



IP Office 8.1

Avaya Scopia Installation Notes

Notice

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

Documentation disclaimer

"Documentation" means information published by Avaya in varying mediums which may include product information, operating instructions and performance specifications that Avaya may generally make available to users of its products and Hosted Services. Documentation does not include marketing materials. Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of documentation unless such modifications, additions, or deletions were performed by Avaya. End User agrees to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked websites referenced within this site or documentation provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warranty

Avaya provides a limited warranty on Avaya hardware and software. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product while under warranty is available to Avaya customers and other parties through the Avaya Support website: <https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010> under the link "Warranty & Product Lifecycle" or such successor site as designated by Avaya. Please note that if You acquired the product(s) from an authorized Avaya Channel Partner outside of the United States and Canada, the warranty is provided to You by said Avaya Channel Partner and not by Avaya.

"Hosted Service" means a hosted service subscription that You acquire from either Avaya or an authorized Avaya Channel Partner (as applicable) and which is described further in Hosted SAS or other service description documentation regarding the applicable hosted service. If You purchase a Hosted Service subscription, the foregoing limited warranty may not apply but You may be entitled to support services in connection with the Hosted Service as described further in your service description documents for the applicable Hosted Service. Contact Avaya or Avaya Channel Partner (as applicable) for more information.

Hosted Service

THE FOLLOWING APPLIES IF YOU PURCHASE A HOSTED SERVICE SUBSCRIPTION FROM AVAYA OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE), THE TERMS OF USE FOR HOSTED SERVICES ARE AVAILABLE ON THE AVAYA WEBSITE, [HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO](https://support.avaya.com/licenseinfo) UNDER THE LINK "Avaya Terms of Use for Hosted Services" OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, AND ARE APPLICABLE TO ANYONE WHO ACCESSES OR USES THE HOSTED SERVICE. BY ACCESSING OR USING THE HOSTED SERVICE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THE TERMS OF USE. IF YOU ARE ACCEPTING THE TERMS OF USE ON BEHALF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS OF USE. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF YOU DO NOT WISH TO ACCEPT THESE TERMS OF USE, YOU MUST NOT ACCESS OR USE THE HOSTED SERVICE OR AUTHORIZE ANYONE TO ACCESS OR USE THE HOSTED SERVICE. YOUR USE OF THE HOSTED SERVICE SHALL BE LIMITED BY THE NUMBER AND TYPE OF LICENSES PURCHASED UNDER YOUR CONTRACT FOR THE HOSTED SERVICE, PROVIDED, HOWEVER, THAT FOR CERTAIN HOSTED SERVICES IF APPLICABLE, YOU MAY HAVE THE OPPORTUNITY TO USE FLEX LICENSES, WHICH WILL BE INVOICED ACCORDING TO ACTUAL USAGE ABOVE THE CONTRACT LICENSE LEVEL. CONTACT AVAYA OR AVAYA'S CHANNEL PARTNER FOR MORE INFORMATION ABOUT THE LICENSES FOR THE APPLICABLE HOSTED SERVICE, THE AVAILABILITY OF ANY FLEX LICENSES (IF APPLICABLE), PRICING AND BILLING INFORMATION, AND OTHER IMPORTANT INFORMATION REGARDING THE HOSTED SERVICE.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, [HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO](https://support.avaya.com/licenseinfo), UNDER THE LINK "AVAYA SOFTWARE LICENSE TERMS (Avaya Products)" OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AVAYA CHANNEL PARTNER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA CHANNEL PARTNER; AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("AVAYA").

Avaya grants You a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to You. "Software" means computer programs in object code, provided by Avaya or an Avaya Channel Partner, whether as stand-alone products, pre-installed on hardware products, and any upgrades, updates, patches, bug fixes, or modified versions thereto. "Designated Processor" means a single stand-alone computing device. "Server" means a Designated Processor that hosts a software application to be accessed by multiple users. "Instance" means a single copy of the Software executing at a particular time: (i) on one physical machine; or (ii) on one deployed software virtual machine ("VM") or similar deployment.

License type(s)

Designated System(s) License (DS). End User may install and use each copy or an Instance of the Software only on a number of Designated Processors up to the number indicated in the order. Avaya may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, Instance, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Avaya, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software. Units may be linked to a specific, identified Server or an Instance of the Software.

Database License (DL). End User may install and use each copy or an Instance of the Software on one Server or on multiple Servers provided that each of the Servers on which the Software is installed communicates with no more than one Instance of the same database.

CPU License (CP). End User may install and use each copy or Instance of the Software on a number of Servers up to the number indicated in the order provided that the performance capacity of the Server(s) does not exceed the performance capacity specified for the Software. End User may not re-install or operate the Software on Server(s) with a larger performance capacity without Avaya's prior consent and payment of an upgrade fee.

Named User License (NU). You may: (i) install and use each copy or Instance of the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use each copy or Instance of the Software on a Server so long as only authorized Named Users access and use the Software. "Named User", means a user or device that has been expressly authorized by Avaya to access and use the Software. At Avaya's sole discretion, a "Named User" may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software.

Shrinkwrap License (SR). You may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickthrough" license accompanying or applicable to the Software ("Shrinkwrap License").

Heritage Nortel Software

"Heritage Nortel Software" means the software that was acquired by Avaya as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software is the software contained within the list of Heritage Nortel Products located at <https://support.avaya.com/LicenseInfo> under the link "Heritage Nortel Products" or such successor site as designated by Avaya. For Heritage Nortel Software, Avaya grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or for communication with Avaya equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

Copyright

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation, Software, Hosted Service, or hardware provided by Avaya. All content on this site, the documentation, Hosted Service, and the product provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software unless expressly authorized by Avaya. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

Virtualization

The following applies if the product is deployed on a virtual machine. Each product has its own ordering code and license types. Note that each Instance of a product must be separately licensed and ordered. For example, if the end user customer or Avaya Channel Partner would like to install two Instances of the same type of products, then two products of that type must be ordered.

Third Party Components

"Third Party Components" mean certain software programs or portions thereof included in the Software or Hosted Service may contain software (including open source software) distributed under third party agreements ("Third Party Components"), which contain terms regarding the rights to use certain portions of the Software ("Third Party Terms"). As required, information regarding distributed Linux OS source code (for those products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the products, Documentation or on Avaya's website at: <https://support.avaya.com/Copyright> or such successor site as designated by Avaya. The open source software license terms provided as Third Party Terms are consistent with the license rights granted in these Software License Terms, and may contain additional rights benefiting You, such as modification and distribution of the open source software. The Third Party Terms shall take precedence over these Software License Terms, solely with respect to the applicable Third Party Components to the extent that these Software License Terms impose greater restrictions on You than the applicable Third Party Terms.

The following applies if the H.264 (AVC) codec is distributed with the product. THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).

Service Provider

THE FOLLOWING APPLIES TO AVAYA CHANNEL PARTNER'S HOSTING OF AVAYA PRODUCTS OR SERVICES. THE PRODUCT OR HOSTED SERVICE MAY USE THIRD PARTY COMPONENTS SUBJECT TO THIRD PARTY TERMS AND REQUIRE A SERVICE PROVIDER TO BE INDEPENDENTLY LICENSED DIRECTLY FROM THE THIRD PARTY SUPPLIER. AN AVAYA CHANNEL PARTNER'S HOSTING OF AVAYA PRODUCTS MUST BE AUTHORIZED IN WRITING BY AVAYA AND IF THOSE HOSTED PRODUCTS USE OR EMBED CERTAIN THIRD PARTY SOFTWARE, INCLUDING BUT NOT LIMITED TO MICROSOFT SOFTWARE OR CODECS, THE AVAYA CHANNEL PARTNER IS REQUIRED TO INDEPENDENTLY OBTAIN ANY APPLICABLE LICENSE AGREEMENTS, AT THE AVAYA CHANNEL PARTNER'S EXPENSE, DIRECTLY FROM THE APPLICABLE THIRD PARTY SUPPLIER.

WITH RESPECT TO CODECS, IF THE AVAYA CHANNEL PARTNER IS HOSTING ANY PRODUCTS THAT USE OR EMBED THE G.729 CODEC, H.264 CODEC, OR H.265 CODEC, THE AVAYA CHANNEL PARTNER ACKNOWLEDGES AND AGREES THE AVAYA CHANNEL PARTNER IS RESPONSIBLE FOR ANY AND ALL RELATED FEES AND/OR ROYALTIES. THE G.729 CODEC IS LICENSED BY SIPRO LAB TELECOM INC. SEE WWW.SIPRO.COM/CONTACT.HTML. THE H.264 (AVC) CODEC IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO: (I) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (II) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION FOR H.264 (AVC) AND H.265 (HEVC) CODECS MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://WWW.MPEGLA.COM).

Compliance with Laws

Customer acknowledges and agrees that it is responsible for complying with any applicable laws and regulations, including, but not limited to laws and regulations related to call recording, data privacy, intellectual property, trade secret, fraud, and music performance rights, in the country or territory where the Avaya product is used.

Preventing Toll Fraud

"Toll Fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of Toll Fraud associated with your system and that, if Toll Fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Toll Fraud intervention

If You suspect that You are being victimized by Toll Fraud and You need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support website: <https://support.avaya.com> or such successor site as designated by Avaya.

Security Vulnerabilities

Information about Avaya's security support policies can be found in the Security Policies and Support section of <https://support.avaya.com/security>. Suspected Avaya product security vulnerabilities are handled per the Avaya Product Security Support Flow (<https://support.avaya.com/css/P8/documents/100161515>).

Downloading Documentation

For the most current versions of Documentation, see the Avaya Support website: <https://support.avaya.com>, or such successor site as designated by Avaya.

Contact Avaya Support

See the Avaya Support website: <https://support.avaya.com> for product or Hosted Service notices and articles, or to report a problem with your Avaya product or Hosted Service. For a list of support telephone numbers and contact addresses, go to the Avaya Support website: <https://support.avaya.com> (or such successor site as designated by Avaya), scroll to the bottom of the page, and select Contact Avaya Support.

Contents

1. Overview

1.1 Avaya Scopia Components Overview.....	10
1.2 IP Office Components Overview.....	12
1.3 Small Enterprise Deployment.....	13
1.4 Large Enterprise Deployment.....	14
1.5 Known Interoperation Limitations.....	15

2. Small Enterprise Deployment

2.1 IP Office Deployment Process.....	19
2.2 Prerequisites.....	19
2.3 Checking the IP Office Licenses.....	20
2.4 Checking IP Office SIP Support.....	21
2.5 Creating IP Office Users.....	22
2.6 Creating IP Office SIP Extensions.....	23
2.7 Configuring the Scopia XT Series SIP Connection.....	24

3. Large Enterprise Deployment

3.1 IP Office Deployment Process.....	27
3.2 Prerequisites.....	27
3.3 Checking the IP Office Licenses.....	28
3.4 Checking IP Office SIP Support.....	29
3.5 System Default Codecs.....	30
3.6 Adding the SIP Trunk.....	31
3.7 Configuring the Scopia MCU.....	33
3.8 Adding a Short Code.....	34
3.8.1 Simple Short Code Example.....	34
3.8.2 Flexible Short Code Example.....	35
3.9 Creating IP Office Users.....	36
3.10 Creating IP Office SIP Extensions.....	37
3.11 Configuring the Scopia XT Series SIP Connection.....	38
Index	39

Chapter 1.

Overview

1. Overview

This document provides notes for the interoperation of Avaya Scopia video conferencing with Avaya IP Office systems.

- Avaya Scopia products are supported with IP Office Essential Edition, IP Office Preferred Edition, IP Office Advanced Edition or Server Edition systems running IP Office Release 8.1 Q3 2012 Service Pack (8.1.52), IP Office Release 8.0 FP1 and higher only.
- IP Office to Avaya Scopia interoperation is supported with Avaya Scopia components running Avaya Scopia Release 7.7 software and higher.

This document covers the following scenarios:

- [Small Enterprise Deployment](#)^[13]
This scenario uses a Scopia XT5000 as the video conferencing server (MCU) for up to 9 video conference users at any time in a single conference. Those users can be H.323 and SIP video devices and applications hosted by a Scopia XT Desktop Server.
- [Large Enterprise Deployment](#)^[14]
This scenario uses a Avaya Scopia Elite MCU (Scopia XT4200 or Scopia XT5000) as the video conferencing server.

