideband audio
- G722, G.711
- Full-duplex audio
- Super wideband acoustic echo canceller (AEC) for future codec compatibility
- Automatic gain control
- Microphone/speaker
- Audio inputs/outputs
- 4-element smart microphone array
- Modular headset connection (RJ-9)
- 3.5 mm headset connector
- 3.5 mm external microphone connector

Telephone Features

- Hold
- Transfer
- Conference
- Favorites
- Call Forward
- Call Pickup
- Redial/call histories
- BLF/Line state
- DND

Business Applications

- Suite of built in applications
- Up to 50% of display allocated to user defined applications
- Up to 3 applications can run concurrently with video conferencing

Remote Connectivity

- Built-in VPN client

Directory services

- Global corporate directory, Personal contacts, Favorites & call history lists
- Interfaces with Lightweight Directory Address Protocol (LDAP) for user directories
- Interfaces with Microsoft Exchange Personal Contacts for enhanced productivity
- 2,000-contact global directory
- Grouping capabilities within directories

2.2 MITEL BLUSTAR FOR CONFERENCE ROOM

Mitel BluStar for Conference Room expands the BluStar Ecosystem to include a versatile video conferencing solution for medium to large boardrooms or conference rooms.

Supporting an external HD camera, an HD capable display and audio options, BluStar for Conference Room provides a powerful and flexible solution to meet the needs of modern businesses.

With its intuitively easy to use interface and controls, BluStar for Conference Room promotes frequent and ad-hoc use, making it easy for true HD face-to-face communication. Its flexible configuration and interfaces enable traditional conference room usage as well as support for applications where maneuverable cameras can share video streams as easily as making a phone call. BluStar for Conference Room can be fully integrated with Mitel MX-ONE, providing a video collaboration solution which is cost efficient, easy to deploy, manage and use.



Intuitive Communication & Collaboration

BluStar for Conference Room is designed for ease of use and simple configuration. By utilizing the same user interface as the BluStar 8000i, users can easily initiate multi-way video conference calls promoting greater collaboration between remote teams. BluStar for Conference Room is available as a complete conference room solution with camera, wireless audio conference phone, and wireless controller or as individual components for upgrading voice only rooms to a video enabled solution.

BluStar for Conference Room Kit

BluStar for Conference Room is supplied as a fully integrated kit that is pre-configured and certified making it easy to deploy. The BluStar for Conference Room supports generic third party HDMI display devices (Display device and interconnect cables are not included). The kit comprises of the following items:

- BluStar for Conference Room unit
- BluStar HD 610 Camera
- Mitel S850i Wireless Conference Phone
- Wireless Keyboard Controller
- Interconnecting audio and video cables
- Power supplies



Key Features

- Designed for ease of use and simple configuration.
- Open standards based application – SIP call control & H.264 video encoding.
 - Intuitive user interface promoting frequent and ad-hoc use
 - Consistent UI with other BluStar devices and clients
- Fully integrated with MiVoice MX-ONE
 - Easy to configure, manage and use.
 - Deployed like any SIP extension off the call manager.
- Ad-hoc conferencing capabilities for four-way video conferencing and collaboration
- Application sharing, basic
- Does not require the use of a Multipoint Control Unit (MCU)

- True HD video and audio communication
 - 720p HD 1280x720 video image resolution
 - G.722 audio
- Standards based interfaces for audio and video
- Built in VPN client for remote access
- Directory integration with LDAP, Microsoft Exchange
- Picture ID integration for Caller ID
- Standard Telephony Features
 - On-screen dial pad, Hold, Transfer, 4-way Conference, Favorites, Call Forward, Call Pickup, Redial/Call Histories, BLF/Line state, DND, MWI
- Supports most HD capable displays and projectors via HDMI interface
- Supports most Multi-Touch Screen TVs for direct on-screen touch UI control
- True 720p HD color video camera
- Wireless conference phone with full echo cancellation
- Wireless keyboard controller for easy remote control
- Power saving options to reduce energy consumption
- Desktop, wall or rack mount options

2.3 MITEL BLUSTAR FOR PC

Mitel BluStar for PC 3.2 delivers high-quality audio, HD video conferencing and access to a set of Unified Communications & Collaboration (UCC) features from a single client on the desktop. The client is directly integrated with the MX-ONE and BluStar Server.

