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Application Notes for Configuring Avaya IP Office R8.0 to interoperate with 2N Telekomunikace Helios IP - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for 2N Telekomunikace Helios IP to interoperate with Avaya IP Office R8.0. The 2N Telekomunikace Helios IP is a door communicator that supports both voice and video transmission using the Session Initiation Protocol (SIP).

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration steps required for 2N Telekomunikace Helios IP to interoperate with Avaya IP Office. The 2N Telekomunikace Helios IP is a door communicator that supports both voice and video transmission using the Session Initiation Protocol (SIP), in addition to being a door entry device with its keyboard or card reader. In the compliance testing, the 2N Telekomunikace Helios IP was set up as a SIP extension on Avaya IP Office and underwent testing of various call scenarios with other Avaya telephones.

2. General Test Approach and Test Results

The general test approach was to place calls to and from Helios IP and exercise basic telephone operations. For serviceability testing, failures such as cable pulls and hardware resets were performed.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing was to verify that:
- Helios IP successfully registers with IP Office.
- Helios IP successfully establishes audio calls with Avaya H.323 and digital telephones registered to IP Office.
- Helios IP successfully establishes audio calls with PSTN.
- Helios IP successfully establishes video calls with IP Office Video Softphone registered to IP Office.
- Helios IP successfully negotiates the appropriate audio codec (G.711MU or G.729A).
- Helios IP successfully negotiates the appropriate video codec (H.263+ or H.264).
- DTMF tones could be passed successfully to IP Office Voicemail.
- Helios IP successfully calls multiple destinations using a Sequential Hunt Group.
- Helios IP successfully streams video to a PC running Helios IP Eye when calling phones without video capabilities.

The serviceability testing focused on verifying the ability of Helios IP to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the devices and rebooting IP Office.

2.2. Test Results

All test cases passed. As Helios IP was not designed to be a desk phone, the following features were not supported:

- Handling multiple calls.
- Call hold and un-hold.
- Call park and un-park.
- Call transfer and conference.
- Message Waiting Indicator (MWI) activation and deactivation.
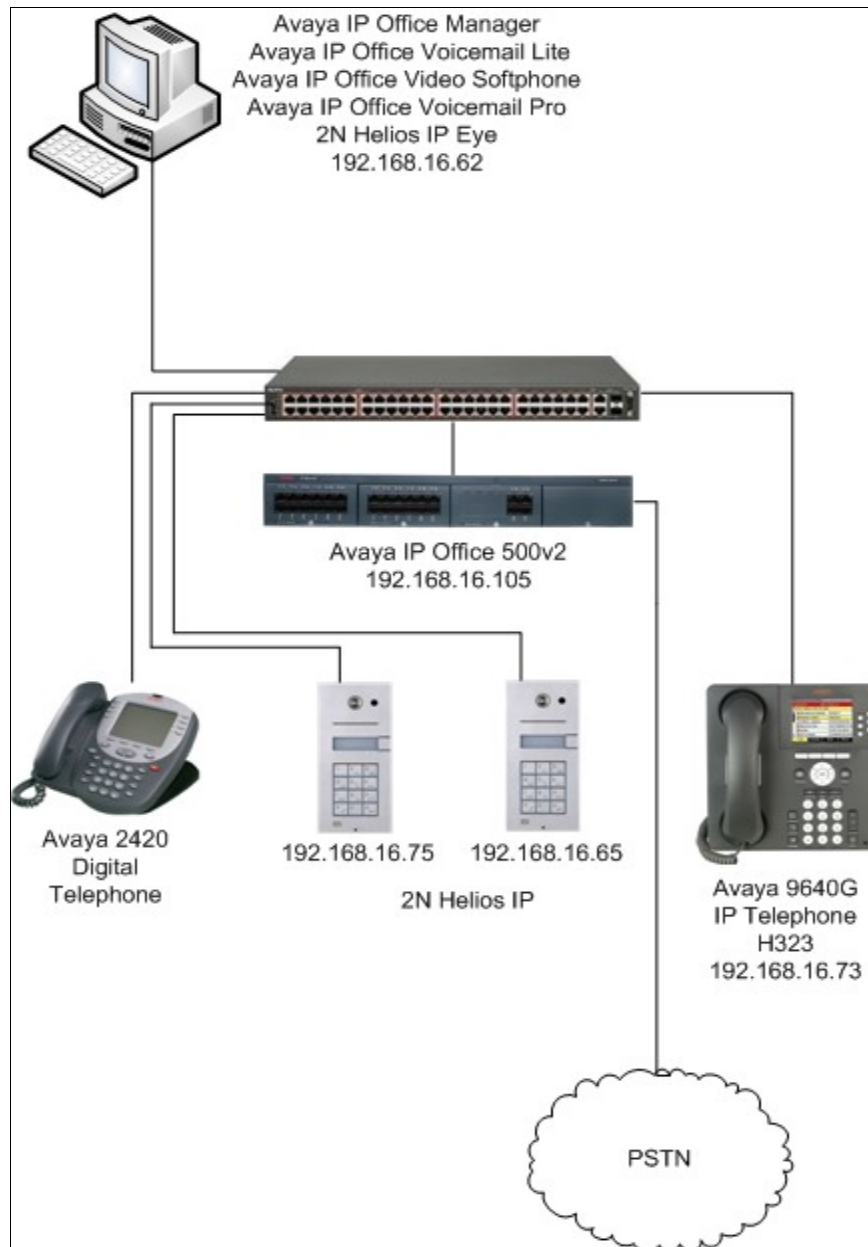- Activating of features using Short Codes (the * and # buttons are used for answer and hang up respectively).