	Small Enterprise Deployment	Large Enterprise Deployment
Conference Server (MCU)	Scopia XT5000	Elite Series MCU
Conference Capacity	1 conference only of up to 9 parties	Unlimited - according to the MCU capacity.
Conference Scheduling	No	Yes
Desktop and mobile access	Yes - via Scopia XT Desktop Server	Yes - via Scopia Desktop Server
External access (Firewall traversal)	Yes - via Scopia XT5000	Yes - via Scopia PathFinder Server
Point-to-point calls	Yes	Yes

Installer/Maintainer Knowledge

- This document assumes that you are familiar with using the applications in the IP Office Admin Suite (IP Office Manager, System Status Application, IP Office System Monitor) to configure and monitor an IP Office system.
- This document does not cover the configuration of the Avaya Scopia systems in detail. The separate Avaya Scopia documentation for the Avaya Scopia components used in the deployment cover that configuration. Avaya assume that you are either familiar with the installation and configuration of those components or supported by an experienced Avaya Scopia installer/maintainer.

1.1 Avaya Scopia Components Overview

This page gives a quick overview of the different Avaya Scopia system components supported by IP Office Release 8.1 Q3 2012 Service Pack (8.1.52). For full details of each component, refer to the relevant Avaya Scopia manual.

- IP Office to Avaya Scopia interoperability is supported with Avaya Scopia components running Avaya Scopia Release 7.7 software and higher.

Conference Servers

The central part of the video conference system is an Multipoint Conferencing Units (MCU). The MCU hosts the video conference. The MCUs supported for use with IP Office are:

- **Elite Series Conference Servers**

These MCUs support H.323 and SIP video devices, either directly or, for external devices, via a Scopia PathFinder Server. They also support users accessing video conferences using applications on their PC or mobile who connect via a Scopia Desktop Server. The different models of MCU support different video conferencing capacities and can be expanded in capacity by the addition of licenses to their configuration. Elite MCU series supported with IP Office are:

- **Elite 5000 MCU Series**

Supported with Avaya Scopia Release 7.7 and higher and IP Office Release 8.1 Q3 2012 Service Pack (8.1.52) and IP Office Release 8.1 Feature Pack 1.

- **Elite 6000 MCU Series**

Supported with Avaya Scopia Release 8.0 and IP Office Release 8.1 Q3 2012 Service Pack (8.1.52).

- **Scopia XT5000**

For small enterprise deployments, one Scopia XT5000 unit (see Conference Room Video Systems below) is put into MCU mode through the addition of licenses. There are two licensed MCU modes:

- **Scopia XT Series MCU Edition**

In this mode, the Scopia XT5000 acts as a video conferencing MCU hosting video conferences for H.323 and SIP video end points. You can choose a license for up to 4 or 9 participants.

- **Scopia XT Series SMB Edition**

In this mode, the Scopia XT5000 acts as a video conferencing MCU hosting video conferences for H.323 and SIP video end points and for Scopia XT Desktop Server clients. The license includes the software for a Scopia XT Desktop Server. You can choose a license for up to 4 or 9 participants.

Conference Room Video Systems

IP Office supports the following conference room systems. Each consists of a main unit, high-quality remote controllable video camera and room microphone/speaker. Each also provides ports for connection of additional microphones, multiple monitor displays and PC connections for media sharing.

- **Scopia XT4200**

The Scopia XT4200 offers dual 720p/60fps live video and content, HD audio, H.264 High Profile, Scalable Video Coding (SVC) and optional iPad control.

- **Scopia XT5000**

The Scopia XT5000 offers dual 1080p/60fps live video and content, HD audio, H.264 High Profile, Scalable Video Coding (SVC) and iPad control. For small enterprise deployments, a Scopia XT5000 is required to act as the conference server (see Conference Servers above).

Video Applications

- **Scopia XT Desktop Server/Scopia Desktop Server**

Scopia Desktop Server is a server application that lets users use the freely distributable Scopia PC Desktop or Scopia Mobile applications to participate in conferences. While internal users can use these applications, the Scopia Desktop Server supports NAT and firewall traversal, making it ideal for external parties to join a conference when required. The small enterprise deployment uses the Scopia XT Desktop Server; the large enterprise deployment uses the Scopia Desktop Server.

- **Scopia PC Desktop**

Scopia PC Desktop is a web browser plug-in that allows PC users to participate in conferences through their PC. The plug-in connects to the MCU via the Scopia XT Desktop Server or Scopia Desktop Server.

- **Scopia Mobile**

Scopia Mobile is an app that allows users to participate in conferences using their mobile devices. The plug-in connects to the MCU via the Scopia XT Desktop Server or Scopia Desktop Server.

- Scopia Mobile iOS allows iPad, iPhone and iPod Touch users to participate in conferences. Supported on iOS 4 and above.
 - Scopia Mobile Android allows Android device users to participate in conferences. Supported on Android 2.3 and above.

Personal Video Systems

IP Office supports the following high quality video system in a large enterprise deployment:

- **Scopia XTE240**

The Scopia XTE240 is a high-resolution desktop monitor with integrated HD videoconferencing camera and microphone. The Scopia XTE240 can operate as a standalone desktop HD videoconferencing device or as a 24-inch high-resolution monitor and camera in conjunction with a PC. The Scopia XTE240 registers with the Avaya Scopia system as a SIP or H.323 device. It does not register to the IP Office system as an IP Office extension.

Additional Components

For the large enterprise deployment scenario, the following additional components are used:

- **Scopia Management**

This application provides a single interface through which all other Avaya Scopia components can be monitored, administered and configured. It can remotely configure the other components including performing software and firmware upgrades. It also provides conference monitoring and scheduling facilities.

- **Scopia PathFinder Server**

The Scopia PathFinder Server provides firewall and NAT traversal for external H.323 devices. This allows external H.323 video devices to join video conferences hosted in the customer's private network whilst retaining network security. The Scopia PathFinder Server works in conjunction with a Scopia Elite Series MCU.

1.2 IP Office Components Overview

Supported IP Office Releases

The following IP Office releases support IP Office to Avaya Scopia interoperation:

- **Small Enterprise Deployment:** 8.1 Q3 2012 Service Pack (8.1.52) or IP Office Release 8.1 Feature Pack 1.
- **Large Enterprise Deployment:** 8.1 Q3 2012 Service Pack (8.1.52).

Supported IP Office Platforms

The following IP Office platforms and operating modes support Avaya Scopia:

- **IP Office IP500 V2**
Operating in *Essential Edition*, *Preferred Edition* or *Advanced Edition* mode.
- **IP Office Server Edition**

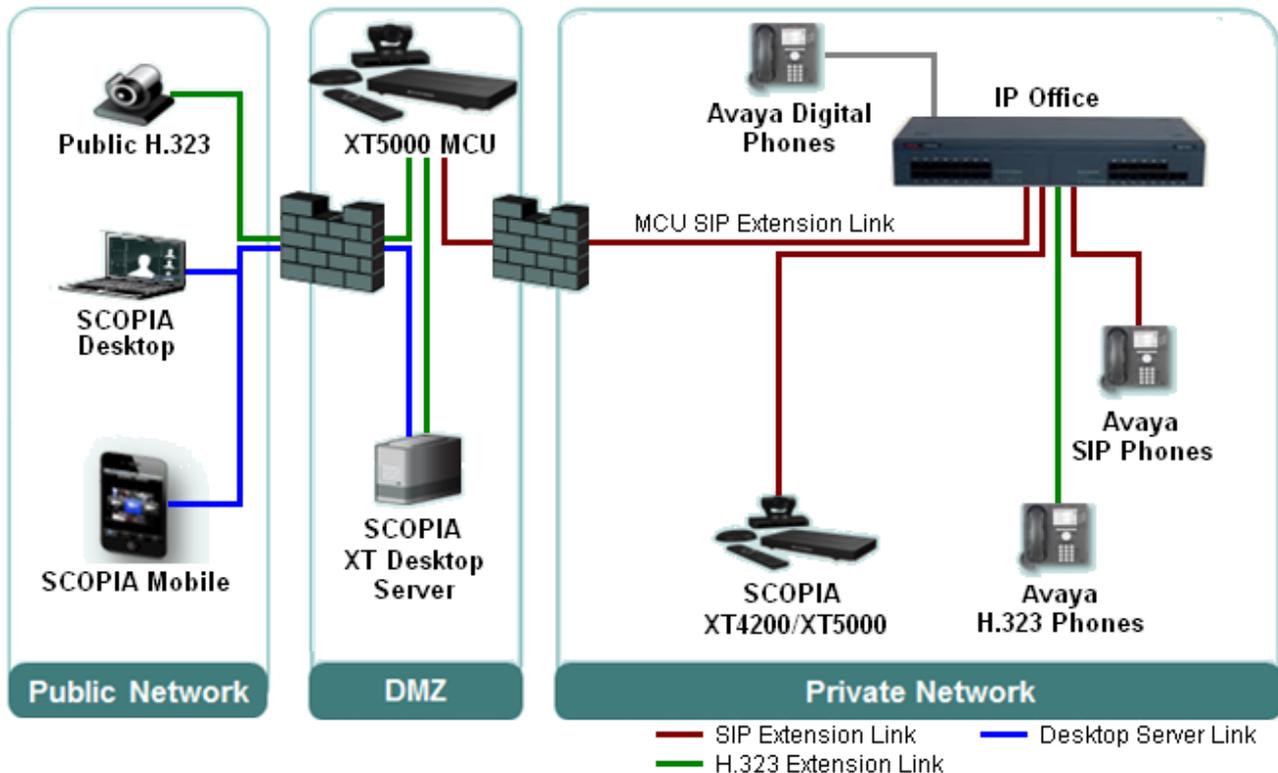
Supported IP Office Telephones

The following IP Office extension telephones supported for Avaya Scopia:

- **Avaya 96x1 Series H.323 telephones**
- **Avaya 9500 Series digital telephones**
- **Avaya 1600 Series H.323 telephones**
- **Avaya 1408 and 1416 digital telephones**
- **Avaya B179 SIP conference telephone**
- **Avaya Flare**

1.3 Small Enterprise Deployment

For customers with simple small-scale video conferencing needs, the small enterprise deployment uses a Scopia XT5000 unit licensed to act as the conferencing server. It can do this for 4 or 9 conference parties in a single video conference.



- One Scopia XT5000 is licensed and configured for MCU operation using a **SCOPIA XT Series MCU Edition** or **SCOPIA XT Series SMB Edition** license. The license used enables either 4 or 9 parties in a video conference.
 - Placing the MCU mode Scopia XT5000 in the customer DMZ allows external H.323 video devices to access conferences without having to configure NAT and other firewall traversal for external devices into the customer's internal private network.
 - The MCU mode Scopia XT5000 is licensed and registered as a SIP extension on the IP Office system. Other IP Office users, incoming call routes and short code access the video conference by using the extension number assigned to the user created for the MCU mode Scopia XT5000.
- Any other Scopia XT Series systems on the customer's network registers with the IP Office as a SIP extension.
- The Scopia XT Desktop Server allows users using the Scopia PC Desktop on PCs and the Scopia Mobile application on mobile devices to join conferences. Placed in the customer's DMZ, the Scopia Desktop Server performs NAT and firewall functions for users if external to the customer's private network. This requires the **SCOPIA XT Series SMB Edition** license.