The user friendly client unifies voice communications with video application, presence information, instant messaging, directory look-up, flexible search options and journaling as well as three-party audio conferencing. The direct integration with the MiVoice MX-ONE provides the benefits of reduced cost and infrastructure complexity and secures high performance call functionality. BluStar for PC is a powerful UCC client for Windows-based PCs.



Intuitive communication directly from the desktop

BluStar for PC is at the cutting edge of communication technologies enabling audio and video communications/conferencing from the desktop, accessible from anywhere. The client's intuitive user interface facilitates ease of use and is designed to connect people in the best way, depending on their working needs. It helps users work together more effectively - for example, on-the fly video communication with remote workers, road-warriors and teams working on the same project.

Desktop share description

The feature “Desktop/Application Share” delivers an enhancement to the BluStar for PC such that you can now share content from your PC with other participants during a BluStar call, using the BluStar video capabilities to transmit the shared content.

The function can be started from a BluStar for PC client. The shared information can be visualized on any BluStar device or any other supported video endpoint.

The shared information will be published to the connected users by using a video stream to transmit the chosen content. Application share does not require an additional video stream, instead the video stream with the sender’s camera picture is replaced by the video stream containing the shared content.

The client provides the user with the right information and communication options at the right time. The combination of icon tabs and context sensitive options captures the client’s simplicity and it is easy to toggle between tabs and features. The client is based on open standards.

Presence information and directory consolidation

BluStar for PC helps to increase productivity significantly by providing the user with rich information about other user’s presence status, delivered by the BluStar Server. Before placing a call, you can see the presence status, line state and calendar information of all other online users. With the BluStar presence feature, you can easily control your own communication status. Presence information is provided from the BluStar Server.

- View BluStar users’ presence status
- Set and present personal presence (Available, Busy, Do not disturb)
- Line State –MX-ONE extensions
- Outlook/Exchange calendar presence

Key features

- SIP softphone for high-quality voice communications
- Powerful audio processing - echo cancellation, automatic gain control, supported codecs: G.711, G.722 and G.729
- HD video communications, H.264, up to 4 way conferencing anchored in BluStar 8000i or BluStar for Conference Room.
- Instant messaging MSRP
 - Contact integration - AD, LDAP, personal Outlook contacts, BluStar Server and Mitel CMG
- Supports Microsoft Office Outlook Contacts 2003, 2007 and 2010 (32 bit version only).
- Call to links support and Hotkey dialing
- Session Border Controller (SBC) support - enabling remote access
- Microsoft integration,
 - Office, provides BluStar functionality through MS Office application interface,
 - Lync plug-in, Supports Microsoft Lync 2010 and 2013 (version 15.0.4454 and higher)
- Call control integration with Jabra and Plantronics headsets
- Windows 7 and Windows 8
- Three-party audio conference calls
- Sending DTMF - SIP Info / RFC 4733
- Support TLS/SRTP for audio calls and audio streams
- High-quality voice communications

The BluStar for PC is configurable to meet the user's personal needs, e.g. set ring signals or device for out-going calls. To place a call is intuitive and can be done in several ways, e.g. by using the directory, typing or by clicking on a hyperlink in an e-mail or a web page to initiate a call.

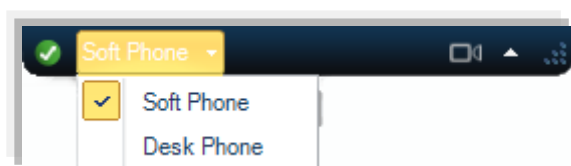
Incoming calls are indicated by a ring signal and a call alert dialog that appears in front of other applications. If the contact person is listed in the directory, the caller ID with name and photo will be shown in the call alert dialog.

CTI hardphone control description

The BluStar for PC 3.2 can be used not only in soft phone mode, but also to control your hard phone, connected to MiVoice MX-ONE. The connection and control of the call is made by utilizing the CTI-Interface in the BluStar Server and the CSTA-Interface in the MX-ONE service node.

Hardphone control has basic support for the MX-ONE multi-SIP device configurations in the sense that it controls the first terminal in the multi-device list provided from MX-ONE to the application.

It is possible to switch between hard phone control and softphone by using a drop down menu in the bottom line of the client.