2.3. Support

Technical support on 2N Telekomunikace Helios IP can be obtained through the following:

- **Phone:** +420 261 301 111
- **Web:** http://www.2n.cz/en/support/

3. Reference Configuration

Figure 1 illustrates a test configuration that was used to compliance test the interoperability of Helios IP and IP Office. The configuration consists of an IP Office 500 and a server running IP Office Manager and Voicemail. The IP Office has connections to the following: 9640 IP Telephone, 2420 Digital Telephone, IP Office Video Softphone, Helios IP and an ISDN-PRI trunk to the PSTN. The Helios IP Eye application is also installed on a PC to receive the video streaming from Helios IP.

Figure 1: Avaya IP Office with Telekomunikace 2N Helios IP Configuration

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SPOC 6/25/2012

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4 of 19
2NHeliosIP-IPO8

4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya IP Office 500v2	R8.0(42)
Avaya IP Office Manager	10.0 (42)
Avaya IP Office Voicemail Pro	7.0 (23)
Avaya 9640 IP Telephone	3.1 SP4 (H.323)
Avaya 2420 Digital Telephone	N.A.
2N Telekomunikace Helios IP Tested models: 9137111CKU (1 button + camera + keypad)	Software version: 1.15.3.307.3 Bootloader version: 1.4.0.6.0 Hardware version: 535v5

5. Configure Avaya IP Office

The configuration changes in this section for IP Office are performed through the IP Office Manager. Except where stated, the parameters in all steps are the default settings and are supplied for reference. For all other provisioning information such as provisioning of the trunks, call coverage, extensions, and voicemail, please refer to the IP Office product documentation in **Section 9.**

The procedures fall into the following areas:

- Setting LAN Parameters
- Administer SIP Registrar
- Add SIP Extensions
- Add Users
- Configure Sequential Hunt Group
- Save Configuration

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SPOC 6/25/2012
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5 of 19
2NHeliosIP-IPO8

5.1. Setting LAN Parameters

From the configuration tree in the left pane, select **System**. Click tab **LAN1 → LAN Settings** to display the LAN Settings screen in the right pane.

