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Dialogic® Brooktrout® SR140 Fax Software with ShoreTel Gateway

Installation and Configuration Integration Note

IMPORTANT NOTE

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1. Scope

This document is intended as a general guide for configuring a basic installation of the **ShoreTel Gateway** for use with Dialogic® Brooktrout® SR140 Fax over IP (FoIP) software platform. The interoperability includes SIP call control and T.38/T.30 media.

This document is not intended to be comprehensive and thus does not replace the manufacturer's detailed configuration documentation. Users of this document should already have a general knowledge of how to install and configure the **ShoreTel Gateway**.

The sample configuration shown and/or referred in the subsequent sections was used for lab validation testing by Dialogic. Therefore, it is quite possible that the sample configuration will not match an exact configuration or versions that would be present in a deployed environment. However, the sample configuration does provide a possible starting point to work with the equipment vendor for configuring your device. Please consult the appropriate manufacturer's documentation for details on setting up your specific end user configuration.

For ease of reference, the Dialogic® Brooktrout® SR140 Fax Software and Dialogic® Brooktrout® TR1034 Fax Boards will sometimes be denoted herein, respectively, as SR140 and TR1034. All references to the SDK herein refer to the Dialogic® Brooktrout® Fax Products SDK.

2. Configuration Details

The following systems were used for the sample configuration described in the document.

2.1 Gateway

Vendor	***ShoreTel***
Model	***ShoreGear 220T1A Switch***
Software Version	***Controlled Release for Release 10 build 15.6.4207.0***
IP Device	***Dialogic® Brooktrout® SR140 Fax Software***
Protocol to Dialogic® Brooktrout® SR140 Fax Software	***SIP***
PSTN Device	***Dialogic® Brooktrout® DMG 2120***
Protocol to PSTN Device	***T1***
Additional Notes	***N/A***

2.2 Dialogic® Brooktrout® SR140 Fax Software

Vendor	***Dialogic***
Model	***Dialogic® Brooktrout® SR140 Fax Software***
Software Version	***SDK 6.2.3***
Protocol to Gateway or Call Manager	***SIP***
callctrl.cfg file	***All defaults***

2.3 Network System Configuration

The diagram below details the sample configuration used in connection with this document.

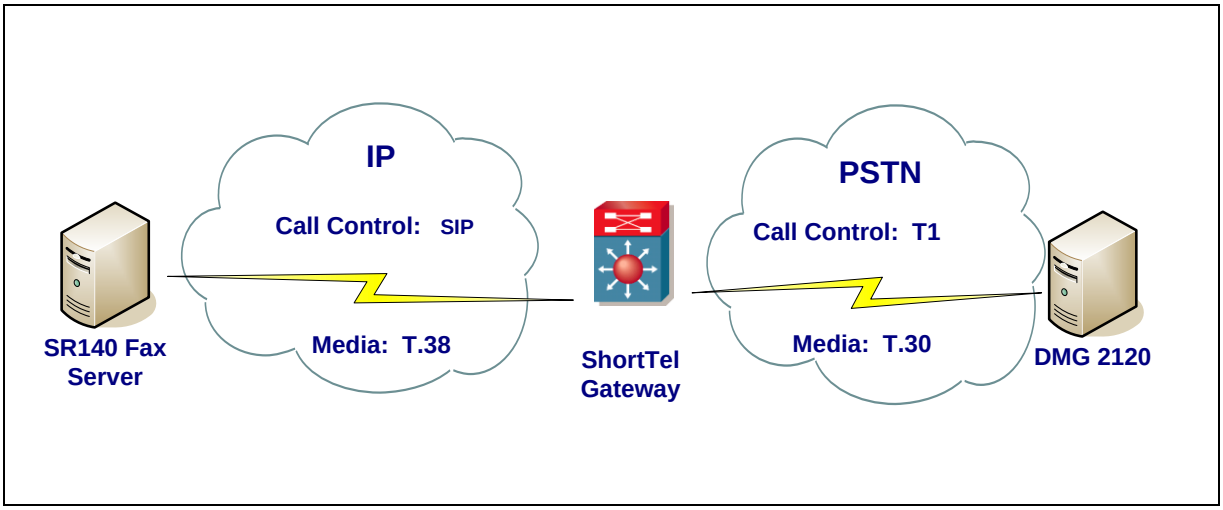


Diagram Notes:

- SR140 Fax Server = Fax Server including Dialogic® Brooktrout® SR140 Fax Software and third party fax application.