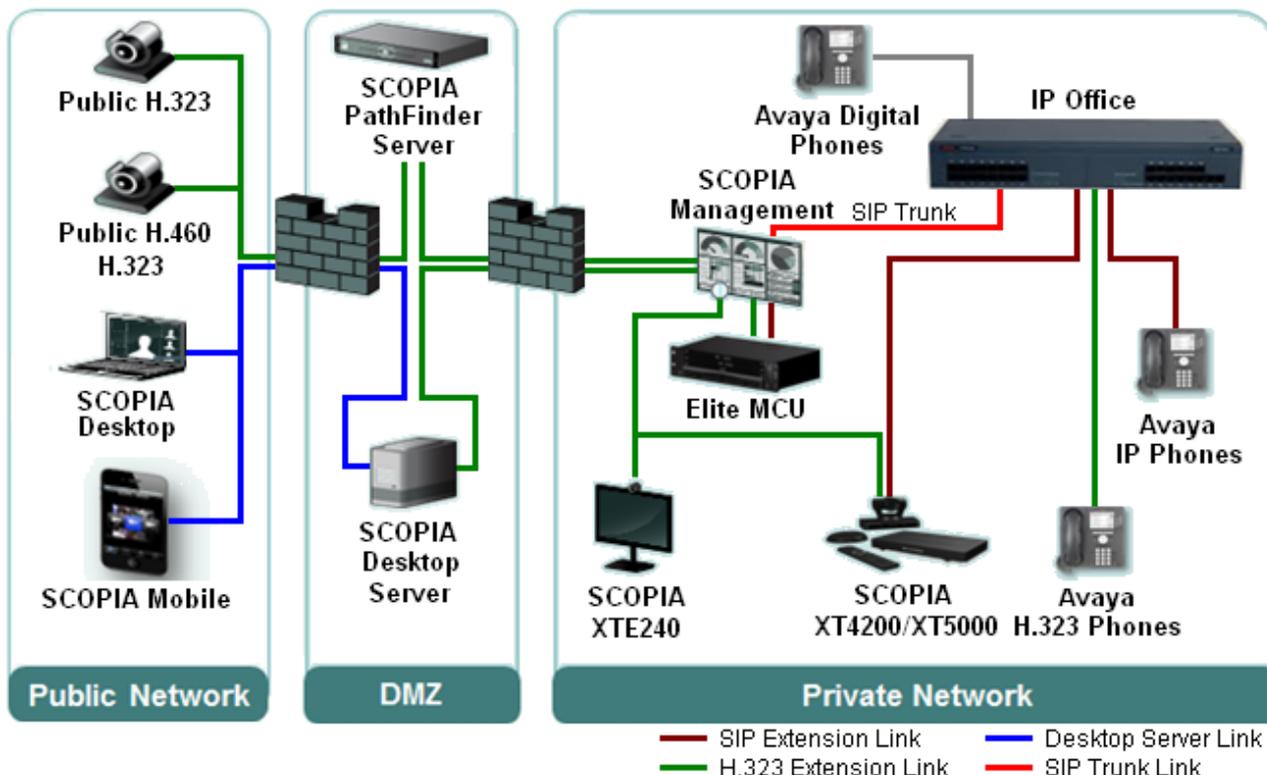
Supported IP Office Telephones

The following IP Office extension telephones supported for Avaya Scopia:

- **Avaya 96x1 Series H.323 telephones**
- **Avaya 9500 Series digital telephones**
- **Avaya 1600 Series H.323 telephones**
- **Avaya 1408 and 1416 digital telephones**
- **Avaya B179 SIP conference telephone**
- **Avaya Flare** (*audio features only*)

1.4 Large Enterprise Deployment

For customers with requirements for large scale and multiple conferences, an Elite series MCU is required (or in fact multiple Elite series MCUs). Each Elite Series MCU supports multiple conference parties in multiple conferences.



- The customer's private network includes the Elite MCU or MCUs.
- Installed on a customer server, Scopia Management provides centralized management of all the Avaya Scopia components and conferences including conference scheduling.
 - A SIP trunk links the IP Office system to the Scopia Management server.
 - The Avaya Scopia video devices on the customer's network connect to the Scopia Management server.
- The Scopia Desktop Server allows users using the Scopia PC Desktop on PCs and the Scopia Mobile application on mobile devices to join conferences. Placed in the customer's DMZ, the Scopia Desktop Server performs NAT and firewall functions for users external to the customer's private network.
- The Scopia PathFinder Server in the customer's DMZ provides NAT and firewall traversal for external H.323 video devices to join conferences whilst maintaining security of the customer network.
- In this deployment, Scopia XTE240 video systems register with the Avaya Scopia system as their gatekeeper. Scopia XT4200 and Scopia XT5000 video systems register with both the IP Office and the Avaya Scopia system.

Supported IP Office Telephones

The following IP Office extension telephones supported for Avaya Scopia:

- **Avaya 96x1 Series H.323 telephones**
- **Avaya 9500 Series digital telephones**
- **Avaya 1600 Series H.323 telephones**
- **Avaya 1408 and 1416 digital telephones**
- **Avaya B179 SIP conference telephone**

1.5 Known Interoperation Limitations

The following are the current known limitations for Avaya Scopia interoperation.

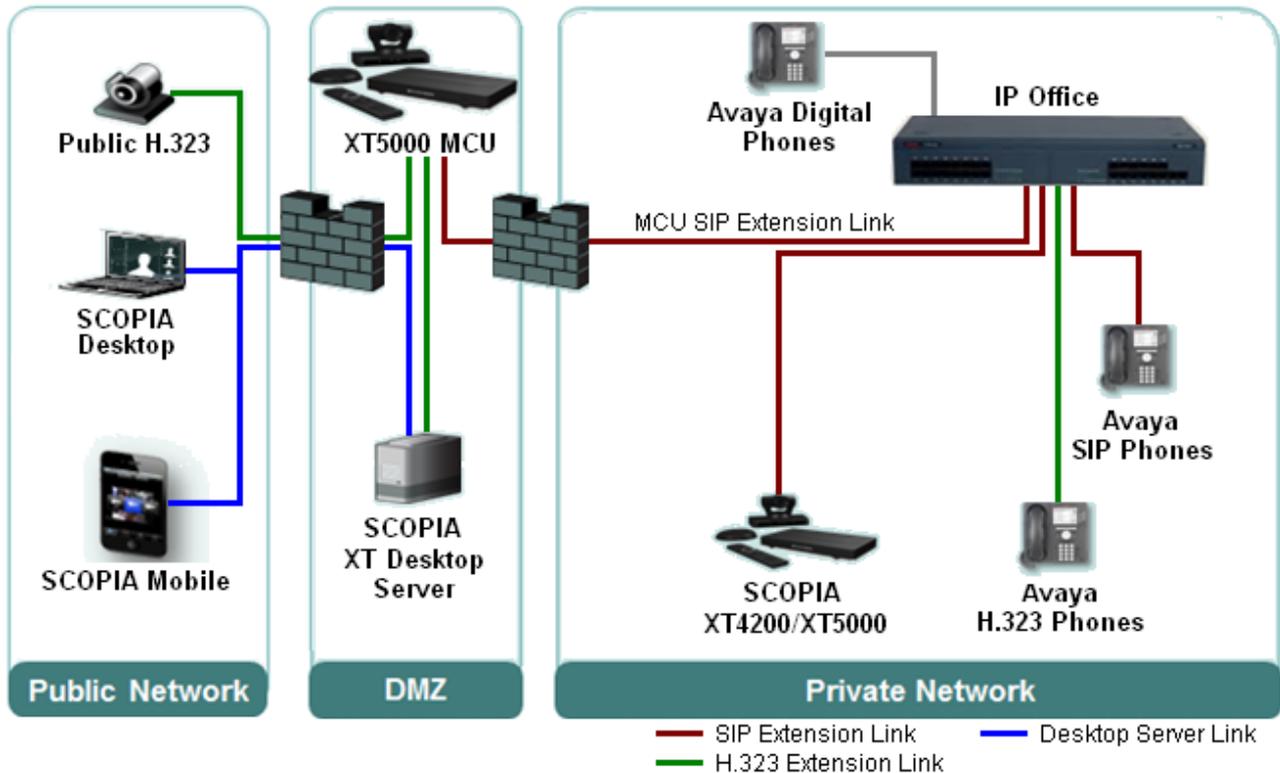
- Connections between IP Office end points and Avaya Scopia components must use **Direct Media**. This is currently not available for SIP trunks.
- IP Office does not support:
 - Short code feature dialing for Avaya Scopia video devices. That includes paging, call queue and call pickup short code features. The only exceptions are dial short code features.
 - Account codes and authorization codes for Avaya Scopia video devices.
 - Mid-call features, such as hold and transfer, from Avaya Scopia video devices.
 - Avaya Scopia video devices as IP Office hunt group members.
 - External video calls on SIP trunks.
- The Scopia XT Series units do not support:
 - When registered to the IP Office, the Content Sharing and Far End Camera Control features are not supported on SIP calls. They are supported on H.323 calls.
 - The G.729 audio codec is not supported with Scopia XT Series end points. Remove the codec from the IP Office configuration of those extensions.
- The IP Office Video Softphone is currently not supported as a video endpoint in Avaya Scopia video conferences.

Chapter 2.

Small Enterprise Deployment

2. Small Enterprise Deployment

For customers with simple small-scale video conferencing needs, the small enterprise deployment uses a Scopia XT5000 unit licensed to act as the conferencing server. It can do this for 4 or 9 conference parties in a single video conference.



- One Scopia XT5000 is licensed and configured for MCU operation using a **SCOPIA XT Series MCU Edition** or **SCOPIA XT Series SMB Edition** license. The license used enables either 4 or 9 parties in a video conference.
 - Placing the MCU mode Scopia XT5000 in the customer DMZ allows external H.323 video devices to access conferences without having to configure NAT and other firewall traversal for external devices into the customer's internal private network.
 - The MCU mode Scopia XT5000 is licensed and registered as a SIP extension on the IP Office system. Other IP Office users, incoming call routes and short code access the video conference by using the extension number assigned to the user created for the MCU mode Scopia XT5000.
- Any other Scopia XT Series systems on the customer's network registers with the IP Office as a SIP extension.
- The Scopia XT Desktop Server allows users using the Scopia PC Desktop on PCs and the Scopia Mobile application on mobile devices to join conferences. Placed in the customer's DMZ, the Scopia Desktop Server performs NAT and firewall functions for users if external to the customer's private network. This requires the **SCOPIA XT Series SMB Edition** license.

Supported IP Office Telephones

The following IP Office extension telephones supported for Avaya Scopia:

- **Avaya 96x1 Series H.323 telephones**
- **Avaya 9500 Series digital telephones**
- **Avaya 1600 Series H.323 telephones**
- **Avaya 1408 and 1416 digital telephones**
- **Avaya B179 SIP conference telephone**
- **Avaya Flare** (*audio features only*)

2.1 IP Office Deployment Process

The following stages are gone through in the process of integrating the Avaya Scopia system. To allow calls between the IP Office and the MCU, the MCU registers as a SIP extension on the IP Office system. Calls to the conference then use its IP Office extension number.

For this example, we assume that the Scopia XT5000 MCU added to the IP Office configuration has the extension number 800. In addition, any other Scopia XT Series devices register with the IP Office system as a SIP extension.

1. [Check the prerequisites](#) ^[19].
2. [Check or add the IP Office licenses](#) ^[20].
3. [Check IP Office SIP extension support](#) ^[21].
4. [Create an IP Office user](#) ^[22].
5. [Create an IP Office SIP extension](#) ^[23].
6. [Configure the Scopia XT Series SIP settings](#) ^[24].

2.2 Prerequisites

General Prerequisites

- This document assumes that you are familiar with using the applications in the IP Office Admin Suite (IP Office Manager, System Status Application, IP Office System Monitor) to configure and monitor an IP Office system.
- This document does not cover the configuration of the Avaya Scopia systems in detail. The separate Avaya Scopia documentation for the Avaya Scopia components used in the deployment cover that configuration. Avaya assume that you are either familiar with the installation and configuration of those components or supported by an experienced Avaya Scopia installer/maintainer.

IP Office Prerequisites

Avaya Scopia devices are supported on IP Office systems meeting the following prerequisites:

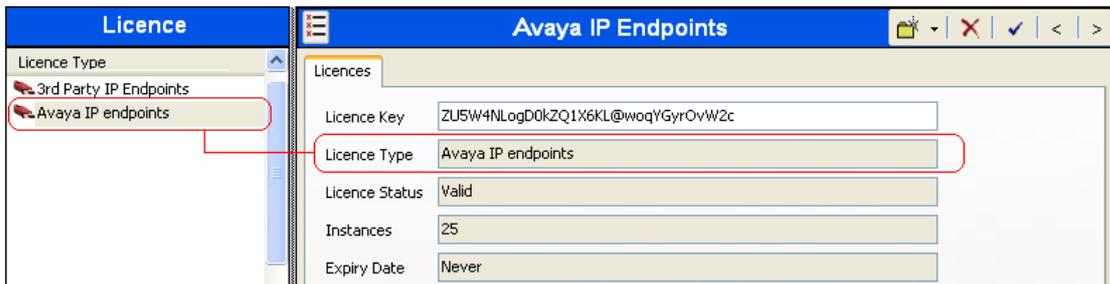
- **IP Office Platform:**
IP Office IP500 V2 or Server Edition.
- **IP Office Software Release:**
The IP Office system should be running IP Office Release 8.1 Q3 2012 Service Pack (8.1.52) or IP Office Release 8.1 Feature Pack 1 or higher core software.
- **IP Office Operating Mode:**
The IP Office system must be configured to run in either IP Office Essential Edition, IP Office Preferred Edition, IP Office Advanced Edition or Server Edition mode.
- **VCM Resources:**
Calls to and from IP devices (extension and trunks) require the IP Office system to support VCM channels. For IP Office IP500 V2 system those are provided by the installation of IP500 VCM cards or IP500 Combinations cards. Refer to the IP Office Installation Manual for full details.
- **IP Office Licenses:**
The following IP Office licenses are used specifically for the deployment:
 - Each Scopia XT4200 and Scopia XT5000 device in the deployment is registered with the IP Office system as a SIP extension. To do this, each uses one instance of the **Avaya IP End Point** license.