CSTA Server (in MX-ONE) will request a list of the available devices from MX-ONE (the Terminal Identity of the logged-on devices) and deliver it to the CSTA application (used by the end-user). The devices in the list are stored in lexical order so the most significant parts of the data will determine this order. Most significant is the type of device, e.g. SIP, H.323, RXN (Mobile extension) or CTX (TDM DECT), Second for IP end points is the user's directory number and third is the IP address of the device. This means that for a user with four SIP terminals, the device with the "lowest" IP address would be first in the list delivered by the system to CSTA.

1:st criteria

- SIP (Mitel or 3:rd party)
- H.323
- RXN
- CTX

2:nd criteria

- For IP devices
 - o Directory number
 - o IP address

(Consequently, having more than one terminal of any type is not a working/supported solution).

CSTA will, if it finds a newly logged-in Mitel SIP deskphone (as an example), rearrange the list sent to the application and put the Mitel SIP deskphone in first position as SIP has priority over any other phone. (End-user application may need to be re-started).

It is thereafter up to the end-user application to include the Terminal Identity of the device to be used when executing CSTA Call Control services (answering or setting up a call). For users with multi-devices the CSTA application must deliver the Terminal Identity of the device to be controlled. If Terminal ID is not provided by the application the MX-ONE system will just neglect the CSTA request.

Mitels BluStar for PC 3.2 (together with MX-ONE 6.0) includes functionality to supports delivery of the first Terminal ID in the list and can consequently answer and set up calls via a Mitel SIP phone in a predictable manner, as long as the user only has one Mitel SIP phone.

Managing contacts

Contacts can be added (from the directory or manually entered) to a personal favorites list. The contacts can be displayed with name, number and photo. The contacts in the list can also be arranged

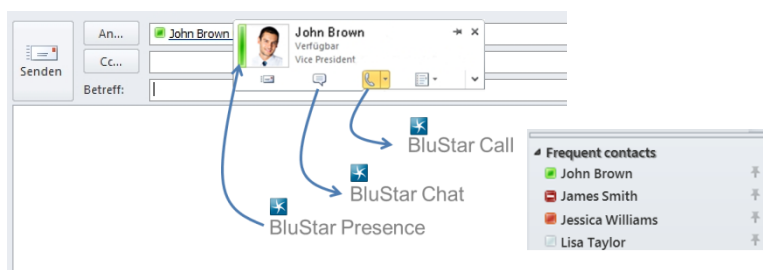
in groups. One contact can be a member of several groups. Additional contact information is visible in an extended contact card.

- Favorite list
- Grouping of favorite contacts
- Contact card
- E-mail initializing

Office integration

BluStar for PC can be defined as default IM provider in MS Office environments.

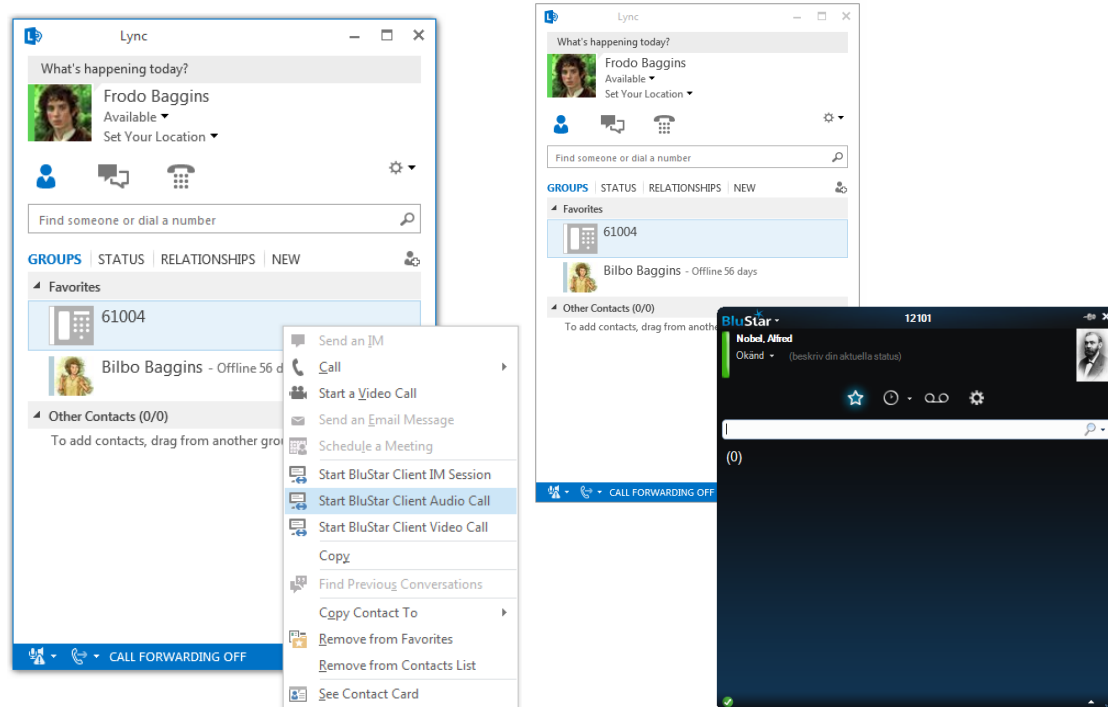
The BluStar Server provides presence information for all the “Favorites” configured in the users BluStar for PC client. When integrated with MS Office all presence information from the users BluStar Favorites will be available and displayed in real time in all Office applications supporting presence indicators.



