

Application Note

ClearOne CONVERGE® Pro VH20 and ShoreTel® Server

Configuration Details for Interoperability

CLEARONE DOCUMENT NTS-0038-001
 SHORETEL DOCUMENT IN-14041
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Configuring the CONVERGE Pro VH20 with ShoreTel Server

OBJECTIVE

This document will detail the steps needed to configure the ShoreTel Server and ClearOne CONVERGE Pro VH20 settings to ensure proper interoperability. Use ShoreTel Server version 14.2 and CONVERGE firmware version 4.3.0.16 or later.

SHORETEL USER SETUP

First add a User to the ShoreTel System in the Users section of the Administration software. In ShoreTel Director, navigate to Administration > Users > Individual User, then in the drop down box next to Add New User at Site, select the Site where you will add the new user and then click Go. Once the user is created, write down the Extension Number from Users page, and the Client Username and SIP Password that you create on the continued Users page shown after since they will be used to configure the CONVERGE VH20.

» **Note:** There is no default SIP password although it appears masked in the password text box.

You will also need the IP Address of the ShoreTel Proxy switch; these will be needed later for configuring the VH20 SIP Properties. The screen shots shown below are using a default User configuration. A new SIP profile will need to be created separately on the ShoreTel server with 2 additional options explained below.

The User setup shown below shows License Type: Extension and Mailbox and also requires one ShoreTel SIP Phone license for the VH20 and one Extension and Mailbox license for the extension. If Extension Only is selected in the User setup, then an Extension Only license is required for each VH20 unit added to the ShoreTel system.

Users Page

The screenshot shows the 'Users' management interface. At the top, there are buttons for 'New', 'Copy', 'Save', 'Delete', and 'Reset', along with a 'Help' link. Below these is a breadcrumb trail: 'General' (selected), 'Personal Options', 'Distribution Lists', and 'Workgroups'. A 'Refresh this page' link is also present. The main configuration area includes the following fields:

- First Name:** Converge
- Last Name:** VH20
- Number:** 115
- License Type:** Extension and Mailbox (dropdown)
- Access License:** Personal (dropdown) with an unchecked checkbox for 'Enable Contact Center Integration'
- Caller ID:** (empty field) with a note '(e.g. +1 (408) 331-3300)'
- DID Range:** +19138271490 (4 of 5 available) Sprint (dropdown) with a 'View System Directory' link
- DID Number:** +19138271491 (Range: +19138271490 - 19138271494)
- PSTN Failover:** None (dropdown)
- User Group:** Executives (dropdown) with a 'Go to this User Group' link

Continues below . . .

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Site:	<input type="text" value="Headquarters"/>
Language:	<input type="text" value="English(US)"/>
Primary Phone Port:	<input checked="" type="radio"/> IP Phones <input type="text" value="Any IP Phone"/> <input type="radio"/> Ports <input type="text" value="Shoregear 90 - 12"/> <input type="radio"/> SoftSwitch <input type="text" value="SoftSwitch"/>
Current Port:	<input type="text" value="Any IP Phone"/> <input type="button" value="Go Primary Phone"/>
Jack #:	<input type="text"/>
<hr/>	
Mailbox Server:	<input type="text" value="Headquarters"/> Escalation Profiles and Other Mailbox Options
<input checked="" type="checkbox"/> Accept Broadcast Messages	
<input checked="" type="checkbox"/> Include in System Dial By Name Directory	
<input type="checkbox"/> Make Number Private	
Fax Support:	<input type="text" value="User - Redirect"/>
Allow Video Calls:	<input type="text" value="None"/>
<input checked="" type="checkbox"/> Allow Telephony Presence	
<input type="checkbox"/> Shared Call Appearances	
Associated BCA:	<input type="text"/>
<input type="checkbox"/> Allow Use of Soft Phone	
<input type="checkbox"/> Allow Phone API	
<hr/>	
Mobility Options:	
<input type="checkbox"/> Allow Mobile Access	
<input type="checkbox"/> Allow Enhanced Mobility with Extension	<input type="text"/>
<hr/>	
<input type="checkbox"/> Delayed Ringdown	
<input checked="" type="radio"/> Extension:	<input type="text"/> <input type="button" value="Search"/>
<input type="radio"/> External Number:	<input type="text"/> (e.g. 9+1 (408) 331-3300)
Ringdown Delay:	<input type="text"/> sec
Client Username:	<input type="text" value="CVH20"/>
Client Password:	<input type="password"/> <input type="password"/>
Voice Mail Password:	<input type="password"/> <input type="password"/> <input checked="" type="checkbox"/> Must Change On Next Login
SIP Password:	<input type="password"/> <input type="password"/>
Email Address:	<input type="text" value="CVH20@changeme.com"/>
Conferencing Settings:	
Appliance:	<input type="text" value="<None>"/>
Instant Messaging Settings:	
Server / Appliance:	<input type="text" value="<None>"/>

Once you've defined the user for the VH20, be sure that enough IP Phone resources and SIP Proxy resources are allocated to support the total number of VH20's that you will be adding to the system. Go to Administration>Voice Switches/Service Appliances>Primary to confirm this.