Avaya Scopia Prerequisites

- IP Office to Avaya Scopia interoperation is supported with Avaya Scopia components running Avaya Scopia Release 7.7 software and higher.
- The Scopia XT5000 in the customer's DMZ requires an Avaya Scopia **SCOPIA XT Series SMB Edition** license or **SCOPIA XT Series MCU Edition** license for either 4 or 9 conference parties.
- A Scopia XT Desktop Server is required for support of **Scopia PC Desktop** and **Scopia Mobile** users.

2.3 Checking the IP Office Licenses

IP Office licenses are 32-character strings that are unique to the IP Office system. Each IP Office system has a **Dongle Serial Number** or **System Identification** which is used as the key used to validate whether a license is valid for the system.



The following IP Office licenses are used:

- Each Scopia XT4200 and Scopia XT5000 device in the deployment is registered with the IP Office system as a SIP extension. To do this, each uses one instance of the **Avaya IP End Point** license.

To check the licenses

The System Status Application displays the status and usage of licenses. It can be used to display the status of licenses plus the number of licenses available and the number used.

1. Start System Status Application and login to the IP Office system.
2. Click on **Resources** in the left-hand navigation panel and select **Licenses**.
3. The information displayed details the status and usage of the licenses currently in the IP Office system's configuration.

To adding a license

The following process is used to add a license to an IP Office system configuration.

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **System**.

3. Select the System tab. The unique number used for license validation depends on the type of IP Office platform. For licenses to be valid they must have been issued against this number.

- **IP500 V2**
The field **Dongle Serial Number** shows the serial number of the System SD card installed in the system.
- **Server Edition**
The field **System Identification** is a unique number used to validate licenses issued for the system.

4. Select  **License**.

- a. To add a license, click  and select **License**. Enter the new license and click **OK**. We recommend that add licenses by cut and pasting them from a supplied file listing each 32-character license keys. That avoids potential issues with mistyping.

- b. The **Status** of the new license should show **Unknown** and name the license as expected. If the name is **Invalid**, the most likely cause is incorrect entry of the license key characters.

5. Click on the  **Save Config** icon to send the configuration back to the IP Office.

6. Use IP Office Manager to receive the configuration again and check that the status of the license. It should now be **Valid**.

2.4 Checking IP Office SIP Support

IP Office systems are by default configured to support SIP extensions on both their LAN1 and LAN2 interfaces. However, you should check the settings and be familiar with their location in the IP Office configuration.

To check IP Office SIP registrar operation

- **Note:** Changes to the LAN1 or LAN2 settings of an IP Office system will require the IP Office system to be rebooted.

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **System**.

3. Select either the **LAN1** or **LAN2** tab as required.

4. Select the **VoIP** sub-tab.



The screenshot shows the IP Office Manager configuration window with the 'System' tab selected. Under the 'LAN1' sub-tab, the 'VoIP' sub-tab is active. The 'SIP Registrar' sub-tab is selected, and the 'SIP Registrar Enable' checkbox is checked and highlighted with a red box. Other checked options include 'H323 Gatekeeper Enable' and 'SIP Trunks Enable'.

- Check that **SIP Registrar Enable** is selected.
- For a large enterprise deployment, check also that **SIP Trunks Enable** is also selected.

5. Select the **SIP Registrar** sub-tab.



The screenshot shows the IP Office Manager configuration window with the 'System' tab selected. Under the 'LAN1' sub-tab, the 'VoIP' sub-tab is active. The 'SIP Registrar' sub-tab is selected. The configuration fields are: Domain Name (blank), Layer 4 Protocol (Both TCP & UDP), TCP Port (5060), UDP Port (5060), Challenge Expiry Time (secs) (10), and Auto-create Extn/User (checked).

- **Domain Name:** *Default = Blank*
This is the local SIP registrar domain name that will be needed by SIP devices in order to register with the IP Office. If this field is left blank, registration is against the LAN IP address. The examples in this documentation all use registration against the LAN IP address.
- **Layer 4 Protocol:** *Default = Both TCP & UDP*
The transport protocol for SIP traffic between the IP Office and SIP extension devices. Both TCP and/or UDP can be used.
- **TCP Port:** *Default = 5060*
The SIP port if using TCP. The default is 5060.
- **UDP Port:** *Default = 5060*
The SIP port if using UDP. The default is 5060.
- **Challenge Expiry Time (sec):** *Default = 10*
The challenge expiry time is used during SIP extension registration. When a device registers, the IP Office SIP Registrar will send a challenge back to the device and waits for an appropriate response. If the response is not received within this timeout the registration is failed.
- **Auto-create Extn/User:** *Default = On*
If this option is selected, the IP Office will automatically create user and SIP extension entries in its configuration based on SIP extension registration. If this method is being used for installation, it is important to check that the settings created match the SIP device. It is also important to deselect this option after installation of the SIP extension devices.

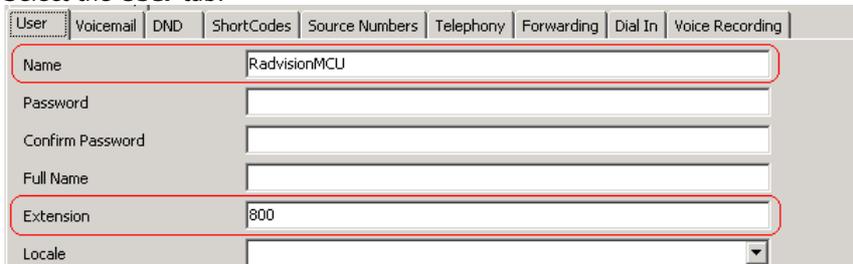
6. If you have made any changes, click the  **Save Config** icon to send the configuration back to the IP Office.

2.5 Creating IP Office Users

Create an IP Office user and an IP Office SIP extension entry in the IP Office configuration for each Scopia XT Series device, including the one acting as the MCU.

To add an extension user

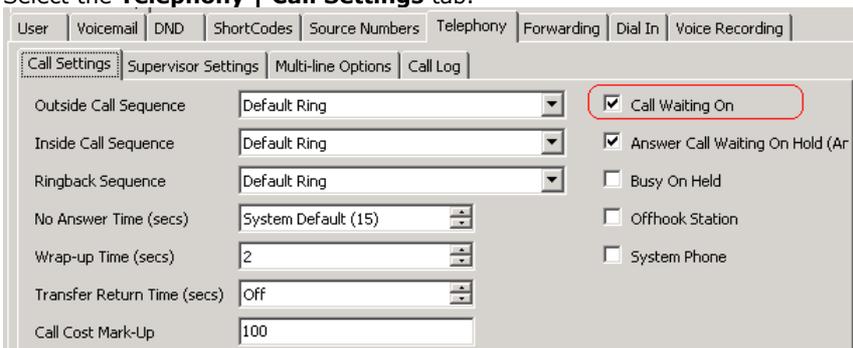
1. Using IP Office Manager, receive the configuration from the system.
2. Select  **User**.
3. Click on the  new entry icon and select **User**.
4. Select the **User** tab.



User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Name	RadvisionMCU							
Password								
Confirm Password								
Full Name								
Extension	800							
Locale								

- **Name**
Set a name that clearly identifies the role of this user in the IP Office configuration. With the IP Office SIP extension set to **Force Authorization** (the IP Office default and assumed for this example), this field is used as the authorization name that must be set in the SIP device's configuration. This matches the **Authorization Name** set in the Scopia XT Series device's configuration.
- **Extension**
This is the IP Office extension number for calls to the Scopia XT Series device. This should match the SIP ID of the SIP device, which is set through the **User** field of the device's SIP configuration.

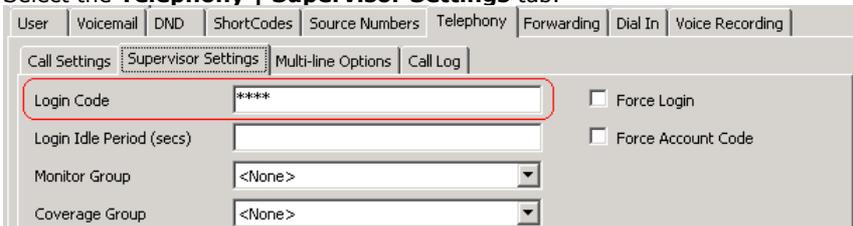
5. Select the **Telephony | Call Settings** tab.



User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Call Settings	Supervisor Settings	Multi-line Options	Call Log					
Outside Call Sequence	Default Ring	<input checked="" type="checkbox"/> Call Waiting On						
Inside Call Sequence	Default Ring	<input checked="" type="checkbox"/> Answer Call Waiting On Hold (Ar						
Ringback Sequence	Default Ring	<input type="checkbox"/> Busy On Held						
No Answer Time (secs)	System Default (15)	<input type="checkbox"/> Offhook Station						
Wrap-up Time (secs)	2	<input type="checkbox"/> System Phone						
Transfer Return Time (secs)	Off							
Call Cost Mark-Up	100							

- **Call Waiting On**
Enable this setting. This allows the Scopia XT Series device to handle multiple calls.

6. Select the **Telephony | Supervisor Settings** tab.



User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Call Settings	Supervisor Settings	Multi-line Options	Call Log					
Login Code	****	<input type="checkbox"/> Force Login						
Login Idle Period (secs)		<input type="checkbox"/> Force Account Code						
Monitor Group	<None>							
Coverage Group	<None>							

- **Login Code**
With the SIP extension set to **Force Authorization** (the default); this field acts as the authorization password that must be set in the SIP device's configuration. This matches the **Authorization Password** set in the Scopia XT Series device's configuration.

7. Click **OK**.
8. IP Office Manager prompts whether you want to create a VoIP extension for the new user. Select **SIP Extension** and click **OK**.
9. Click the  **Save Config** to save the configuration changes.
10. You now need to configure the matching IP Office extension for the MCU user.

2.6 Creating IP Office SIP Extensions

Create an IP Office user and an IP Office SIP extension entry in the IP Office configuration for each Scopia XT Series device including the one acting as the MCU.

To adding a SIP extension

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **Extension**.

3. If you selected to have a SIP extension automatically created after creating the IP Office user, locate and click on that extension entry. Otherwise, to manually create a new extension, click on the  new entry icon and select **SIP Extension** from the list of possible extension types.

4. Select the **Extn** tab.



- **Base Extension**

This is used to match the extension to which IP Office user entry that is the default user of the extension. Enter the extension number created for the IP Office user.

- **Force Authorization:** *Default = On*

Leave this setting enabled. When on, SIP devices registering with the IP Office must match the **Name** and **Login Code** configured for the user within the IP Office configuration. These are equivalent to the **Authorization Name** and **Authorization Password** set in the Scopia XT Series device's configuration.

5. Select the **VoIP** tab.



- **Codec Selection**

Do not use the G.729 audio codec with Scopia XT Series extensions. If shown in the **Selected** codecs list, change the **Codec Selection** to **Custom** and move the G.729 codec to the **Unused** list.

- **Allow Direct Media Path**

Enable this setting. Enabling it helps ensure that once a video call is established between the extension and the MCU, the video traffic can be routed directly between the two ends rather than having to be routed via the IP Office system.

- **Reserve Avaya IP Endpoint License**

Enable this setting. Each Scopia XT Series needs to use an Avaya IP End Point to register with the IP Office system. Normally, following a system restart, the system issues any available licenses to devices in the order that they register with the system. Selecting this option licenses the extension before the device has registered. IP Office Manager greys out the option if there are insufficient licenses available in the configuration.