Lync Plug-in

BluStar for PC provides a plug-in that integrates with the local Lync client in the PC.

The Microsoft Lync integration enables the user to initiate calls from the Lync application through BluStar for PC.



Interface Lync

Interface BluStar

2.4 MITEL BLUSTAR FOR IOS

Mitel BluStar for iPad & iPhone 3.2 enables high quality video and voice calling from an intuitively easy to use application, providing natural communication options for mobile users. Today's workers are increasingly mobile, either traveling outside of the enterprise or moving about on campus. With BluStar, mobile users don't have to give up the convenience of natural collaboration that video calling brings. Mitel BluStar for iPad/iPhone clients provide up to four party video communication over a data network connection and are fully integrated with MiVoice MX-ONE and the BluStar Server.

Optimally designed for Wi-Fi but also supporting connectivity via cellular data connections (best effort).



Intuitive Communication from your Tablet or Smartphone

The client's intuitive user interface facilitates ease of use and helps users work together more effectively – for example, on demand video conference with remote workers, road warriors and office based teams working on the same projSect. The clients have been designed for easy to use video communication and conferencing, complex handling of communication parameters has been authorized. For application sharing usage the client can easy focus on the shared desktop stream. Providing mobile users the right level of information and communication preferences that are simple to use based on the device of choice.

Key Features

- Open standards based application – SIP call control & H.264 video encoding
- High quality video communication
- Peer-to-peer, four way video conference (with 8000i or BluStar for Conference Room)
- Use of both front and rear facing cameras
- HD audio SIP soft phone supporting G.722, G.711, G.729, iLBC codecs
- Advanced configuration options – via email, server based configuration files or intuitive options menu

- Directory integration – LDAP, AD, Exchange
- Contact Management – Integrates contacts from Exchange, Windows Contacts, Outlook, Google, and Yahoo
- Dynamic progressive name search, indexed contact lists, video capable contact filtering
- Up to 12 favorites/speed dial keys on the home page
- Picture ID integration for caller ID, contacts, favorite keys
- Call history for log of incoming, outgoing, missed calls with visual indicator of number of missed calls
- Put a video call on hold or transfer it unattended to one of your co-workers
- Voicemail indicator with number of voicemails and easy access speed dial to voicemail box
- Supports multiple user accounts with one active at any specific time
- Magic mirror to view transmit image prior to calls
- Picture-in-picture self view on video calls
- Remote access support via SBC or existing device VPN client options
- LDAP directory caching to facilitate off network use



For more details please see Product Description BluStar for iPad iPhone

2.5 MITEL BLUSTAR FOR ANDROID

Intuitive Communication from your Tablet or Smartphone

BluStar for Android 1.4 is at the cutting edge of communication technologies enabling audio and video communication from the device of choice, providing true mobility for BluStar users.

With video technology maturing and video becoming a mainstream form of communication today, the evolution to video in the workplace is becoming a natural continuity in enterprise development.