CALL CONTROL SETTINGS

The CONVERGE Pro VH20 was tested using the call control settings shown below with no issues.

Call Control Options

Edit

Save

Reset

[Help](#)

Edit this record

[Refresh this page](#)

General:

- Use Distributed Routing Service for call routing.
- Enable Monitor / Record Warning Tone.
- Enable Silent Coach Warning Tone.
- Generate an event when a trunk is in-use for minutes.
- Park Timeout (1-100000) after seconds.
- Hang up Make Me Conference after minutes of silence.

Delay before sending DTMF to Fax Server: msec

DTMF Payload Type (96 - 127):

SIP:

Realm:

- Enable SIP Session Timer.

Session Interval (90 - 3600): sec

Refresher:

Voice Encoding and Quality of Service:

Maximum Inter-Site Jitter Buffer (20 - 400): msec

DiffServ / ToS Byte (0-255): (DSCP = 0x2e)

Media Encryption:

- Admission control algorithm assumes RTP header compression is being used.

Call Control Quality of Service:

DiffServ / ToS Byte (0-255): (DSCP = 0x1a)

Video Quality of Service:

DiffServ / ToS Byte (0-255): (DSCP = 0x22)

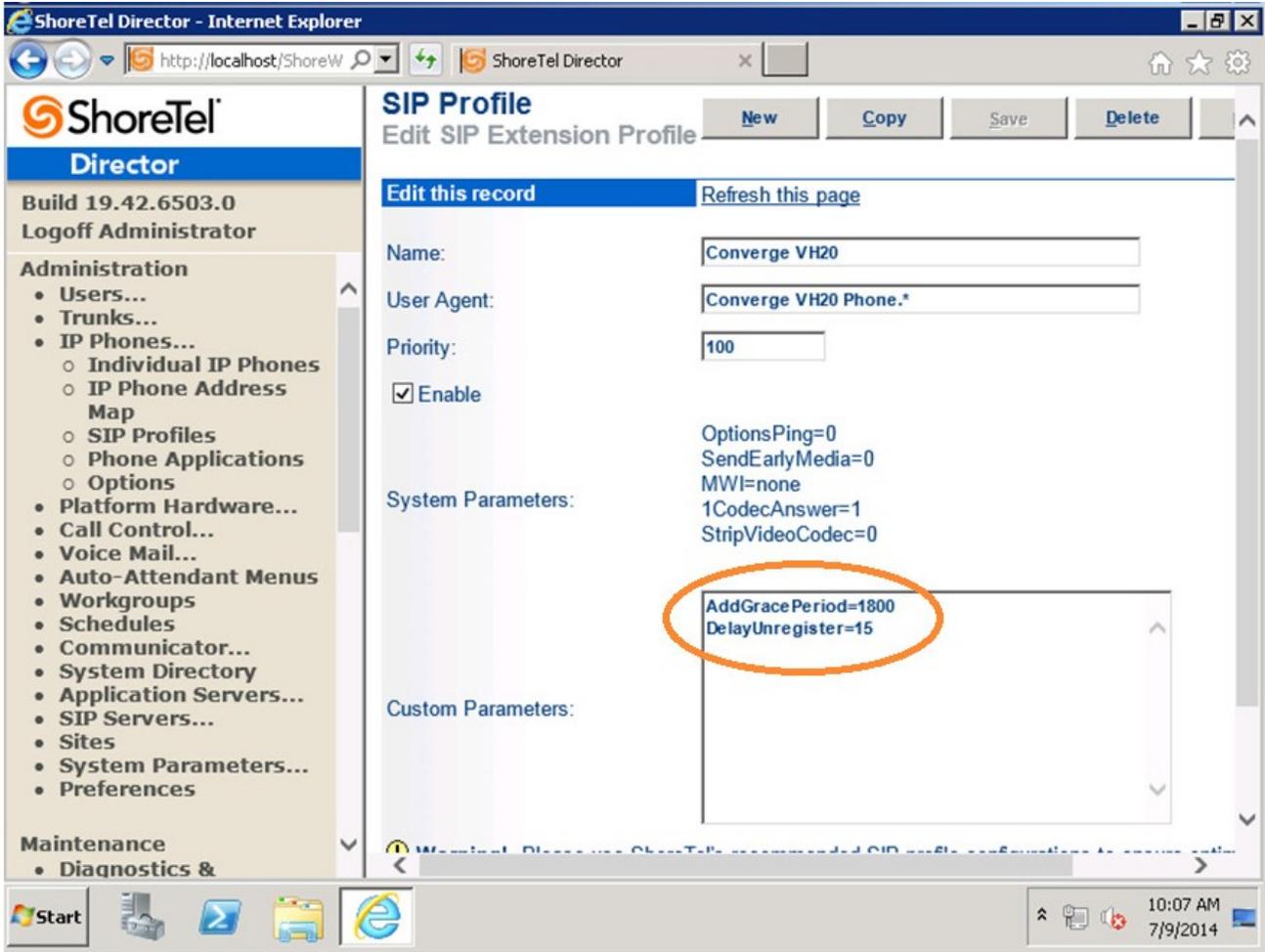
Trunk-to-Trunk Transfer and Tandem Trunks:

- Hang up after minutes of silence.
- Hang up after minutes.

SIP PROFILE

The SIP Profile is created in the IP Phones > SIP Profiles section and requires 2 custom parameters. Click New to add a profile, and then define a name for the profile. In the User Agent text box type Converge VH20 Phone.* like shown in the example above. Priority will default to 100, no change is needed here.

Next check the Enable checkbox and in the Custom Parameters text box type: AddGracePeriod=1800 and DelayUnregister=15. Click Save to apply your changes. This will eliminate any possible race conditions that can lead to the VH20 not being properly registered to the ShoreTel Server causing calls to fail.



SITE SETTINGS

In the Site Settings page confirm that the VH20 is configured to register to the Primary Switch 1 and not the Virtual IP Address.

Sites New Copy Save Delete Reset Help

Edit Site

Edit this record Refresh this page

Name:	<input type="text" value="Headquarters"/>
Service Appliance Conference Backup Site:	<input type="text" value="<None>"/>
Country:	<input type="text" value="United States of America"/>
Language:	<input type="text" value="English(US)"/>
Parent:	Top of Tree
<input type="checkbox"/> Use Parent As Proxy	
Local Area Code:	<input type="text" value="408"/>
Additional Local Area Codes:	<input type="button" value="Edit"/>
Caller's Emergency Service Identification (CESID):	<input type="text"/> (e.g. +1 (408) 331-3300)
Time Zone:	<input type="text" value="(UTC-08:00) Pacific Time (US & Canada), Pacific Standard Time"/>
Night Bell Extension:	<input type="text"/>
Night Bell Switch:	<input type="text" value="None"/> Edit Night Bell Call Handling
Paging Extension:	<input type="text"/>
Paging Switch:	<input type="text" value="None"/>
Operator Extension:	<input type="text"/> <input type="button" value="Search"/>
FAX Redirect Extension:	<input type="text"/> <input type="button" value="Search"/>
SMTP Relay:	<input type="text"/> <input type="button" value="Ping"/>
Network Time Protocol Server:	<input type="text"/>
Bandwidth:	
Admission Control Bandwidth:	<input type="text" value="2046"/> kbps
Intra-Site Calls:	<input type="text" value="High Bandwidth Codecs"/>
Inter-Site Calls:	<input type="text" value="Low Bandwidth Codecs"/>
FAX and Modem Calls:	<input type="text" value="Fax Codecs - High Bandwidth"/>
SIP Proxy:	
Virtual IP Address:	<input type="text"/>
Proxy Switch 1:	<input type="text" value="vPhone Switch"/>
Proxy Switch 2:	<input type="text" value="None"/>

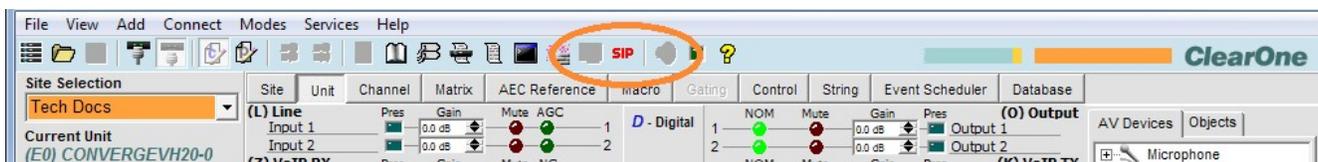
CONVERGE PRO VH20 SETUP

To configure the CONVERGE Pro VH20 you will need CONVERGE Console. It can be downloaded from here:

http://www.clearone.com/resources#professional_audio

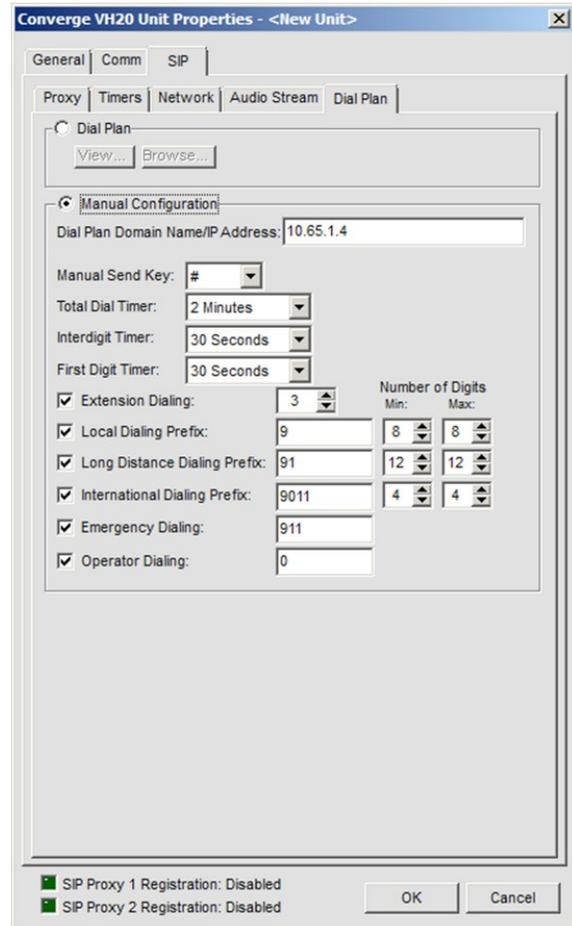
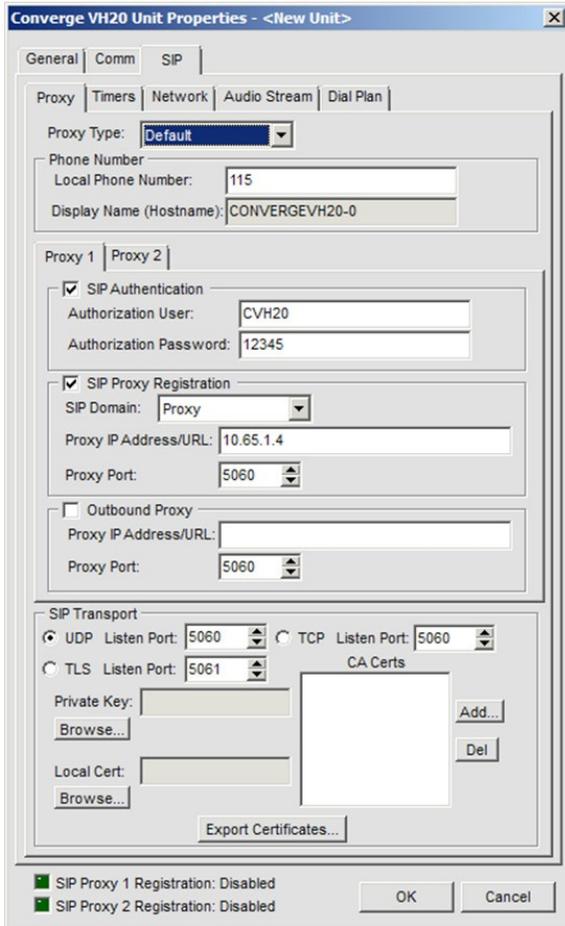
You can connect to the CONVERGE Pro VH20 by either USB or IP to configure the unit. Follow the guidelines in the CONVERGE Pro manual for connecting to the system for the first time.

Once you are connected, look for a red SIP in the button bar at the top of the software.



Clicking the button will open the Unit Properties window shown below.

In the CONVERGE Pro VH20 Unit Properties SIP tab, enter the number from the ShoreTel User profile in the Local Phone Number field. Enter the Client Username in the Authorization User field. Enter the SIP Password created in the User Profile in the Authorization Password field. Enter the IP Address of the ShoreTel Proxy switch in the Proxy IP Address/URL field. The Outbound Proxy can be left unchecked and blank. Click on the Dial Plan tab and enter the same proxy information into the Manual Configuration section Dial Plan Domain Name /IP Address text box, confirm that the Extension Dialing text box has the correct extension length to match your extension numbers and click OK. The CONVERGE Pro VH20 will register to the server and the SIP Proxy 1 Registration will show a green box and Registered at the bottom of the SIP screen. You can dial a test call to verify functionality of the CONVERGE Pro VH20.



CALLING SCENARIOS

The CONVERGE Pro VH20 was tested on the ShoreTel system to support basic call setup and disconnect of inbound and outbound calls. 3-party calls and call hold have not been tested at this time.

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