6. Click **OK**.

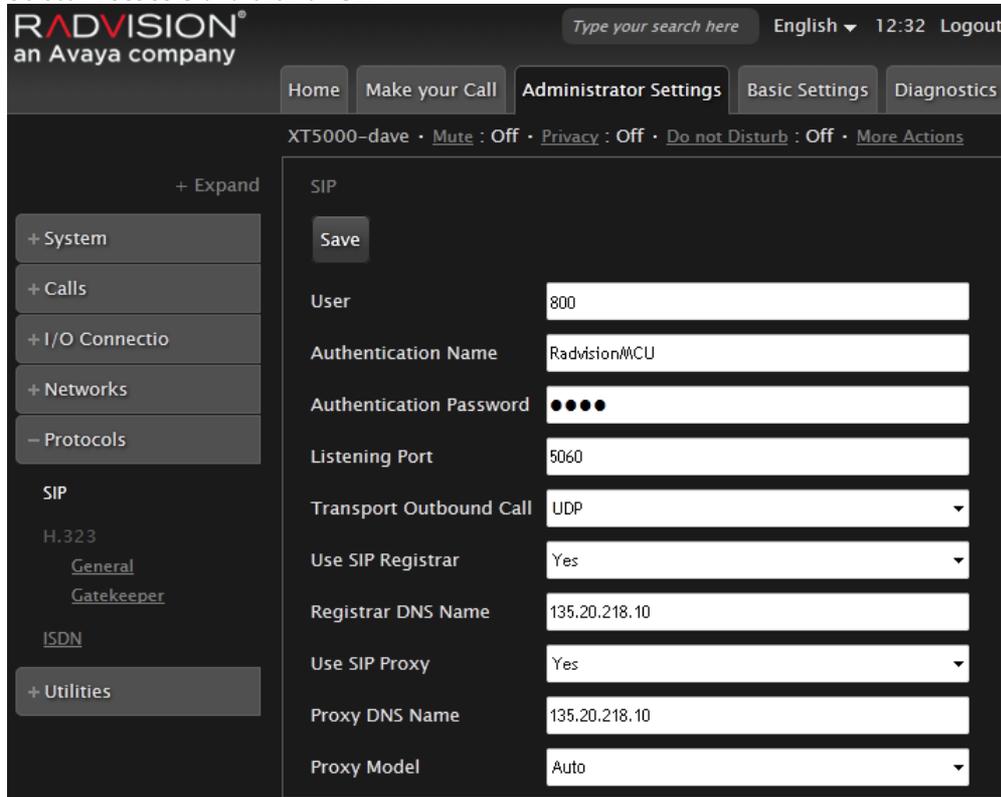
7. Repeat the processes of adding an IP Office user and a SIP extension for any other Click the  **Save Config** icon to save the configuration changes to the IP Office.

2.7 Configuring the Scopia XT Series SIP Connection

Make the following changes to the configuration of the Scopia XT Series device to register it with the IP Office as a SIP extension. The settings used match those configured for the SIP user and SIP extension it should use in the IP Office system's configuration.

To configure the MCU SIP settings

1. Using a web browser, log in to the configuration menus of the Scopia XT Series. Refer to the Avaya Scopia manuals for full details.
2. Select **Administrator Settings**.
3. Select **Protocols** and click on **SIP**.



The screenshot shows the configuration interface for a Scopia XT Series device. The top navigation bar includes 'Home', 'Make your Call', 'Administrator Settings', 'Basic Settings', and 'Diagnostics'. The 'Administrator Settings' tab is active. Below the navigation bar, there is a status bar for 'XT5000-dave' with options for 'Mute : Off', 'Privacy : Off', 'Do not Disturb : Off', and 'More Actions'. The left sidebar contains a tree view with categories like '+ System', '+ Calls', '+ I/O Connectio', '+ Networks', '- Protocols', 'SIP', 'H.323', 'ISDN', and '+ Utilities'. The 'SIP' category is expanded, showing sub-options: 'General', 'Gatekeeper', and 'ISDN'. The main content area displays the 'SIP' configuration form with a 'Save' button at the top left. The form fields are as follows:

Field	Value
User	800
Authentication Name	RadvisionMCU
Authentication Password	••••
Listening Port	5060
Transport Outbound Call	UDP
Use SIP Registrar	Yes
Registrar DNS Name	135.20.218.10
Use SIP Proxy	Yes
Proxy DNS Name	135.20.218.10
Proxy Model	Auto

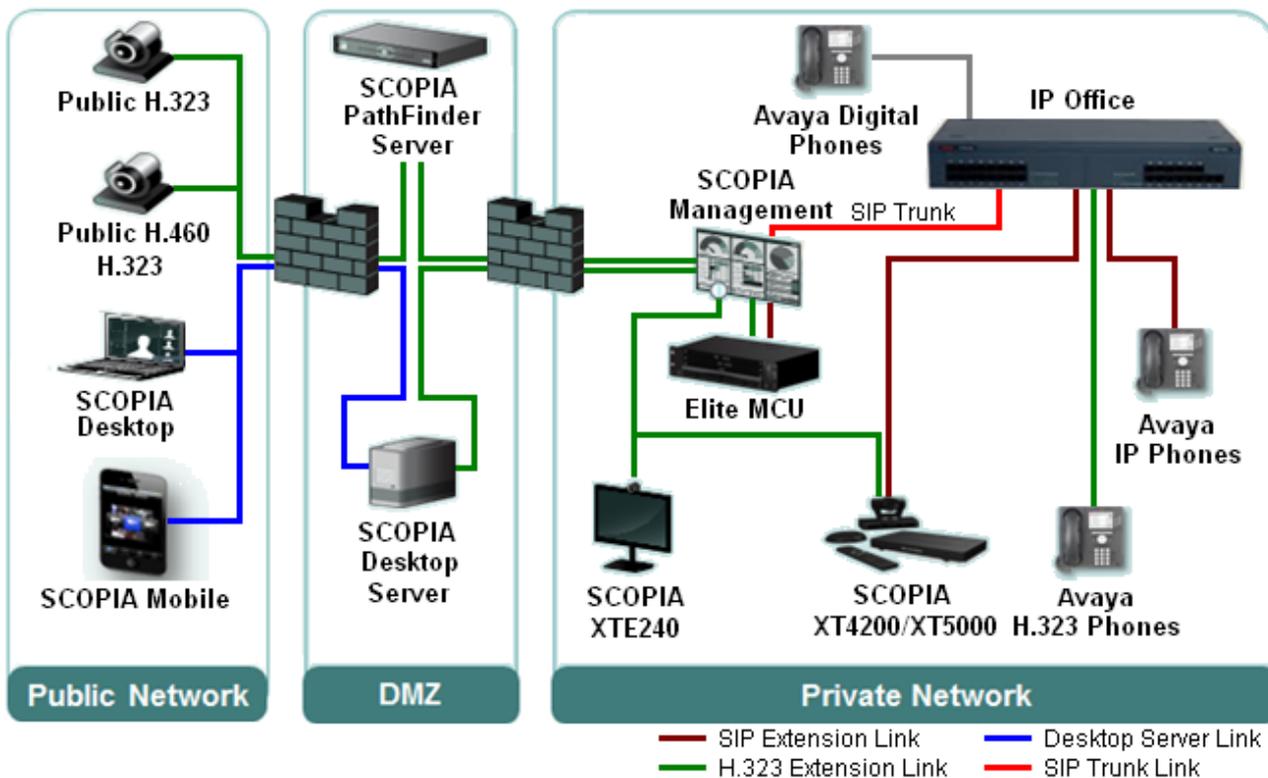
4. Change the SIP settings as follows:
 - a. **User:** Set this to match the extension number of the IP Office user configured on the IP Office system.
 - b. **Authentication Name:** Set this to match the **Name** set on the matching IP Office user.
 - c. **Authentication Password:** Set this to match the **Login Code** set on the matching IP Office user.
 - d. **Listening Port:** Set this to match the IP Office system setting. The default is 5060.
 - e. **Transport Outbound Call:** Set this to **UDP**.
 - f. **Use SIP Registrar:** Set this to **Yes**.
 - g. **Registrar DNS Name:** Set this to the IP Office system's IP address or fully qualified domain name.
 - h. **Use SIP Proxy:** Set this to **Yes**.
 - i. **Proxy DNS Name:** Set this to the IP Office system's IP address or fully qualified domain name.
 - j. **Proxy Model:** Leave this set to **Auto**.
5. Click **Save**.

Chapter 3.

Large Enterprise Deployment

3. Large Enterprise Deployment

For customers with requirements for large scale and multiple conferences, an Elite series MCU is required (or in fact multiple Elite series MCUs). Each Elite Series MCU supports multiple conference parties in multiple conferences.



- The customer's private network includes the Elite MCU or MCUs.
- Installed on a customer server, Scopia Management provides centralized management of all the Avaya Scopia components and conferences including conference scheduling.
 - A SIP trunk links the IP Office system to the Scopia Management server.
 - The Avaya Scopia video devices on the customer's network connect to the Scopia Management server.
- The Scopia Desktop Server allows users using the Scopia PC Desktop on PCs and the Scopia Mobile application on mobile devices to join conferences. Placed in the customer's DMZ, the Scopia Desktop Server performs NAT and firewall functions for users external to the customer's private network.
- The Scopia PathFinder Server in the customer's DMZ provides NAT and firewall traversal for external H.323 video devices to join conferences whilst maintaining security of the customer network.
- In this deployment, Scopia XTE240 video systems register with the Avaya Scopia system as their gatekeeper. Scopia XT4200 and Scopia XT5000 video systems register with both the IP Office and the Avaya Scopia system.

Supported IP Office Telephones

The following IP Office extension telephones supported for Avaya Scopia:

- **Avaya 96x1 Series H.323 telephones**
- **Avaya 9500 Series digital telephones**
- **Avaya 1600 Series H.323 telephones**
- **Avaya 1408 and 1416 digital telephones**
- **Avaya B179 SIP conference telephone**

3.1 IP Office Deployment Process

The following stages are gone through in the process of integrating the IP Office and Avaya Scopia systems.

1. [Check the prerequisites](#) ^[27].
2. [Check or add the IP Office licenses](#) ^[28].
3. [Check SIP support](#) ^[29].
4. [Add the SIP trunk](#) ^[31].
5. [Add a system short code to route calls](#) ^[34].
6. For any Scopia XT4200 and Scopia XT5000 devices:
 - a. [Create an IP Office user](#) ^[36].
 - b. [Create an IP Office extension](#) ^[37].
 - c. [Configure the Scopia XT Series SIP settings](#) ^[38].

3.2 Prerequisites

General Prerequisites

- This document assumes that you are familiar with using the applications in the IP Office Admin Suite (IP Office Manager, System Status Application, IP Office System Monitor) to configure and monitor an IP Office system.
- This document does not cover the configuration of the Avaya Scopia systems in detail. The separate Avaya Scopia documentation for the Avaya Scopia components used in the deployment cover that configuration. Avaya assume that you are either familiar with the installation and configuration of those components or supported by an experienced Avaya Scopia installer/maintainer.

IP Office Prerequisites

Avaya Scopia devices are supported on IP Office systems meeting the following prerequisites:

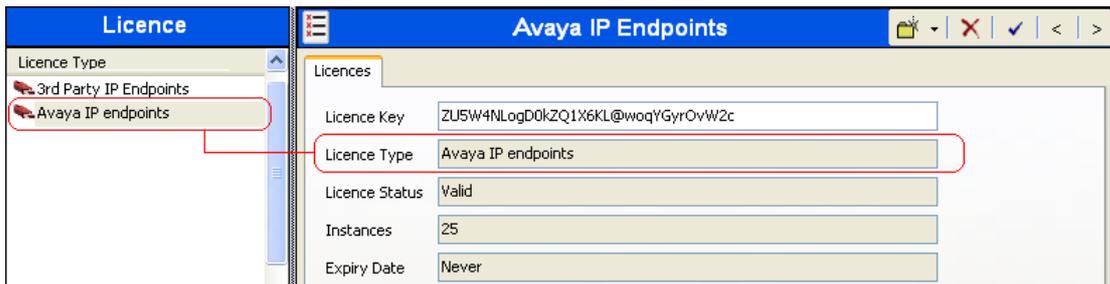
- **IP Office Platform:**
IP500 V2 or Server Edition system.
- **IP Office Software Release:**
The IP Office system should be running IP Office Release 8.1 Q3 2012 Service Pack (8.1.52) or higher core software.
- **IP Office Operating Mode:**
The IP Office system must be configured to run in either IP Office Essential Edition, IP Office Preferred Edition, IP Office Advanced Edition or Server Edition operating mode.
- **VCM Resources:**
Calls to and from IP devices (extension and trunks) require the IP Office system to support VCM channels. For IP Office IP500 V2 system those are provided by the installation of IP500 VCM cards or IP500 Combinations cards. Refer to the IP Office Installation Manual for full details. For Server Edition systems, VCM channels are provided without requiring any specific hardware or license.
- **IP Office Licenses:**
The following IP Office licenses are used specifically for the deployment:
 - The SIP trunk between the IP Office system and the Scopia Management server requires an IP Office **SIP Trunk Channels** license.