The BluStar for Android apps' intuitive user interface facilitates ease of use and helps users work together more effectively – for example, on-demand video communication for remote workers, road warriors and office-based teams working on the same project. The application have been designed intentionally for peer-to-peer communication and to avoid complex options and configuration settings, providing mobile users the right level of information and communication preferences, that are simple to use and based on the device of choice.

Optimally designed for Wi-Fi the application is also supporting connectivity via cellular data connections (best effort).

BluStar for Android Highlights

- High quality video & voice communications utilizing Wi-Fi & cellular connectivity
- Intuitive interface facilitates ease of use
- High quality video communications – peer-to-peer, H.264
- SIP softphone for voice communications
- HD audio SIP softphone supporting G.722, G.711 and G.729
- Channel adaption based on quality of network connection
- Configuration download via email or configuration files
- Directory/contact integration - LDAP, AD, Exchange, Google etc.
- Multiple user accounts configurable
- Session Border Controller (SBC) support - enabling remote access

3 MITEL BLUSTAR SERVER

The Windows based Mitel BluStar Server 3.2 provides centralized services and interfaces for the entire BluStar Ecosystem. The BluStar Server aggregates presence information from different sources such as calendar entries, line state and manual status settings and provides them to all subscribed BluStar components and clients.

Integrated with BluStar for iPhone, BluStar for iPad and BluStar for PC, BluStar Server facilitates collaboration between mobile, remote and headquarters' employees through presence awareness.

Feature set provided by BluStar Server:

- Interface to MX-ONE for line state for analog, digital, IP extensions, Remote extensions and DECT terminals using CSTA III connection
- Outlook/Exchange calendar interface for presence aggregation
- User presence handling via BluStar endpoints (manage personal presence state)
- Presence presentation to subscribed end points (BluStar endpoints) via SIP / SIMPLE
- LDAP import from an external directory e.g. AD or CMG
- Web Administration interface – management, configuration, administration
- VMware support
- Up to 1000 BluStar users supported

The BluStar Server is built around three logical components

- Presence Server for connection to the presence sources / calendar systems.
- CTI Server for connection to the MX-ONE for retrieving line state information.
- Mitelra Directory Server for directory queries of BluStar clients

Supported BluStar endpoints

- BluStar client for PC V 3.0 or higher
- BluStar client for iOS V 3.0 or higher, compatible with iPhone and iPad devices
- BluStar 8000 and BluStar software v4.3.0 or higher
- Conference Room will be supported from software V 4.3.0 or higher
- Mitel Mobile Client 4.1 and later
- InAttend 2.0 and later

For more details: please see *BluStar Server Installation and Configuration Guide*.

4 REQUIREMENTS

For the latest information regarding requirements and compatibility information, please refer to the release notes and Mitel Info Channel: <https://infochannel.mitel.com>.

MX-ONE 5.0 SP3 Hot fix 1 and later

- Licenses for Video (per user, not per device)
- License for BSC (Valid for BluStar for PC, BluStar for Android or BluStar for iOS)
- License for IP Extension (or additional SIP device license)
- CSTA III license

LDAP v3 directory server

- CMG 7.5 SP4
- Lotus Notes
- AD

Calendar integration

- Microsoft Exchange

Mitel BluStar Server 3.0 and later

Installed on a physical hardware or VMware.

Recommended hardware:

- CPU: 2,2 GHz or faster,
- 2 cores recommended
- RAM: 8 GB
- Hard drive: 10 GB available space
- Network: GigE network adapter

For vSphere 5.1 based virtualized environments the HW requirements do not differ for the virtual machine; the actual performance will depend on the overall load of the machine hosting the VMs.

Operating system and software requirements for the BSS

For the BSS the Microsoft Server 2008 R2 and Microsoft Server 2012 SP1 are supported.

The following preconditions must be fulfilled for the Windows server where the BSS will be installed (VMware or stand alone hardware).