- Set the **IP Address**, which will be the address of the IP Office.
- Set the **IP Mask** based on the network setup.
- Set the **DHCP Mode** based on the network requirement. In this case, the **Disabled** option is chosen since DHCP was not used.
- Other fields can be left blank or at the default settings.
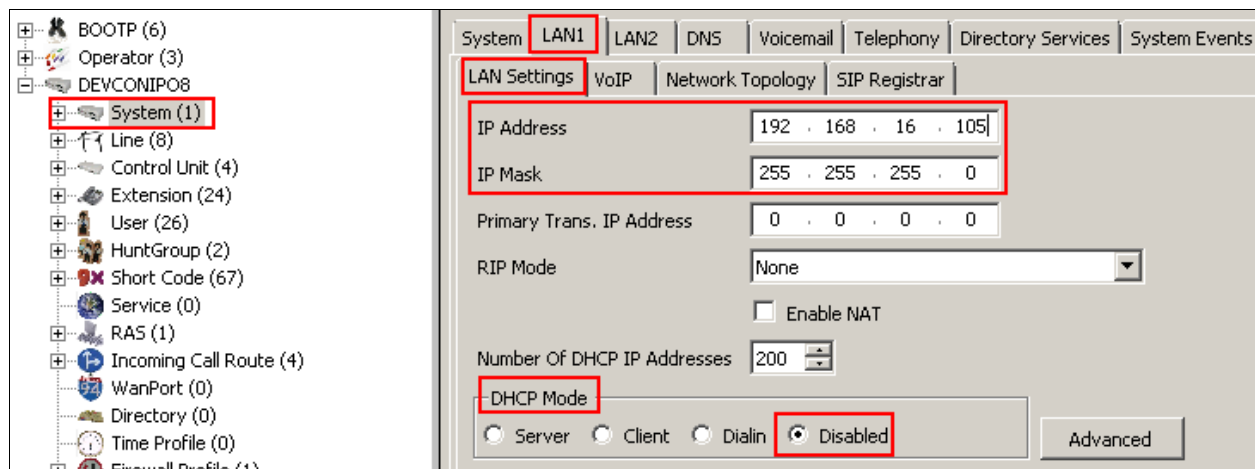
5.2. Administer SIP Registrar

Select **SIP Registrar** sub-tab in the right pane and enter the following values:

- **Domain Name**: Enter a valid Domain Name. In this case, it was left blank as registration is done using the IP address of the LAN1 interface.
- **Layer 4 Protocol**: Select **Both TCP & UDP**.
- **TCP Port**: Set to **5060** (default).
- **UDP Port**: Set to **5060** (default).
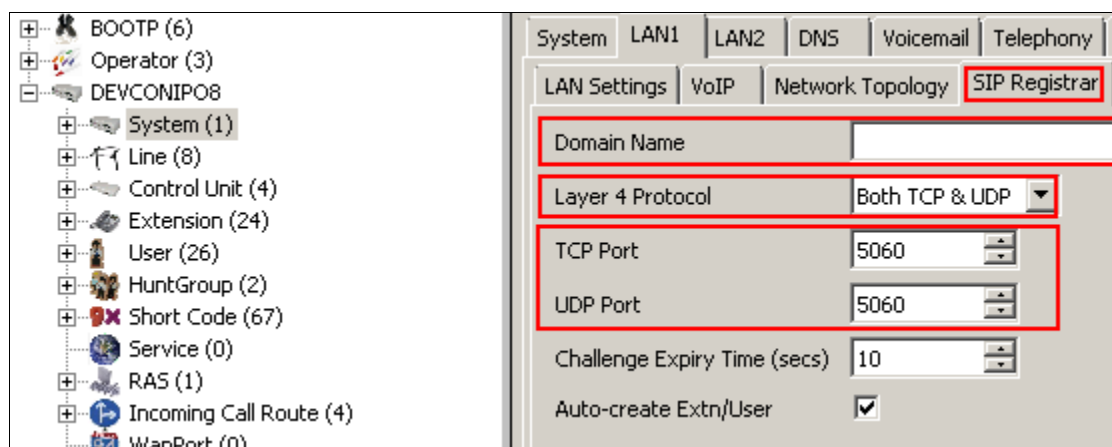
5.3. Add Users

A SIP user must be added in order to register Helios IP with IP Office. Add a User by right-clicking **User** from the left pane and select **New** (not shown). For the **Name** field, enter a descriptive name, for example, **Extn304SIP** For the **Full Name** field, enter a descriptive name for the user. For the **Extension** enter a valid extension Number.

Select the **Voicemail** tab and un-check the **Voicemail On** field.

Select the **Telephony** → **Supervisor Settings** tab. Enter a **Login Code**. The **Login Code** is used to configure Helios IP in **Section 6.2** to log the user into the IP Office. Click **OK** (not shown) when done.

A prompt will appear asking if a new VoIP extension should be created. Click the **SIP Extension** radio button and click **OK.** Repeat as necessary.