Avaya Scopia Prerequisites

- IP Office to Avaya Scopia interoperation is supported with Avaya Scopia components running Avaya Scopia Release 7.7 software and higher.

3.3 Checking the IP Office Licenses

IP Office licenses are 32-character strings that are unique to the IP Office system. Each IP Office system has a **Dongle Serial Number** or **System Identification** which is used as the key used to validate whether a license is valid for the system.



The following IP Office licenses are used:

- The SIP trunk between the IP Office system and the Scopia Management server requires an IP Office **SIP Trunk Channels** license.
- Each Scopia XT4200 and Scopia XT5000 device in the deployment is registered with the IP Office system as a SIP extension. To do this, each uses one instance of the **Avaya IP End Point** license.

To check the licenses

The System Status Application displays the status and usage of licenses. It can be used to display the status of licenses plus the number of licenses available and the number used.

1. Start System Status Application and login to the IP Office system.
2. Click on **Resources** in the left-hand navigation panel and select **Licenses**.
3. The information displayed details the status and usage of the licenses currently in the IP Office system's configuration.

To add a license

The following process is used to add a license to an IP Office system configuration.

1. Using IP Office Manager, receive the configuration from the system.
2. Select  **System**.
3. Select the System tab. The unique number used for license validation depends on the type of IP Office platform. For licenses to be valid they must have been issued against this number.
 - **IP500 V2**
The field **Dongle Serial Number** shows the serial number of the System SD card installed in the system.
 - **Server Edition**
The field **System Identification** is a unique number used to validate licenses issued for the system.
4. Select  **License**.
 - a. To add a license, click  and select **License**. Enter the new license and click **OK**. We recommend that add licenses by cut and pasting them from a supplied file listing each 32-character license keys. That avoids potential issues with mistyping.
 - b. The **Status** of the new license should show **Unknown** and name the license as expected. If the name is **Invalid**, the most likely cause is incorrect entry of the license key characters.
5. Click on the  **Save Config** icon to send the configuration back to the IP Office.
6. Use IP Office Manager to receive the configuration again and check that the status of the license. It should now be **Valid**.

3.4 Checking IP Office SIP Support

IP Office systems are by default configured to support SIP extensions on both their LAN1 and LAN2 interfaces. However, you should check the settings and be familiar with their location in the IP Office configuration.

To check IP Office SIP registrar operation

- **Note:** Changes to the LAN1 or LAN2 settings of an IP Office system will require the IP Office system to be rebooted.

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **System**.

3. Select either the **LAN1** or **LAN2** tab as required.

4. Select the **VoIP** sub-tab.



The screenshot shows the IP Office Manager configuration interface. The 'System' tab is selected, and the 'LAN1' sub-tab is active. Under the 'VoIP' sub-tab, the 'SIP Registrar' section is visible. Three checkboxes are present: 'H323 Gatekeeper Enable', 'SIP Trunks Enable', and 'SIP Registrar Enable'. The 'SIP Registrar Enable' checkbox is checked and highlighted with a red circle.

- Check that **SIP Registrar Enable** is selected.
- For a large enterprise deployment, check also that **SIP Trunks Enable** is also selected.

5. Select the **SIP Registrar** sub-tab.



The screenshot shows the IP Office Manager configuration interface with the 'SIP Registrar' sub-tab selected. The following settings are visible:

- Domain Name: [Blank text box]
- Layer 4 Protocol: Both TCP & UDP (dropdown menu)
- TCP Port: 5060 (spin box)
- UDP Port: 5060 (spin box)
- Challenge Expiry Time (secs): 10 (spin box)
- Auto-create Extn/User:

- **Domain Name:** *Default = Blank*
This is the local SIP registrar domain name that will be needed by SIP devices in order to register with the IP Office. If this field is left blank, registration is against the LAN IP address. The examples in this documentation all use registration against the LAN IP address.
- **Layer 4 Protocol:** *Default = Both TCP & UDP*
The transport protocol for SIP traffic between the IP Office and SIP extension devices. Both TCP and/or UDP can be used.
- **TCP Port:** *Default = 5060*
The SIP port if using TCP. The default is 5060.
- **UDP Port:** *Default = 5060*
The SIP port if using UDP. The default is 5060.
- **Challenge Expiry Time (sec):** *Default = 10*
The challenge expiry time is used during SIP extension registration. When a device registers, the IP Office SIP Registrar will send a challenge back to the device and waits for an appropriate response. If the response is not received within this timeout the registration is failed.
- **Auto-create Extn/User:** *Default = On*
If this option is selected, the IP Office will automatically create user and SIP extension entries in its configuration based on SIP extension registration. If this method is being used for installation, it is important to check that the settings created match the SIP device. It is also important to deselect this option after installation of the SIP extension devices.

6. If you have made any changes, click the  **Save Config** icon to send the configuration back to the IP Office.

3.5 System Default Codecs

By default, all IP extensions and lines added to an IP Office system's configuration use that system's default codec preferences. This is shown by the **Codec Selection** settings the individual trunk or extension being set to **System Default**. Using this setting simplifies configuration and ensure consistent operation. However, if necessary, the individual codec preferences for a particular extension or line can be adjusted.

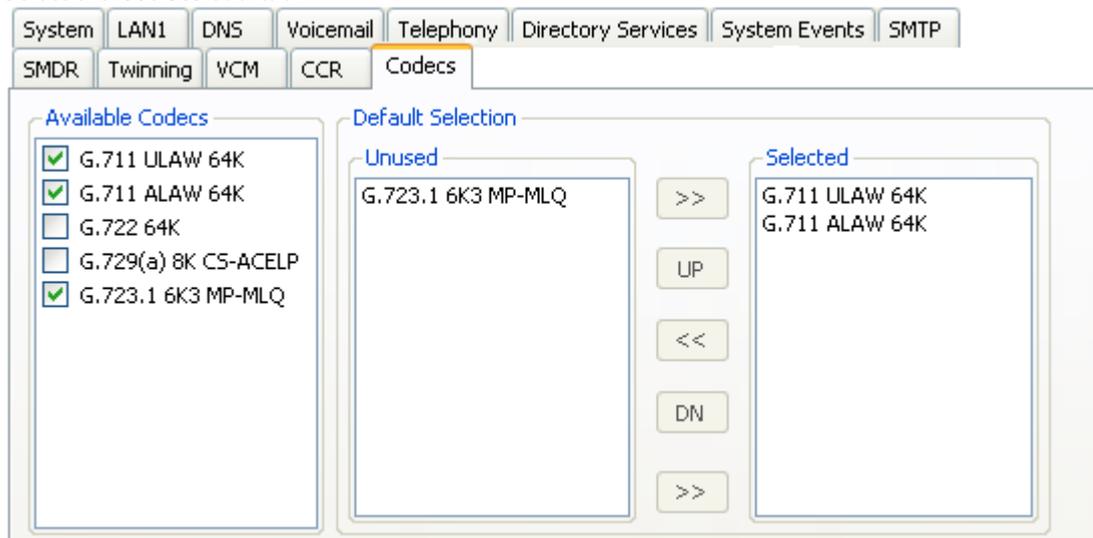
The IP Office supports G.711, G.729a, G.723 and G.722. However, G.722 is not supported if the system contains any IP400 VCM cards. Avaya Scopia systems do not support G.723 and only support G.729 if additional licenses for the codec are added to the Avaya Scopia system configuration.

To check and changing the default system codec preferences

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **System**.

3. Select the **Codecs** sub-tab.



4. The **Available Codecs** list shows which codecs the system supports. The codecs in this list which enabled are those that can be used in other configuration forms including the adjacent default selection.

- **! WARNING**

Deselecting a codec from the **Available Codecs** list will automatically remove that codec from any line or extension codec lists which have been edited to use that codec. Reselecting that codec with not automatically add the codec back to those lists.

5. The **Default Selection** section is used to set the default codec preference order. This is used by all IP extensions and lines on the system that have their **Codec Selection** setting set to **System Default**. This is the default for all new added IP extension and lines.

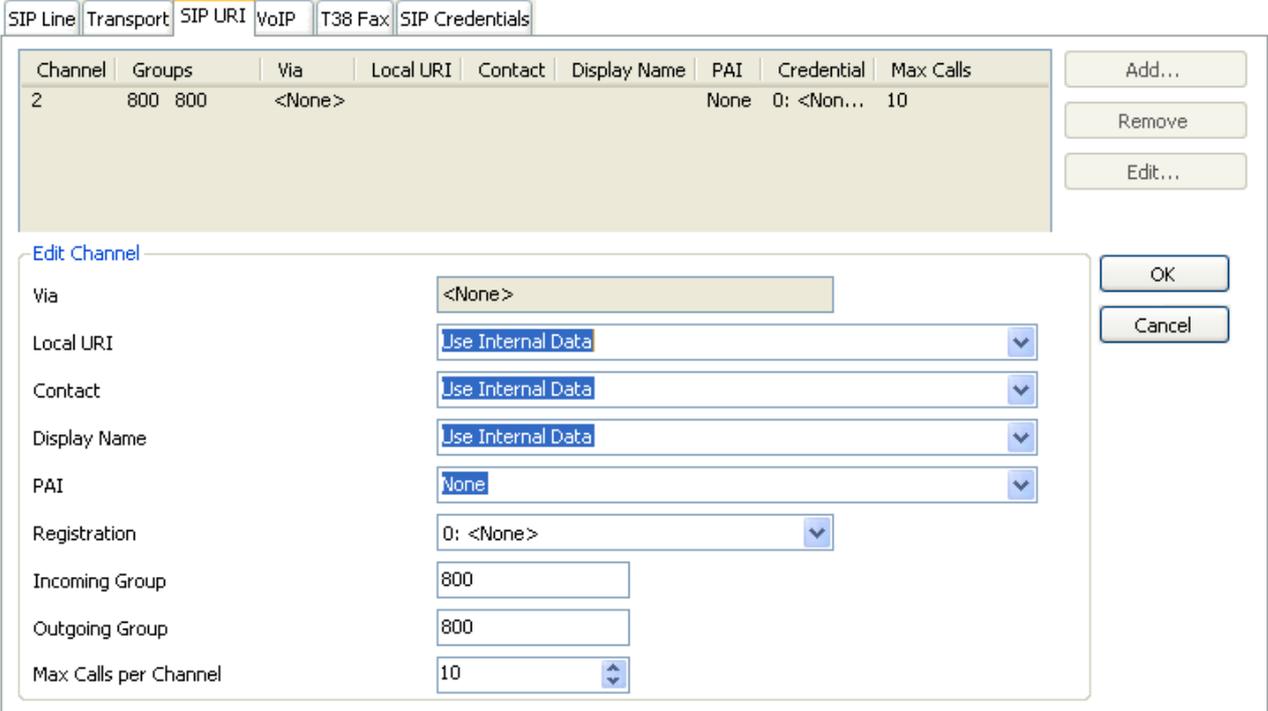
6. If these settings need to be changed, do so and then save the configuration back to the system.

3.6 Adding the SIP Trunk

The IP Office uses a SIP trunk to connect with the Scopia Management server. This trunk is used to route calls from the IP Office system to the Avaya Scopia video conferencing system.

To add a SIP trunk to the IP Office

- Using IP Office Manager, receive the configuration from the system.
- Select  **Line**.
- Click on the  new entry icon and select **SIP Line**.
- Select the **SIP Line** tab.
 - ITSP Domain Name**
Set this to the IP address or the fully qualified domain name of the Scopia Management server.
- Select the **SIP URI** tab. At least one URI is required.



Channel	Groups	Via	Local URI	Contact	Display Name	PAI	Credential	Max Calls
2	800 800	<None>				None	0: <Non...	10

Edit Channel

Via: <None>

Local URI: Use Internal Data

Contact: Use Internal Data

Display Name: Use Internal Data

PAI: None

Registration: 0: <None>

Incoming Group: 800

Outgoing Group: 800

Max Calls per Channel: 10

- Click **Add**.
- Enter a unique line group number in the **Incoming Group** field. This can then be used to setup specific incoming call routing for calls the IP Office receives that are matched to this URI. For this example we used **800**.
- Enter a unique line group number in the **Outgoing Group** field. This can then be used as the destination for outgoing calls in IP Office [short codes](#)^[34]. For this example we used **800**.
- Click **OK**.

