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Dialogic® Brooktrout® SR140 Fax Software with Siemens HiPath 8000 and Siemens RG8702

Installation and Configuration Integration Note

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1. Scope

This document is intended as a general guide for configuring a basic installation of the Siemens HiPath 8000 IP Softswitch and Siemens RG8702 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 Siemens HiPath 8000 IP Softswitch and Siemens RG8702 Gateway.

The sample configuration shown and/or referred in the subsequent sections was used for lab validation testing by Dialogic. Therefore, it is possible and even likely that the example configuration will not match the exact configuration and 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.

2. Configuration Details

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

2.1 Siemens HiPath 8000 IP Softswitch

Vendor	Siemens
Model	HiPath 8000 V3.0
Software Version	V3.0 R2 PS19.E05
Hardware Version	IBM 3650T
Protocol to Gateway	SIP
Protocol to Dialogic® Brooktrout® SR140 Fax Software	SIP

2.2 Siemens RG8702 Gateway

Vendor	Siemens
Model	RG8702
Software Version	V1.3 R2.2.3 (13.21.02.15)
Protocol to PSTN	PRI E1 ISDN from Telco provider
IP Devices	Dialogic® Brooktrout® SR140 Fax Software Siemens HiPath 8000

2.3 Dialogic® Brooktrout® SR140 Fax Software

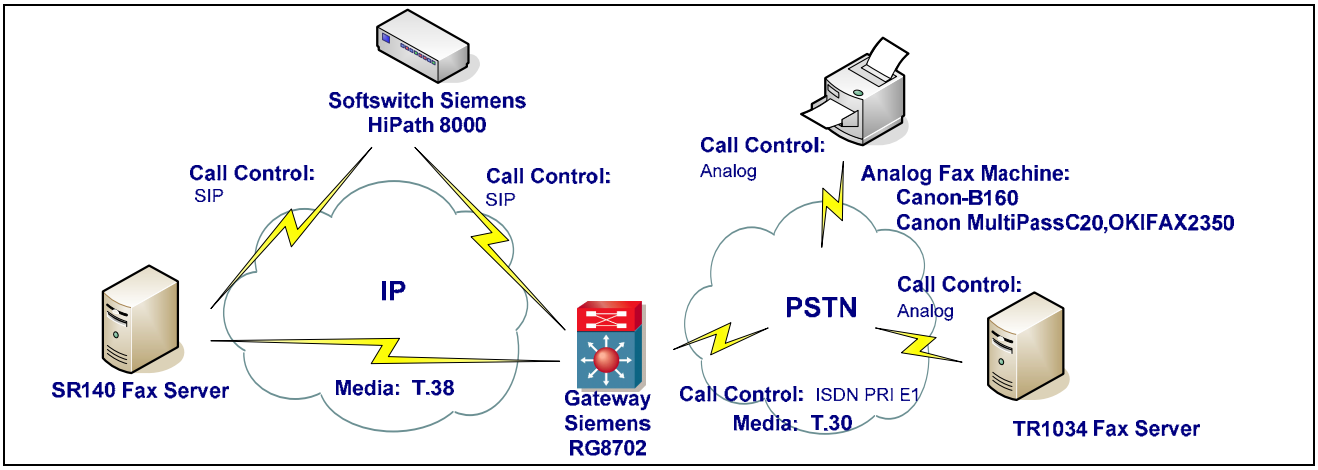
Vendor	Dialogic
Model	Dialogic® Brooktrout® SR140 Fax Software
Software Version	Dialogic® Brooktrout® SDK/API 6.0.0
Protocol to Gateway or Call Manager	SIP
callctrl.cfg file	Default values that come with SDK 6.0.0

2.4 Dialogic® Brooktrout® TR1034 Fax Board

Vendor	Dialogic
PSTN Device	Dialogic® Brooktrout® TR1034 Fax Board (Analog)
Software Version	Dialogic® Brooktrout® SDK/API 6.0.0
Protocol to PSTN Device	Analog from Telco provider
callctrl.cfg file	Default values that come with SDK 6.0.0

2.5 Network System Configuration

The diagram details the setup used for this document.



Notes:

- SR140 Fax Server = Fax Server including Dialogic® Brooktrout® SR140 Fax Software and 2nd party fax application
- TR1034 Fax Server = Fax Server including Dialogic® Brooktrout® TR1034 Fax Board and 2nd party fax application

3. Prerequisites

Dialogic® Brooktrout® SR140 Fax Software: Dialogic® Brooktrout® SDK 6.0.0 or higher.
Siemens RG8702: Version 1.3 or higher is required for T.38 support.