- Server Role IIS with <ASP.NET>, <Static Content>, <HTTP Errors> and <Directory Browsing> must be enabled
- Server Role Application Server with <Web Server (IIS) Support> must be enabled
- Java Development Kit 1.7 or higher (64bit) must be installed
- Microsoft .NET framework 3.5 and 4.0 must be installed

For Mitelra BluStar for PC

Recommended hardware for Soft phone capabilities without Video:

- CPU: Intel Pentium 4 1.4 GHz or equivalent
- RAM: 512 MB
- Hard Disk: BluStar for PC requires 50 MB disk space + .NET Framework 4 (Additional disc space required for log files)

Recommended hardware for Soft phone capabilities with Video:

- CPU: Intel Core 2 Duo 2.1 GHz or equivalent
- RAM: 2 GB
- Hard Disk: Hard Disk: BluStar for PC requires 50 MB disk space + .NET Framework 4 (Additional disc space required for log files)
- Accelerated DirectX9 graphics

Recommended hardware for Soft phone capabilities with HD Video:

- CPU: Intel Core i5 2,5 GHz equivalent
- RAM: 2 GB
- Hard Disk: Hard Disk: BluStar for PC requires 50 MB disk space + .NET Framework 4 (Additional disc space required for log files)
- Accelerated DirectX9 graphics

Software:

Minimum Windows 7, 32 & 64 bit Service Pack 1

- Enterprise Edition
- Ultimate Edition
- Professional Edition

BluStar for PC supports most USB headsets. During our tests following devices have been verified:

- Jabra Biz 2400 USB
- Jabra PRO 9470, 9465, 9450, 930
- Jabra GO 6470, 6430
- Jabra GN2000 USB
- Jabra UCVOICE series
- Logitech clearchat
- Plantronics Savi (400 & 700 Series) – UC wireless
- Sennheiser PC-36 USB headset

Webcams requirements:

- Directshow compatible
- Minimum resolution: 160 x 120 at 15 to 30 fps
- Color format YUY2 or I420

BluStar for PC supports most USB web cameras. During our tests following devices have been verified:

- Creative webcam Live! socialize HD
- Logitech webcam B990 HD
- Logitech webcam PRO 9000 II
- Microsoft Lifecam studio
- Creative webcam Live! InPerson HD
- Creative Optia AF webcam

Lync Plug-in

Supports Microsoft Lync 2010 and 2013 (version 15.0.4454 and higher).

BluStar for IOS

- iPad 2, iPad (3rd generation), iPad (4th generation) and iPad mini
- Minimum iPhone 4S
- Minimum iOS 6.0
- iStore account
- Email account for one of the native iOS mail applications.
- BS for Android

BluStar for Android

- Minimum Android 4.1 OS
- List of supported devices is available from Mitel
- Play Store for Android, store account
- Email account from a native e-mail application

Wi-Fi Network

VoIP ready Wi-Fi network. A review of the Wi-Fi coverage should have been done before starting to use the BluStar iOS clients.

4.1 IP NETWORK PREPARATION INFORMATION

BluStar Server TCP and UDP port usage

Take care not to install the BluStar Directory Server instance on the same server together with another LDAP Server like MS Active Directory – otherwise you have to specify a different port because the LDAP default port 389 may already be in use.

BluStar server port usage

All TCP and UDP ports required to access the BluStar Server (direction: towards the BluStar Server) are listed below, to be considered for Firewall / Session Border Controller configuration.

Port	TCP	UDP	Protocol	Points to ...	Used for
80	Yes	-	http	MS IIS web server	Web administration
8080	Yes	-	http	Apache web server	Notification service for MS Exchange
389	Yes	-	LDAP	BluStar Server Directory Server	BluStar clients for directory access
5060 (*1)	Yes	Yes	SIP	BluStar Server Presence Server	BluStar clients for presence
5070	Yes	-	SIP	BluStar Server CTI Server	BluStar clients for CTI via TR/87

Port	Points to ...	Used for
3268	AD	LDAP access
1433	External SQL	When applicable

1) Or 5062, if InAttend is used on the same server.

BluStar client port usage

Port	Description	Valid IP port number	Recommended value
sip proxy port	SIP proxy (call manager)port	(0-65535)	5060 5061 for TLS
sip outbound proxy port	Outbound SIP proxy IP address/host name	(0-65535)	5060 5061 for TLS
sip presence port	BluStar Server port	(0-65535)	5060 or 5012
sip presence port outbound proxy port	BluStar Server port	(0-65535)	5060 or 5062
sip rtp port	Port range base for RTP audio transmissions	(0-65535)	40000
sip rtp port range	Port range upper limit for RTP audio transmissions	(0-65535)	2000
sip rtp video port	Port range base for RTP video transmissions	(0-65535)	5000
sip rtp video port range	Port range upper limit for RTP video transmissions	(0-65535)	2000
ldap<n> server	LDAP directory host		389