3. Prerequisites

- Dialogic Brooktrout SR140 running SDK 6.2.3 or later.
- ShoreTel Controlled Release for Release 10 build 15.6.4207.0 or later.

4. Summary of Limitations

- Enabling redundancy for T.38 causes data errors when using the ShoreTel Gateway. For interoperability, the SR140 requires redundancy for both image and control to be set to 0.
- The ShoreTel Gateway sends a SIP session refresh if it is enabled on the ShoreTel Gateway even if the SR140 is configured not to use SIP session refresh. This will cause the SR140 to drop the call if a SIP refresh is received. For interoperability, the SR140 must enable SIP or the ShoreTel Gateway must disable SIP session refresh by using the ShoreWare Director, select Call Control then Options, there you can completely disable the session timer, set the session interval and the refresher.
- The ShoreTel Gateway does not support V.17 for T.38. The maximum protocol supported is V.29 (9600 bits/sec).

5. Gateway Setup Notes

5.1 Network Addresses

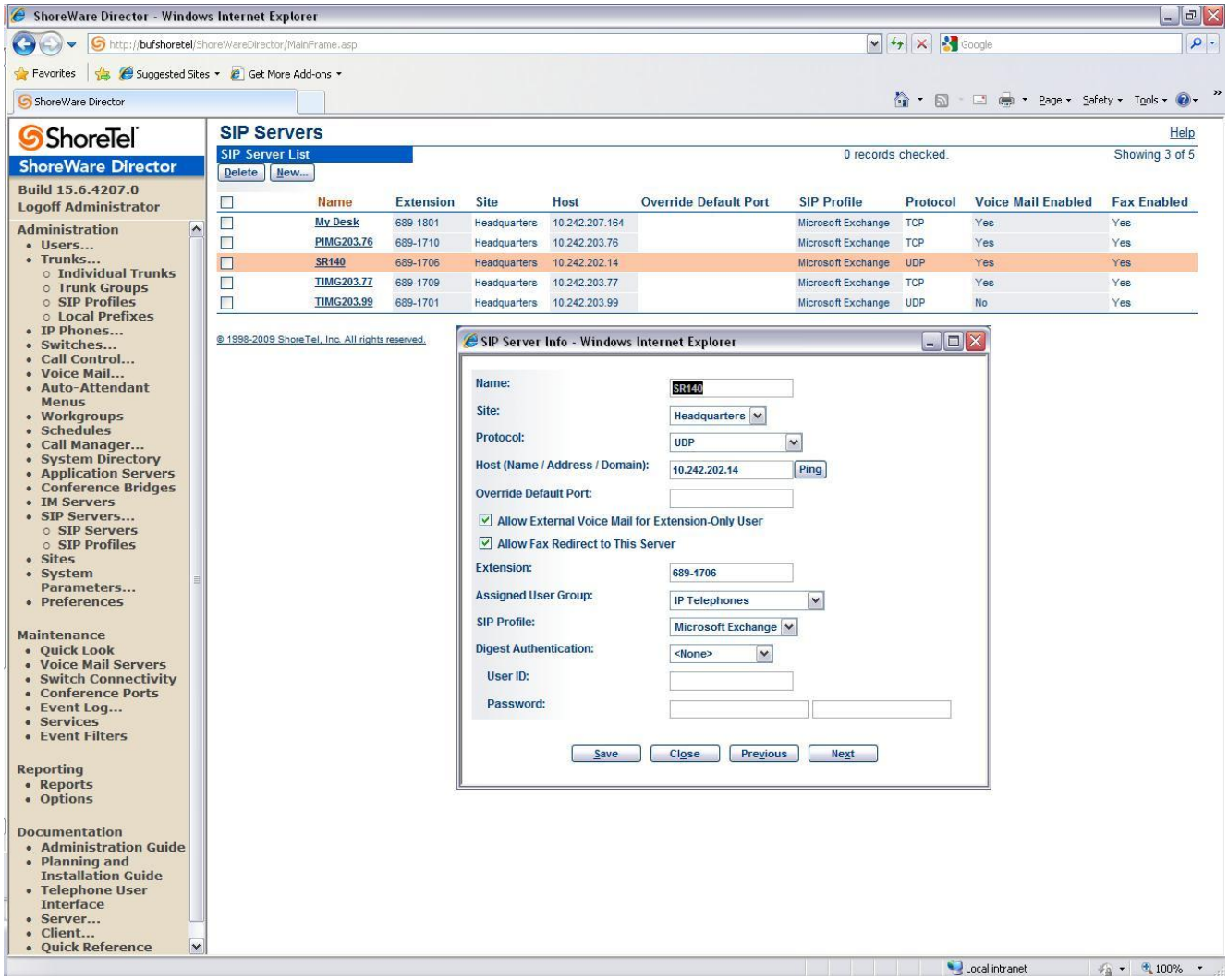
The following table lists the IP addresses and their descriptions used in subsequent sections.