5.4. Configure Sequential Hunt Group

In the left panel right-click **HuntGroup** and select **New** (not shown). For the **Name** field, enter a descriptive name for the hunt group. Set the **Extension** field to an unused extension, in this case, **402**, and set **Ring Mode** to **Sequential**. For the **No Answer Time (secs)** field, set the number of seconds an extension rings before the call is passed to the next extension in the list, in this case, **10**. Click **Edit** to configure the list of extensions.

The screen below will appear, select the newly created SIP User and any other users required in the hunt group and click **Append**. Click **OK** to return to the previous window and click **OK** when done.

5.5. Save Configuration

Send the configuration to the IP Office in the customary fashion when all configuration is complete.

6. Configure 2N Helios IP

The following steps detail the configuration for Helios IP using the Web Interface. The steps include the following areas:

- Launch Web Interface
- Administer SIP Settings
- Administer Codecs
- Configure Quick Dialling Buttons
- Configure Miscellaneous Settings

The factory default setting for DHCP is on. Prior to configuration, follow the procedures in **Section 9 Reference [2]** to obtain the IP address of Helios IP.

6.1. Launch Web Interface

Access the Helios IP web interface, enter **http://<ipaddress>** in an Internet browser window, where **<ipaddress>** is the IP address of Helios IP. Log in with the appropriate credentials. The **Helios IP Information** screen is shown.

6.2. Administer SIP Settings

Select **Advanced Settings → SIP Settings** from the left menu. In the **User settings** section, configure the following:

- **Display name**:   Enter the desired name.
- **User ID**:   Enter the user extension from **Section 5.3**.
- **Domain**:   Enter the IP address of Avaya IP Office from **Section 5.1**.
- **Use auth ID**:   Select **No**.
- **Password**:   Enter the **Login Code** from **Section 5.3**.

In the **SIP proxy settings** section, configure the following:

- **Proxy address**:   Enter the IP address of Avaya IP Office from **Section 5.1**.
- **Proxy port**:   Enter 5060 (default).

In the **SIP registration** section, configure the following:

- **Register Helios IP**:   Select **Yes**.
- **Registration expires**: Enter the number of seconds for Helios IP to re-register.
- **Registrar address**:   Enter the IP address of Avaya IP Office from **Section 5.1**.
- **Registrar port**:   Enter 5060 (default).

Retain the default values for the remaining fields. Click the disk icon (not shown) to save when done.

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SPOC 6/25/2012
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12 of 19
2NHeliosIP-IPO8
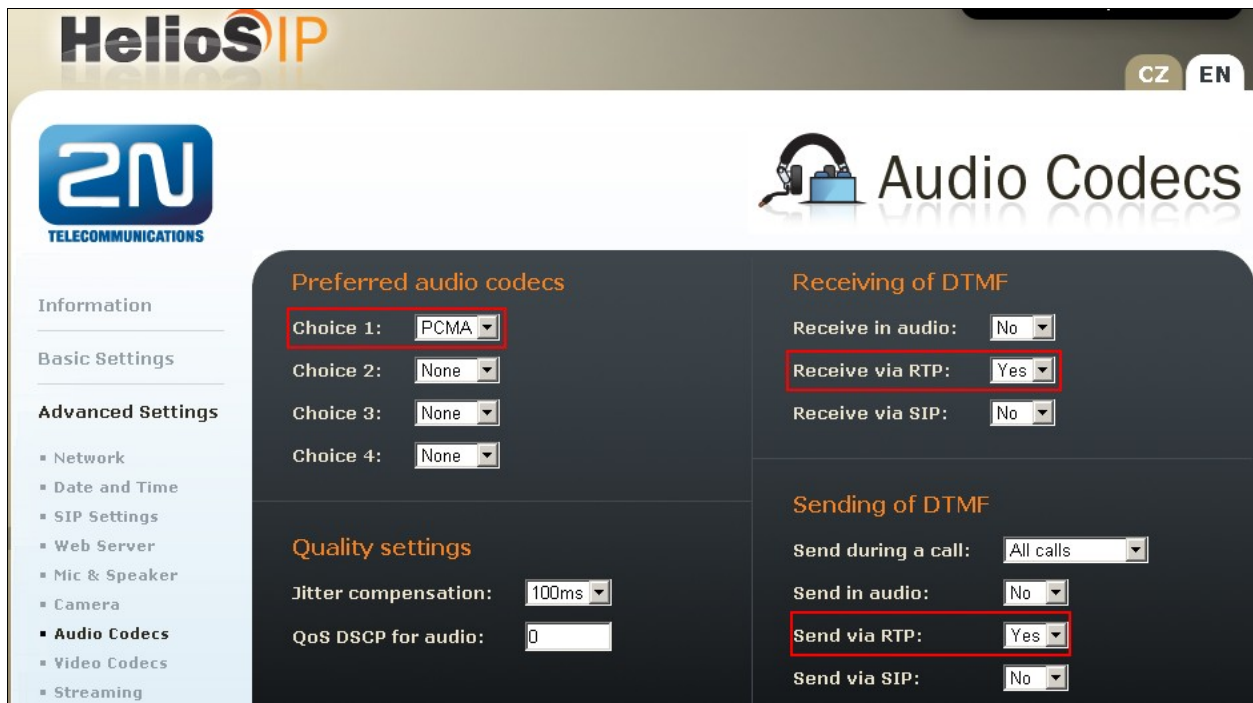
6.3. Administer Codecs