6. Select the **VoIP** tab.

The screenshot shows the configuration interface for the VoIP tab. At the top, there are tabs for SIP Line, Transport, SIP URI, VoIP (selected), T38 Fax, and SIP Credentials. The main configuration area includes:

- Codec Selection:** A dropdown menu set to "System Default". Below it are two lists: "Unused" (empty) and "Selected" (containing G.711 ULAW 64K, G.711 ALAW 64K, G.722 64K, G.729(a) 8K CS-ACELP, and G.723.1 6K3 MP-MLQ). Navigation buttons (>>, ↑, ↓, <<, >>) are between the lists.
- Options:** A list of checkboxes on the right: VoIP Silence Suppression, Re-invite Supported, Use Offerer's Preferred Code, Codec Lockdown, and PRACK/100rel Supported.
- Fax Transport Support:** A dropdown menu set to "None".
- Call Initiation Timeout (s):** A numeric input field set to "4".
- DTMF Support:** A dropdown menu set to "Inband", which is highlighted with a red box.

a. Change the **DTMF Support** setting to **Inband**. This is necessary to ensure that the entry of conference PINs works.

b. Click **OK**.

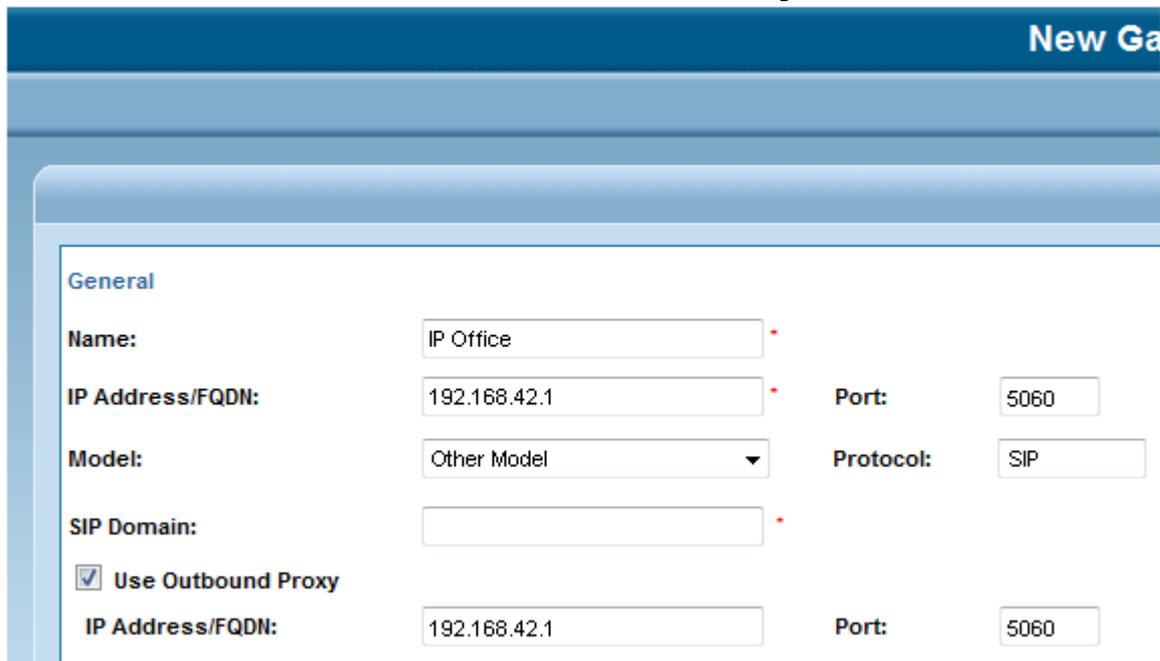
7. Click the  **Save Config** icon to send the configuration back to the IP Office.

3.7 Configuring the Scopia MCU

Configure the Elite Series MCU with details of the IP Office as the gatekeeper/SIP proxy.

To configure the Scopia MCU

1. In the Scopia Management configuration menus, select **Resource Management | Gatekeeper/Sip proxy**.
2. Select **Add** and enter details that match the IP Office and its SIP settings.



The screenshot shows a web-based configuration interface for a Scopia MCU. At the top right, there is a blue header with the text "New Gatekeeper". Below this, a form titled "General" is displayed. The form contains several fields for configuration:

Name:	<input type="text" value="IP Office"/>		
IP Address/FQDN:	<input type="text" value="192.168.42.1"/>	Port:	<input type="text" value="5060"/>
Model:	<input type="text" value="Other Model"/>	Protocol:	<input type="text" value="SIP"/>
SIP Domain:	<input type="text"/>		
<input checked="" type="checkbox"/> Use Outbound Proxy			
IP Address/FQDN:	<input type="text" value="192.168.42.1"/>	Port:	<input type="text" value="5060"/>

3.8 Adding a Short Code

In order to route internal calls dialed on the IP Office system to the Avaya Scopia system, a system short code can be used. This short code is set with its destination as the **Outgoing Group** number of the SIP trunk to the Scopia Management server.

Once a short code has been created, it can be used by IP Office users to access the video conferencing system. It can also be used as the destination for external calls in IP Office Incoming Call Routes and in Voicemail Pro call flow actions.

3.8.1 Simple Short Code Example

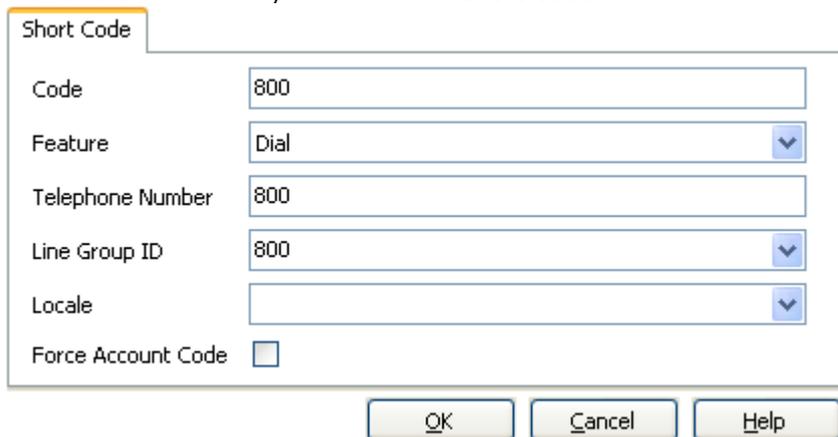
In this example, a single system short code is used to allow users to access the auto attendant service configured on the Avaya Scopia MCU.

To add a simple system short code to route calls to the conference server

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **Short Code**.

3. Click on the  new entry icon and select **Short Code**.



Code	800
Feature	Dial
Telephone Number	800
Line Group ID	800
Locale	
Force Account Code	<input type="checkbox"/>

OK Cancel Help

- **Code**

This field will be used to trigger a short code match to the dialing. For this example, we want this short code used whenever the IP Office system sees 800 dialed by a user.

- **Feature**

The action that this short code should perform when matched is to dial a number so the **Feature** selected is **Dial**.

- **Telephone Number**

This number should match the service configured as the auto attendant service on the Avaya Scopia MCU. The caller is taken to an interactive menu of conference rooms from which they can select the conference they want to enter.

- **Line Group ID**

This field should be set to match the **Outgoing Group** number set on the SIP trunk URI added to the [SIP trunk](#) to the Scopia Management server. For this example we used 800.

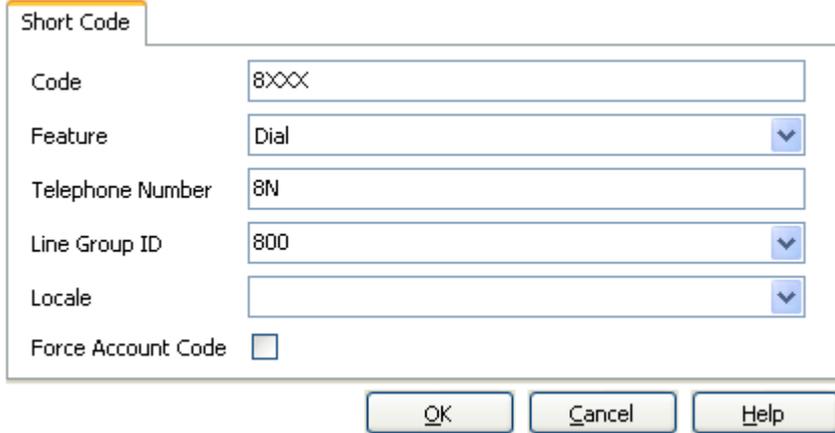
4. Click the  **Save Config** icon to send the configuration back to the IP Office.

3.8.2 Flexible Short Code Example

In this example, a single system short code is used to allow users to access any service configured on the Avaya Scopia MCU. It assumes that the video services have all been given consistent numbering in the range 8000 to 8999.

To add a flexible system short code to route calls to the conference services

- Using IP Office Manager, receive the configuration from the system.
- Select  **Short Code**.
- Click on the  new entry icon and select **Short Code**.



Code	8XXX
Feature	Dial
Telephone Number	8N
Line Group ID	800
Locale	
Force Account Code	<input type="checkbox"/>

OK Cancel Help

- Code**
 Setting the Code to **8XXX** will match the dialing of any four digit number prefixed with 8.
- Feature**
 The action that this short code should perform when matched is to dial a number so the **Feature** selected is **Dial**.
- Telephone Number**
 Setting the Telephone Number to 8N will replace the **N** with the digits dialed for **XXX**.
- If the number matches the service configured as the auto attendant service, the caller is taken to an interactive menu of conference rooms from which they can select the conference they want to enter,
- If the number matches another service, the user either starts or joins that conference service.
- Line Group ID**
 This field should be set to match the **Outgoing Group** number set on the SIP trunk URI added to the [SIP trunk](#) to the Scopia Management server. For this example we used 800.

- Click the  **Save Config** icon to send the configuration back to the IP Office.

3.9 Creating IP Office Users

Create IP Office user and extension entries in the IP Office configuration for each Scopia XT4200 and Scopia XT5000 device as they register with both the IP Office system and the Avaya Scopia system. These entries are not required for the Scopia XTE240 as it only registers with the Avaya Scopia system.

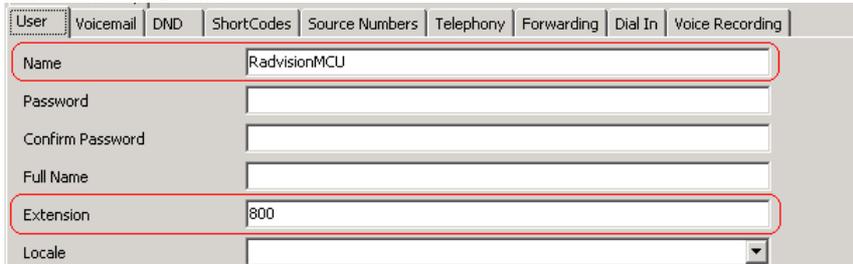
To add an extension user

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **User**.

3. Click on the  new entry icon and select **User**.

4. Select the **User** tab.



User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Name	RadvisionMCU							
Password								
Confirm Password								
Full Name								
Extension	800							
Locale								

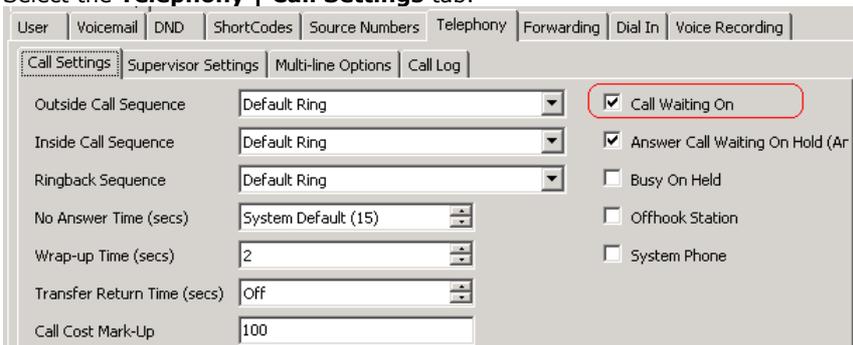
- **Name**

Set a name that clearly identifies the role of this user in the IP Office configuration. With the IP Office SIP extension set to **Force Authorization** (the IP Office default and assumed for this example), this field is used as the authorization name that must be set in the SIP device's configuration. This matches the **Authorization Name** set in the Scopia XT Series device's configuration.

- **Extension**

This is the IP Office extension number for calls to the Scopia XT Series device. This should match the SIP ID of the SIP device, which is set through the **User** field of the device's SIP configuration.