Device #	Device Make, Model, and Description	Device IP Address
1	ShoreTel	10.242.203.99
2	SR140	10.242.202.14

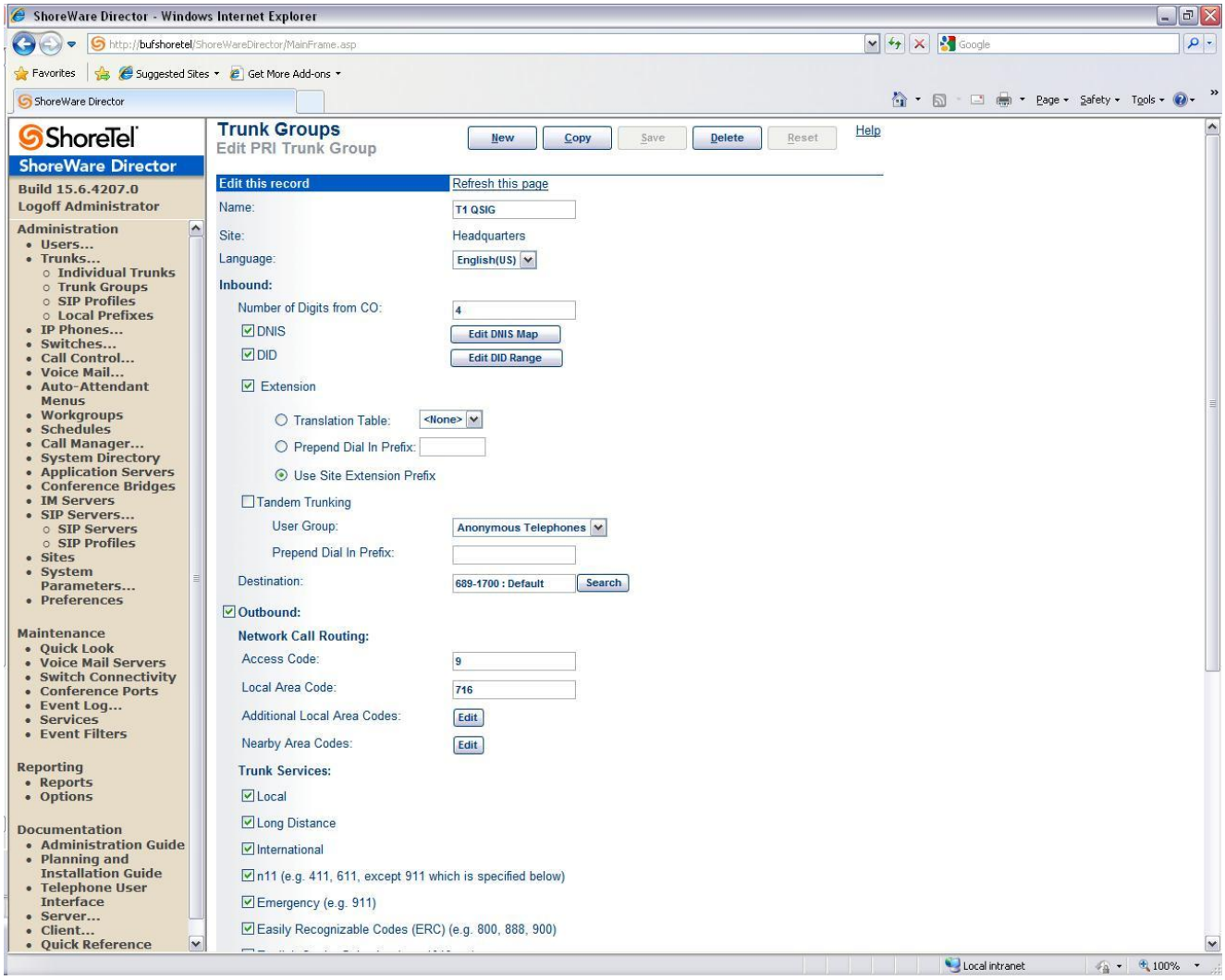
5.2 Router Configuration

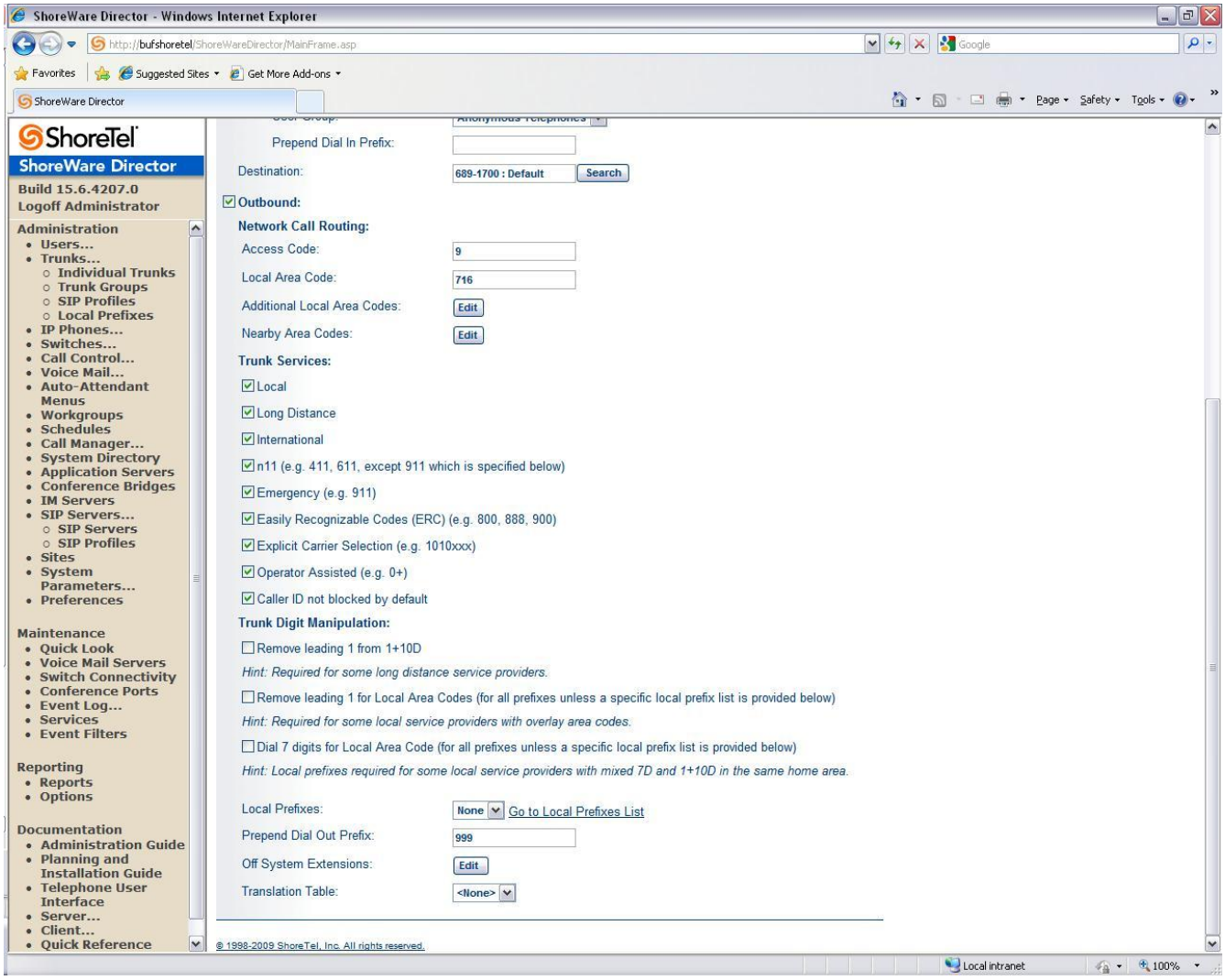
Configuring the ShoreTel equipment was performed using the ShoreTel ShoreWare Director. This web interface allows the user to administrate the ShoreTel equipment using a web browser.