4. Summary of Limitations

G.729 is not currently supported by Dialogic® Brooktrout® SR140 Fax Software. The Siemens IP network should not be a G.729 only network.

5. Deployment Details

5.1 Network Addresses

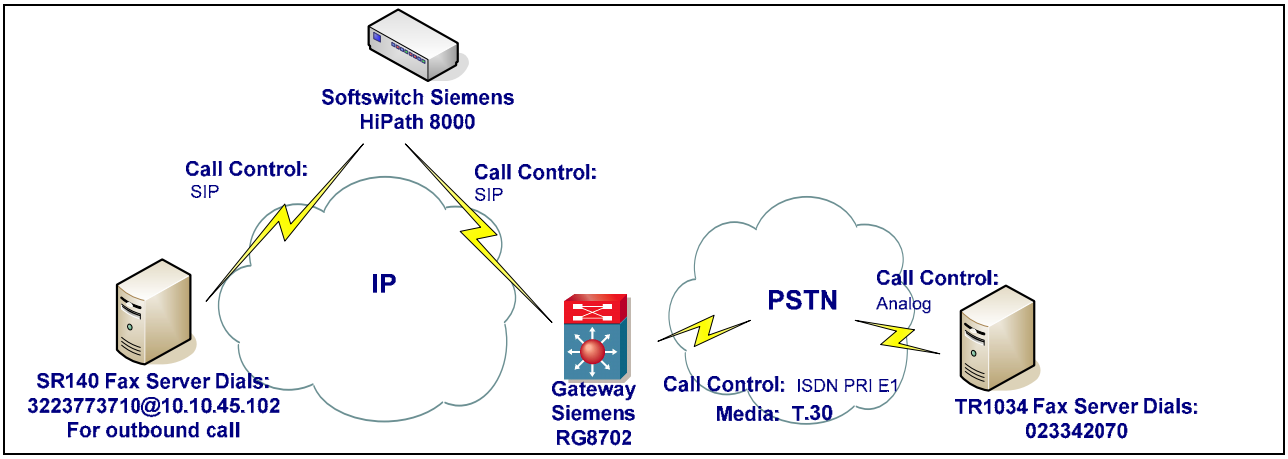
Device #	Device Description	Device IP Address
1	Siemens HiPath 8000 IP Softswitch	10.10.45.102
2	Siemens RG8702 Gateway	10.10.30.60
3	Dialogic® Brooktrout® SR140 Fax Software	10.10.42.32 (also 10.10.42.33)

Dialogic® Brooktrout® SR140 Fax Software Ethernet Adapter Local Area Connection:

Connection-specific DNS Suffix:
IP Address . . . . . : 10.10.42.32
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 10.10.42.1

5.2 Dialing Plan Overview

The diagram provides an overview of the dialing plan used for this document.



Notes:

- SR140 Fax Server = Fax Server including Dialogic® Brooktrout® SR140 Fax Software and 2nd party fax application
- TR1034 Fax Server = Fax Server including Dialogic® Brooktrout® TR1034 Fax Board and 2nd party fax application

6. Dialogic® Brooktrout® SR140 Fax Software Setup Notes

All default Dialogic® Brooktrout® SR140 Fax Software configuration values from Dialogic® Brooktrout® SDK 6.0.0 were used. This means the default BTCALL parameters (btcall.cfg) and the default CALLCONTROL parameters (callctrl.cfg).

See the callctrl.cfg file below:

```
  api_trace=none
  host_module_trace=none
  internal_trace=none
  ip_stack_trace=none
  l3l4_trace=none
  l4l3_trace=none
  max_trace_files=1
  max_trace_file_size=10
  trace_file=
[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=false
```

```
  t38_max_bit_rate=14400
  t38_fax_version=0
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_UDPTL_redundancy_depth_control=5
  t38_UDPTL_redundancy_depth_image=2
[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=0
  sip_session_timer_minse=-1
  sip_session_timer_refresh_method=0
  sip_ip_interface=
  sip_ip_interface_port=5060
```

```
[module.41]
  model=SR140
  virtual=1
  exists=1
  vb_firm=C:\fdtool-6.0.0\bin\bostvb.dll
  channels=60
[module.41/ethernet.1]
  ip_interface={933ECC8B-7B1C-49D1-A036-33B1FFF17F9A}:0
  media_port_min=56000
  media_port_max=57000
[module.41/host_cc.1]
  host_module=1
  number_of_channels=60
```

Note: If the fax application does not allow you to enter the IP address of the destination, you will need to set the sip_default_gateway parameter in the callctrl.cfg file. In this test case, this would have been: sip_default_gateway=10.10.45.102:0, which is the IP address to the Siemens HiPath 8000.