5. Select the **Telephony | Call Settings** tab.

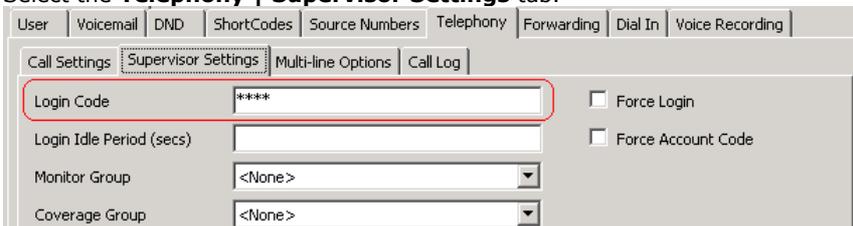


User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Call Settings	Supervisor Settings	Multi-line Options	Call Log					
Outside Call Sequence	Default Ring	<input checked="" type="checkbox"/> Call Waiting On						
Inside Call Sequence	Default Ring	<input checked="" type="checkbox"/> Answer Call Waiting On Hold (Ar						
Ringback Sequence	Default Ring	<input type="checkbox"/> Busy On Held						
No Answer Time (secs)	System Default (15)	<input type="checkbox"/> Offhook Station						
Wrap-up Time (secs)	2	<input type="checkbox"/> System Phone						
Transfer Return Time (secs)	Off							
Call Cost Mark-Up	100							

- **Call Waiting On**

Enable this setting. This allows the Scopia XT Series device to handle multiple calls.

6. Select the **Telephony | Supervisor Settings** tab.



User	Voicemail	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording
Call Settings	Supervisor Settings	Multi-line Options	Call Log					
Login Code	****	<input type="checkbox"/> Force Login						
Login Idle Period (secs)		<input type="checkbox"/> Force Account Code						
Monitor Group	<None>							
Coverage Group	<None>							

- **Login Code**

With the SIP extension set to **Force Authorization** (the default); this field acts as the authorization password that must be set in the SIP device's configuration. This matches the **Authorization Password** set in the Scopia XT Series device's configuration.

7. Click **OK**.

8. IP Office Manager prompts whether you want to create a VoIP extension for the new user. Select **SIP Extension** and click **OK**.

9. Click the  **Save Config** to save the configuration changes.

10. You now need to configure the matching IP Office extension for the MCU user.

3.10 Creating IP Office SIP Extensions

Create IP Office user and extension entries in the IP Office configuration for each Scopia XT4200 and Scopia XT5000 device as they register with both the IP Office system and the Avaya Scopia system. These entries are not required for the Scopia XTE240 as it only registers with the Avaya Scopia system.

To adding a SIP extension

1. Using IP Office Manager, receive the configuration from the system.

2. Select  **Extension**.

3. If you selected to have a SIP extension automatically created after creating the IP Office user, locate and click on that extension entry. Otherwise, to manually create a new extension, click on the  new entry icon and select **SIP Extension** from the list of possible extension types.

4. Select the **Extn** tab.

- **Base Extension**

This is used to match the extension to which IP Office user entry that is the default user of the extension. Enter the extension number created for the IP Office user.

- **Force Authorization: Default = On**

Leave this setting enabled. When on, SIP devices registering with the IP Office must match the **Name** and **Login Code** configured for the user within the IP Office configuration. These are equivalent to the **Authorization Name** and **Authorization Password** set in the Scopia XT Series device's configuration.

5. Select the **VoIP** tab.

- **Codec Selection**

Do not use the G.729 audio codec with Scopia XT Series extensions. If shown in the **Selected** codecs list, change the **Codec Selection** to **Custom** and move the G.729 codec to the **Unused** list.

- **Allow Direct Media Path**

Enable this setting. Enabling it helps ensure that once a video call is established between the extension and the MCU, the video traffic can be routed directly between the two ends rather than having to be routed via the IP Office system.

- **Reserve Avaya IP Endpoint License**

Enable this setting. Each Scopia XT Series needs to use an Avaya IP End Point to register with the IP Office system. Normally, following a system restart, the system issues any available licenses to devices in the order that they register with the system. Selecting this option licenses the extension before the device has registered. IP Office Manager greys out the option if there are insufficient licenses available in the configuration.

6. Click **OK**.

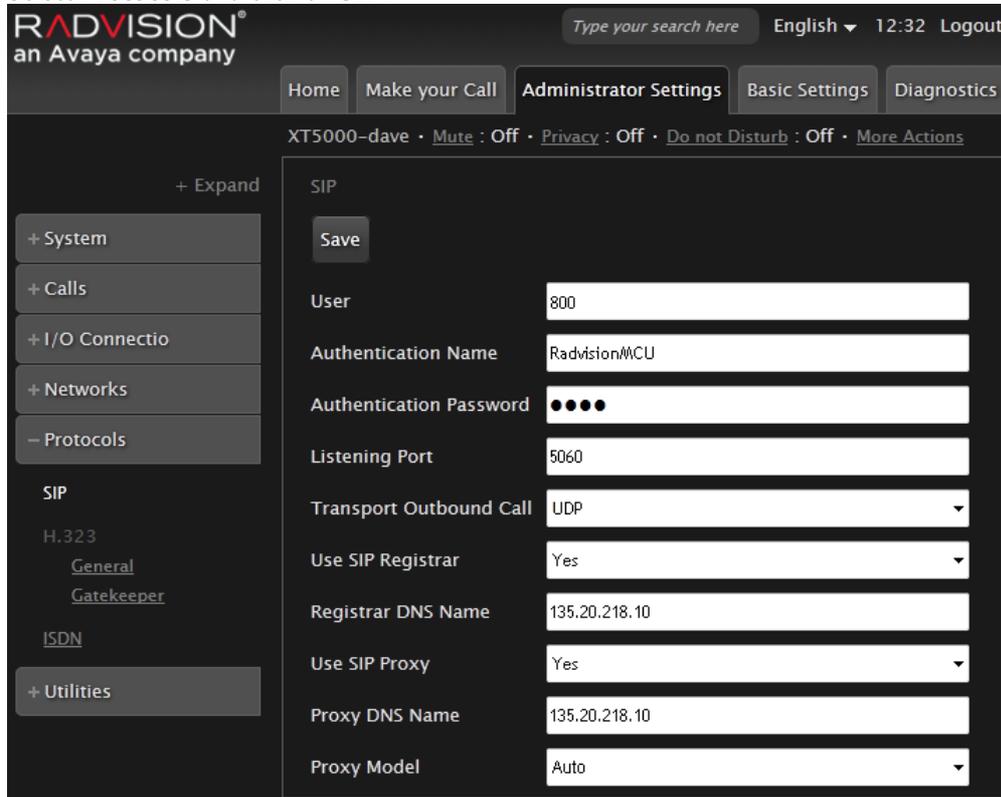
7. Repeat the processes of adding an IP Office user and a SIP extension for any other Click the  **Save Config** icon to save the configuration changes to the IP Office.

3.11 Configuring the Scopia XT Series SIP Connection

Make the following changes to the configuration of the Scopia XT Series device to register it with the IP Office as a SIP extension. The settings used match those configured for the SIP user and SIP extension it should use in the IP Office system's configuration.

To configure the MCU SIP settings

1. Using a web browser, log in to the configuration menus of the Scopia XT Series. Refer to the Avaya Scopia manuals for full details.
2. Select **Administrator Settings**.
3. Select **Protocols** and click on **SIP**.



The screenshot shows the Avaya Scopia Administrator Settings interface. The top navigation bar includes 'Home', 'Make your Call', 'Administrator Settings', 'Basic Settings', and 'Diagnostics'. The 'Administrator Settings' tab is active. Below the navigation bar, the user 'XT5000-dave' is logged in, with status indicators for Mute (Off), Privacy (Off), and Do not Disturb (Off). A left sidebar contains expandable sections for System, Calls, I/O Connections, Networks, Protocols, SIP, H.323, ISDN, and Utilities. The 'SIP' section is expanded, showing a 'Save' button and a list of configuration fields: User (800), Authentication Name (RadvisionMCU), Authentication Password (masked with dots), Listening Port (5060), Transport Outbound Call (UDP), Use SIP Registrar (Yes), Registrar DNS Name (135.20.218.10), Use SIP Proxy (Yes), Proxy DNS Name (135.20.218.10), and Proxy Model (Auto).

4. Change the SIP settings as follows:
 - a. **User:** Set this to match the extension number of the IP Office user configured on the IP Office system.
 - b. **Authentication Name:** Set this to match the **Name** set on the matching IP Office user.
 - c. **Authentication Password:** Set this to match the **Login Code** set on the matching IP Office user.
 - d. **Listening Port:** Set this to match the IP Office system setting. The default is 5060.
 - e. **Transport Outbound Call:** Set this to **UDP**.
 - f. **Use SIP Registrar:** Set this to **Yes**.
 - g. **Registrar DNS Name:** Set this to the IP Office system's IP address or fully qualified domain name.
 - h. **Use SIP Proxy:** Set this to **Yes**.
 - i. **Proxy DNS Name:** Set this to the IP Office system's IP address or fully qualified domain name.
 - j. **Proxy Model:** Leave this set to **Auto**.
5. Click **Save**.

Index

A

- Add
 - IP Office License 20, 28
- Authentication Name 24, 38
- Authentication Password 24, 38
- Auto-create Extn/User 21, 29
- Avaya IP End Point License 19, 20, 28

C

- CD Audio 10
- Challenge Expiry Time 21, 29
- Codecs 30
- Conference
 - PIN 31
- Conference Room Video Systems 10
- Conference Servers 10
- Conferences
 - Multiple 14, 26

D

- Default
 - Codecs 30
- Deployment
 - Medium 14, 26
 - Small 13, 18
- Domain Name 21, 29, 31
- Dongle Serial Number 20, 28
- DTMF Support 31

E

- Elite Series Conference Servers 10
- Enable
 - SIP Registrar 21, 29
 - SIP Trunk 21, 29
- Extension 23, 37

G

- Group 31
- Group ID 34

H

- HD Audio 10

I

- Inband 31
- Incoming Group 31
- IP Office
 - Checking Licenses 20, 28
 - Codecs 30
 - SIP Extension Support 21, 29
 - SIP Ports 21, 29
 - System VoIP Settings 21, 29
- IP Office Manager
 - Load configuration 20, 21, 22, 23, 28, 29, 30, 31, 34, 35, 36, 37
- iPad 10
- iPhone 10
- iPod Touch 10
- ITSP Domain Name 31

L

- Layer 4 Protocol 21, 29
- License 23, 37
 - Avaya IP End Point 19, 20, 28
 - SCOPIA XT Series MCU Edition 13, 18
 - SCOPIA XT Series SMB Edition 13, 18
 - SIP Trunk Channels 27, 28
- Licenses
 - Checking 20, 28

- Line Group ID 34
- Listening Port 24, 38

M

- Medium Deployment 14, 26

O

- Outgoing Group 31
- Outgoing group number 34

P

- PIN 31
- Port
 - Listening Port 24, 38
 - SIP TCP Port 21, 29
 - SIP UDP Port 21, 29

R

- Reserve Avaya IP Endpoint License 23, 37

S

- Scopia Desktop Server 10
- Scopia Management 10, 14, 26
- Scopia Mobile 10
- Scopia PathFinder Server 10, 14, 26
- Scopia PC Desktop 10
- SCOPIA XT Series 10
- SCOPIA XT Series MCU Edition 10
- SCOPIA XT Series MCU Edition License 13, 18
- SCOPIA XT Series SMB Edition 10
- SCOPIA XT Series SMB Edition License 13, 18
- Scopia XT5000 13, 18
- Scopia XTE240 10
- Short code 34
- SIP
 - Extension Support 21, 29
 - IP Office Ports 21, 29
 - SIP Registrar Enable 21, 29
 - TCP Port 21, 29
 - UDP Port 21, 29
 - Use SIP Registrar 24, 38

- SIP trunk 14, 26, 31
- SIP Trunk Channels License 27, 28
- SIP Trunks Enable 21, 29
- SIP URI 31
- Small Deployment 13, 18
- System Identification 20, 28
- System short code 34
- System Status Application
 - Licenses 20, 28
 - Resources 20, 28

T

- TCP Port 21, 29
- Transport Outbound Call 24, 38
- Trunk
 - SIP 31
- Trunk Enable 21, 29

U

- UDP Port 21, 29
- URI 31

V

- Video Applications 10
- VoIP
 - Extension Support 21, 29
 - IP Office System Settings 21, 29