BluStar Client port usage for firmware and configure download

Port	Description
21	FTP config download (if configured)
69	TFTP config download (if configured)
80	HTTP config download (if configured)
389	LDAP connections
443	HTTPS config download (if configured)
5060 – 5069	TCP/UDP depending on configuration for SIP signaling
49152 - 65535	RTP for Audio and Video data

Public DNS name for PBX and BluStar Server

The client can use an SBC by either configuring an outbound proxy or use the full DNS host name of the communication server in the SIP URI and make sure to use an official host name that can be resolved by the public DNS servers outside of the office network.

Since there is no option for setting BluStar Server outbound proxy address in the BluStar PC client it is necessary to have a public DNS name for the BluStar Server. If not, the presence status will not work.

4.2 SBC (INGATE)

The BluStar clients are verified with Ingate SIParator 5.0 version: 4.9.2.

4.3 QOS ON WINDOWS 7

Do as follows:

1. Select **run** and type **gpedit.msc**.
2. Create a new policy under **Windows settings**.
3. Select or type **Policy name: Voice**.
4. Specify DSCP **Value: 46**.
5. Check **Only application executable** name: **blustar.exe**.
6. Check **Any source IP address** and **Any destination IP address**.
7. Select the protocol this QoS policy applies to: **TCP and UDP**.
8. Check **From any source port** and **To any destination port**.
9. Click **Finish**.

4.4 PROVISION TOOLS

Configuration server

Any HTTP, HTTPS, FTP, TFTP server reachable from the client.

5 INSTALLATION

5.1 CONFIGURATION FILES

In all cases the BluStar endpoints require configuration files. The creation of configuration files may be done in different ways manually by the system administrator or automatically through Service Node Manager (SNM). BluStar Server configuration is done via an installation wizard or manually, for more information see installation document BluStar Server Installation and Configuration Guide V 3.2.

TLS/SRTP security is supported in all BluStar component, except in the BluStar for Android client.

Required files:

BluStar 8000i and BluStar for Conference Room

- aastra.cfg (common with 67xxi and 680xxi phones)
- <model>.cfg (8000i.cfg, 8000icr.cfg)
- <user>.cfg

BluStar for PC

- aastra.cfg (unique for PC client)
- BSCpc.cfg (optional)
- BSCpc_<user>.cfg (optional)
- BSCpc_prefs_<user>.cfg (optional)

BluStar for iOS

- aastra.cfg (unique for iOS client.)
- blustarios.cfg (optional)
- <MAC address>.cfg (optional for iOS 6)
- <user>.cfg (optional for iOS 7)

BS for Android

- aastra.cfg (unique for Android client.)
- blustarandroid.cfg (optional)
- <user>.cfg

In general, any configuration file from aastra.cfg to BSCpc_<user> cfg can contain any setting. However, if a setting occurs in multiple files, it is considered in a bottom-up priority order, ignoring further occurrences in the other files, for example:

BSCpc_<user>_local.cfg overrides BSCpc_<user>.cfg overrides BSCpc.cfg overrides aastra.cfg.

The above principle applies to the configuration files for all BluStar endpoints.



Note! The aastra.cfg file is unique to each BluStar end point and therefore it is important that they are stored in different subdirectories on the configuration server.



Note! The files which are marked as optional are only required for individual user configuration.

5.1.1 TO GENERATE AN *AASTRA.CFG* AND *MODEL* SPECIFIC CONFIGURATION FILES

BluStar 8000

Use the *aastra.cfg* file, *8000i.cfg* file provided together with the MX-ONE. The parameters can be found under: */opt/eri_sn/etc/templates/14.133.18/aastraSIPphones/*

OR

Use SNM/IPP to configure and create the *aastra.cfg* file and *8000i.cfg*

BluStar for Conference Room

Use the *aastra.cfg* file provided together with the MX-ONE. The parameters can be found under: */opt/eri_sn/etc/templates/14.133.18/aastraSIPphones/*

There is no template for *8000icr.cfg* but the contents are identical to the *8000i.cfg* file.