Using the web browser, the host name for the SR140 was added as a SIP Server. The protocol for the SR140 SIP Server must be set to UDP via the Protocol pulldown.



The next two screenshots were included as a reference and include the settings used in the sample test configuration for the PRI Trunk Group between the ShoreTel Gateway and the DMG 2120.




ShoreWare Director - Windows Internet Explorer
http://bufshoretel/ShoreWareDirector/MainFrame.asp
Favorites
Suggested Sites
Get More Add-ons
ShoreWare Director
Page
Safety
Tools
ShoreTel
ShoreWare Director
Build 15.6.4207.0
Logoff Administrator
Administration
Users...
Trunks...
Individual Trunks
Trunk Groups
SIP Profiles
Local Prefixes
IP Phones...
Switches...
Call Control...
Voice Mail...
Auto-Attendant Menus
Workgroups
Schedules
Call Manager...
System Directory
Application Servers
Conference Bridges
IM Servers
SIP Servers...
SIP Servers
SIP Profiles
Sites
System Parameters...
Preferences
Maintenance
Quick Look
Voice Mail Servers
Switch Connectivity
Conference Ports
Event Log...
Services
Event Filters
Reporting
Reports
Options
Documentation
Administration Guide
Planning and Installation Guide
Telephone User Interface
Server...
Client...
Quick Reference
Prepend Dial In Prefix:
Destination:
689-1700 : Default
Search
Outbound:
Network Call Routing:
Access Code:
9
Local Area Code:
716
Additional Local Area Codes:
Edit
Nearby Area Codes:
Edit
Trunk Services:
Local
Long Distance
International
n11 (e.g. 411, 611, except 911 which is specified below)
Emergency (e.g. 911)
Easily Recognizable Codes (ERC) (e.g. 800, 888, 900)
Explicit Carrier Selection (e.g. 1010xxx)
Operator Assisted (e.g. 0+)
Caller ID not blocked by default
Trunk Digit Manipulation:
Remove leading 1 from 1+10D
Hint: Required for some long distance service providers.
Remove leading 1 for Local Area Codes (for all prefixes unless a specific local prefix list is provided below)
Hint: Required for some local service providers with overlay area codes.
Dial 7 digits for Local Area Code (for all prefixes unless a specific local prefix list is provided below)
Hint: Local prefixes required for some local service providers with mixed 7D and 1+10D in the same home area.
Local Prefixes:
None
Go to Local Prefixes List
Prepend Dial Out Prefix:
999
Off System Extensions:
Edit
Translation Table:
<None>
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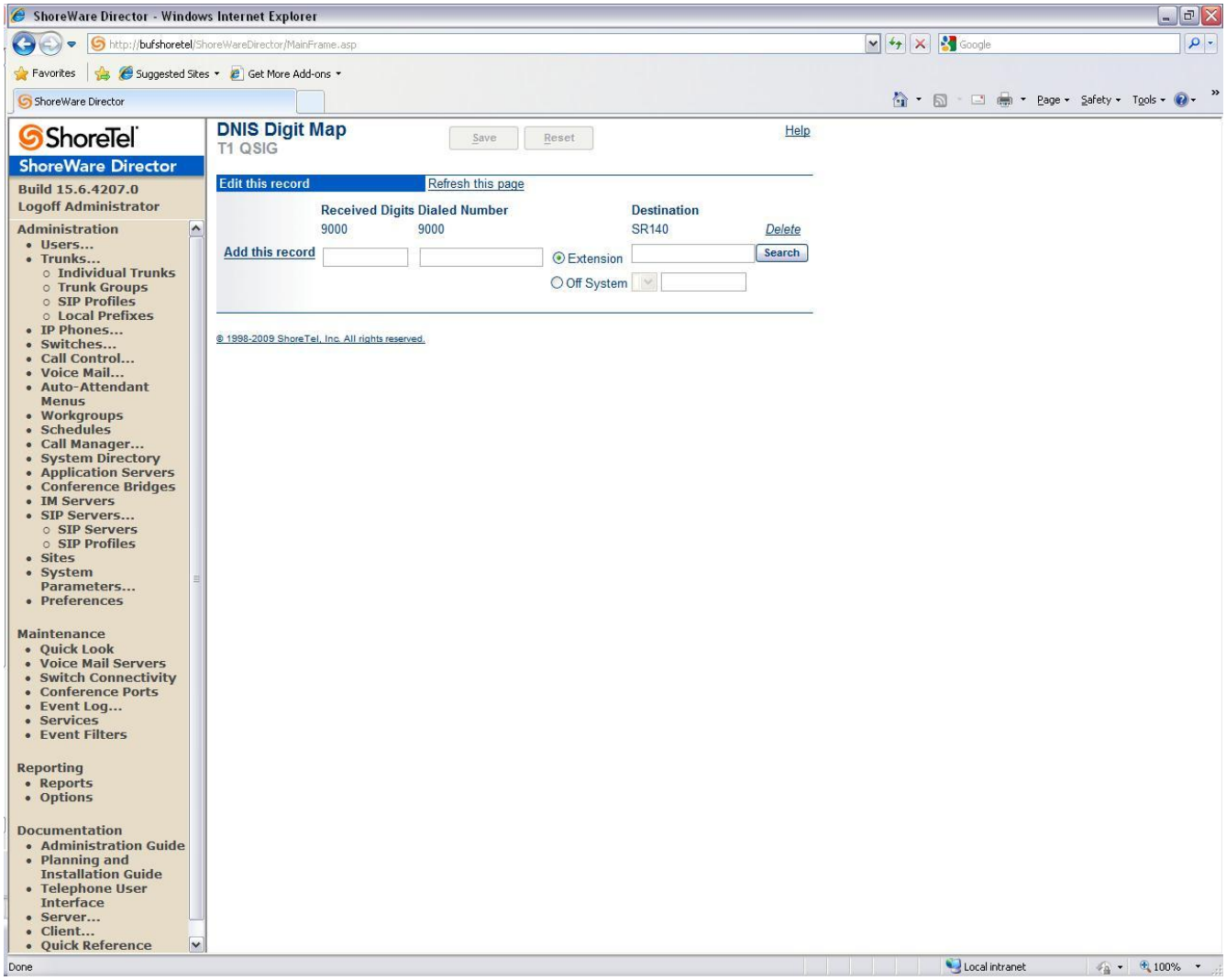
Local intranet
100%

To the configure ShoreTel to route calls from the SIP Trunk to the SR140, a DNIS Digit Map was created to direct calls from the SIP Trunk that match the 'Dialed Number' to the SR140 location.