Click **Advanced Settings** ➔ **Audio Codecs** from the left menu to configure the audio codecs. In the **Preferred audio codecs** section, enable and prioritize the codecs as per requirement. To enable **DTMF** using RFC2833, set **Receive via RTP** and **Send via RTP** to **Yes**. Click the save icon (not shown) when complete.

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SPOC 6/25/2012

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13 of 19
2NHeliosIP-IPO8

Select **Advanced Settings → Video Codecs** from the left menu to configure the video codecs. In the **Preferred video codecs** section, enable and prioritize the codecs as per requirement. The default values were used for the remaining fields.

6.4. Configure Quick Dialling Buttons

Select **Basic Settings → Phone book** from the left menu and select one of the positions (e.g. 1 to 10 as shown below) to configure it. The position number corresponds to the Quick Dialling Button on the Helios IP. For example, the following shows the configuration for Position 1.

- **Position enabled**: Select **Yes**.
- **Position name**: Enter a descriptive name.
- **Number 1**: Enter the number to call when the button is pressed, for example, calling the Sequential Hunt Group created in **Section 5.4**.

For the description and usage of all other fields on the page, e.g. door-lock codes, activation codes, refer to **Section 9 Reference [2]**.

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SPOC 6/25/2012
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15 of 19
2NHeliosIP-IPO8

6.5. Configure Miscellaneous Settings

Select **Advanced Settings → Miscellaneous** from the left menu. To allow Helios IP to ring all the users in the Sequential Hunt Group, configure the **Ring time limit** with a value that is equal to or greater than the **No Answer Time (secs)** value multiplied by the number of users in the list created in **Section 5.4**. Optionally, set **Enable telephone mode** to **Yes** to allow Helios IP to call any number using the keypad.

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7. Verification Steps

This section provides the tests that can be performed to verify correct configuration of IP Office and Helios IP.

7.1. Verify Avaya IP Office

From a PC running the IP Office Manager, select **Start → Programs → IP Office → Monitor** to launch the Monitor application. Choose the **Status** menu and **select SIP Phone Status** (not shown). This will display a table of the SIP phones and indicate those registered. Verify that Helios IP endpoints are successfully registered as shown below.

7.2. Verify 2N Helios IP

From the Helios IP web interface, select **Information** from the left menu. Verify that the **Registration state** shows **Registered**. Place a call to another phone on the IP Office to verify basic call operation.

8. Conclusion

These Application Notes describe the configuration steps required for configuring 2N Telekomunikace Helios IP to interoperate with Avaya IP Office R8.0. All feature and serviceability tests were completed successfully with observations made in **Section 2.2**.

9. Additional References

This section references the Avaya and 2N product documentation that are relevant to these Application Notes.

The following Avaya product documentation can be found at http://support.avaya.com.
   [1] *IP Office 8.0 Documentation Library CD*, November 2011.

The 2N Helios IP documentation can be found at http://www.2n.cz/en/products/communicators/doors/helios-ip/downloads/.
   [2] *2N® Helios IP Configuration manual version 1.15*, March 2012.

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SPOC 6/25/2012

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19 of 19
2NHeliosIP-IPO8