It is possible to use SNM/IPP to create the *aastra.cfg* file but not possible to create the *8000icr.cfg* file.

BluStar for PC

Use the *Aastra TEMPLATE MX-ONE.cfg* file provided together with the BluStar for PC software.

See *BluStarforPC_Parameters.pdf* for settings.

OR

Use SNM/IPP to configure and create the *aastra.cfg* file and *BSCpc.cfg*

BluStar for iOS

See *BluStar iOS Configuration Keys 3.2* for settings.

OR

BluStar for Android

See *BluStar Android Configuration Keys 1.4.pdf* for settings.

5.1.2 TO GENERATE USER SPECIFIC CONFIGURATION FILES

BluStar 8000 and BluStar for Conference Room

Use the *8000iUser.cfg* file provided together with the MX-ONE. The parameters can be found under: */opt/eri_sn/etc/templates/14.133.18/aastraSIPphones/*

OR

SNM will automatically create the user file when logging out from the endpoint the first time

BluStar for PC

The *BSCpc_<user>.cfg* file will be created in the PC when logging out from the endpoint the first time.

OR

SNM will automatically create and save the *BSCpc_<user>.cfg* file when logging out from the endpoint the first time

BluStar for iOS

See *BluStar iOS Configuration Keys 3.2* for settings.



Note! For iOS 6 the user configuration is stored in the *<MAC address>.cfg* where as iOS 7&8 it is stored in the *<user>.cfg*. In case the user has both an iOS 6 and an iOS 7&8 device you will need both *cfg* files.

BluStar for Android

See *BluStar Android Configuration Keys 1.4.pdf* for settings.

5.2 INSTALLATION PROCEDURES

BluStar 8000 and BluStar for Conference Room

The software is pre-installed on the devices at delivery and once the configuration files have been configured in the system, all the user needs to do is log on to the terminal with username and (optional) password.

BluStar for PC

The BluStar for PC needs to be installed on the PC.

The installation can either be automated (silent) using the .msi package or manually using the .exe file.

Depending upon the level of pre-configuration done by the system administrator the user may be required to enter additional data at first startup of the application e.g. extension number, password, email address.

Microsoft Office integration. Once the Office applications are installed, make a normal BluStar for PC installation. Then, in the BluStar for PC application's Options menu you mark the checkbox for usage of the BluStar client as default IM provider.

If the Lync plug-in should be used the Lync client software must be installed first.

BluStar for iOS

The BluStar for iOS is installed by downloading it from Apple AppStore. (Search for Mitel)

The administrator should then send an e-mail to the users iOS e-mail account containing the aastra.cfg file. The user then should open the e-mail attachment with the BluStar application. The client will then download the configuration from the location specified in the aastra.cfg file.

The location of the configuration files needs to be accessible to the client and therefore it is recommended that the iOS device is connected to the corporate network via Wi-Fi.

BluStar Android

The BluStar for Android is installed by downloading it from Play Store (Search for Mitel).

The administrator should then send an e-mail to the users Android e-mail account containing the aastra.cfg file. The user then should open the e-mail attachment with the BluStar application. The client will then download the configuration from the location specified in the aastra.cfg file.

The location of the configuration files needs to be accessible to the client and therefore it is recommended that the Android device is connected to the corporate network via Wi-Fi.

BluStar Server

The BluStar Server is installed on a preconfigured Windows server (see BluStar Server Installation and Configuration Guide V 3.2). The installation may be done using the installation wizard or by using the setup MX-ONE.conf (rename to setup.conf after editing) file which will provide basic server configuration. To prepare the server for operation additional configuration needs to be done via the Web GUI.

6 DOCUMENTATION

Documents used in the BluStar Solution and installation overview:

- BluStar Server Admin Guide
- BluStar Server Product Description
- BluStar 8000 and BluStar for Conference Room, SIP Call Server Admin Guide
- BluStar 8000 and BluStar for Conference Room, MX-ONE Installation Instruction
- BluStar for PC Product Description
- BluStar for PC Parameters
- BluStar for PC Installation
- BluStar for PC Datasheet
- BluStar for iPad iPhone Product Description
- BluStar for iOS Admin Configuration Keys
- BluStar for iPad iPhone Datasheet
- BluStar for Android Product Description
- BluStar for Android Admin Configuration Keys
- BluStar for Android Datasheet