6. Dialogic® Brooktrout® SR140 Fax Software Setup Notes

The Installation and Configuration Guides used to setup the SR140 is available from the site:

http://www.dialogic.com/manuals/brooktrout/default.htm

The SR140 callctrl.cfg file used in the sample test configuration is shown below for reference. The changes from the default settings are highlighted in yellow.

```
  l3l4_trace=verbose
  l4l3_trace=verbose
  api_trace=verbose
  internal_trace=verbose
  host_module_trace=verbose
  ip_stack_trace=warning
# Most of the time a path should be used for this file name.
  trace_file=test_0004_ecc.log
  max_trace_files=1
  max_trace_file_size=10
[host_module.1]
  module_library=brktsip.dll
  enabled=true
[host_module.1/t38parameters]
  t38_fax_rate_management=transferredTCF
  fax_transport_protocol=t38_only
  t38_fax_udp_ec=t38UDPRedundancy
  rtp_ced_enable=true
  t38_max_bit_rate=14400
  t38_fax_version=0
  media_passthrough_timeout_inbound=1000
  media_passthrough_timeout_outbound=4000
  media_renegotiate_delay_inbound=1000
  media_renegotiate_delay_outbound=-1
  t38_fax_fill_bit_removal=false
  t38_fax_transcoding_jbig=false
  t38_fax_transcoding_mmr=false
  t38_t30_fastnotify=false
  t38_type_of_service=0
  t38_UDPTL_redundancy_depth_control=0
  t38_UDPTL_redundancy_depth_image=0
[host_module.1/rtp]
  rtp_frame_duration=20
  rtp_jitter_buffer_depth=100
  rtp_codec=pcmu pcma
  rtp_silence_control=inband
  rtp_type_of_service=0
  rtp_voice_frame_replacement=0
[host_module.1/parameters]
  sip_max_sessions=256
  sip_default_gateway=0.0.0.0:0
  sip_proxy_server1=
  sip_proxy_server2=
  sip_proxy_server3=
  sip_proxy_server4=
  sip_registration_server1=
  sip_registration_server1_aor=
  sip_registration_server1_username=
  sip_registration_server1_password=
  sip_registration_server1_expires=3600
  sip_registration_server2=
  sip_registration_server2_aor=
  sip_registration_server2_username=
  sip_registration_server2_password=
  sip_registration_server2_expires=3600
  sip_registration_server3=
```

```
  sip_registration_server3_aor=
  sip_registration_server3_username=
  sip_registration_server3_password=
  sip_registration_server3_expires=3600
  sip_registration_server4=
  sip_registration_server4_aor=
  sip_registration_server4_username=
  sip_registration_server4_password=
  sip_registration_server4_expires=3600
  sip_registration_interval=60
  sip_Max-Forwards=70
  sip_From=Anonymous <sip:no_from_info@anonymous.invalid>
  sip_Contact=0.0.0.0:0
  sip_username=-
  sip_session_name=no_session_name
  sip_session_description=
  sip_description_URI=
  sip_email=
  sip_phone=
  sip_Route=
  sip_session_timer_session_expires=1800
  sip_session_timer_minse=-1
  sip_session_timer_refresh_method=0
  sip_ip_interface=
  sip_ip_interface_port=5060
  sip_redirect_as_calling_party=0
  sip_redirect_as_called_party=0
  sip_user_agent=Brktsip/6.2.0B5 (Dialogic)
[module.41]
  model=SR140
  virtual=1
  exists=1
  vb_firm=C:\interop kit SDK620 v1.2\fdtool-6.2.0\bin\bostvb.dll
  channels=120
[module.41/ethernet.1]
  ip_interface={7D57B541-A7F4-4674-9B2B-29AAE2E3A9A2}:0
  media_port_min=56000
  media_port_max=57000
[module.41/host_cc.1]
  host_module=1
  number_of_channels=120
```

7. Frequently Asked Questions

- "*I'm configured as near as possible to this the sample configuration described in this document, but calls are still not successful; what is my next step?"*
  - ➔ Provide this document to your gateway support.
  - ➔ Ensure T.38 is enabled on the gateway.
  - ➔ Confirm that basic network access is possible by pinging the gateway.

- "*How do I obtain Wireshark traces?*"
  - ➔ The traces can be viewed using the Wireshark network analyzer program, which can be freely downloaded from *http://www.wireshark.org*.
  - ➔ To view the call flow in Wireshark, open the desired network trace file and select "Statistics->VoIP Calls" from the drop down menu. Then highlight the call and click on the "Graph" button.