7. Siemens HiPath 8000 IP Softswitch Setup Notes

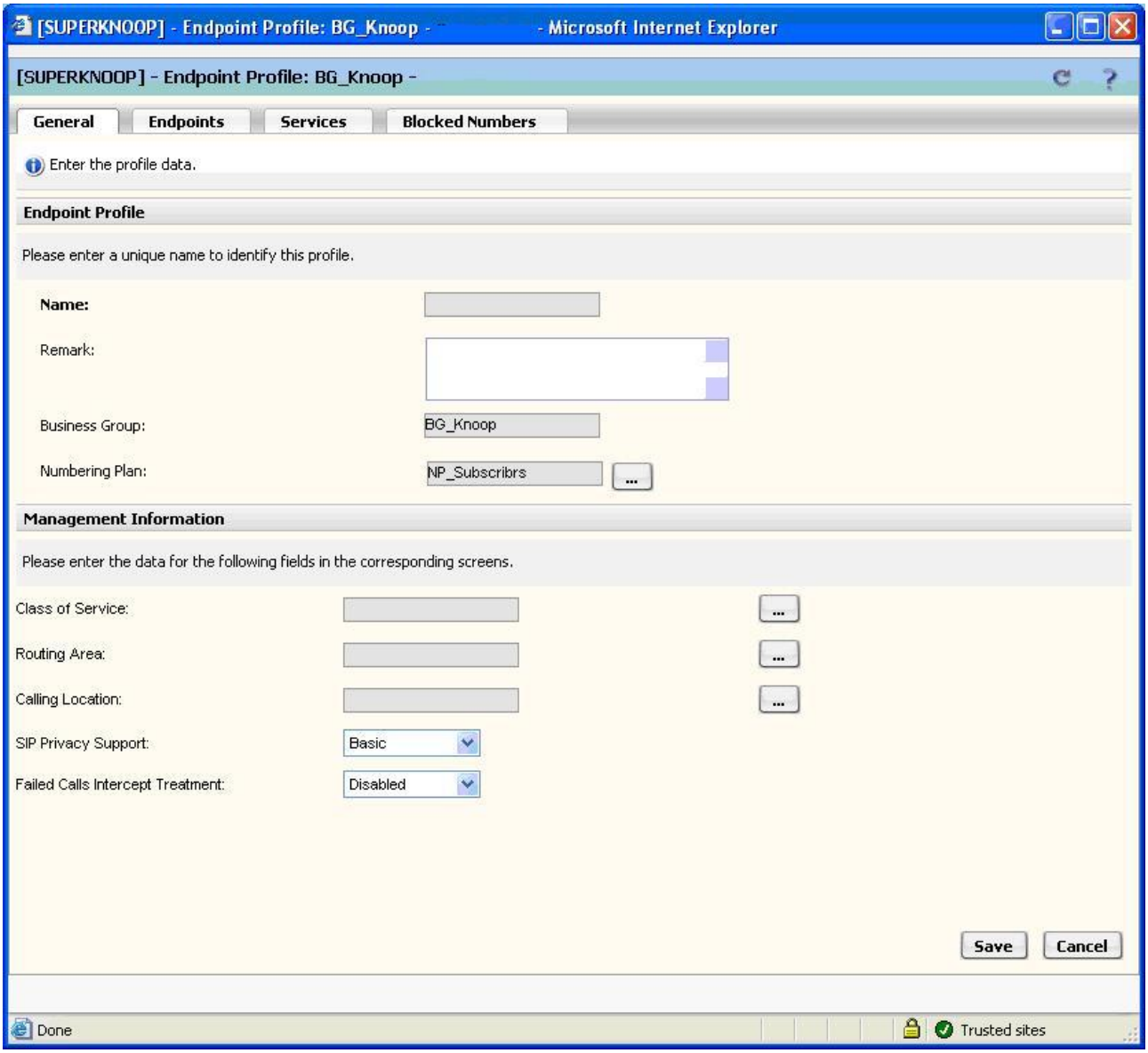
7.1 System Basics

The Dialogic® Brooktrout® SR140 Fax Software can be configured as a Subscriber (BGL) or as an Endpoint Profile (EPP) on the OSC Voice.

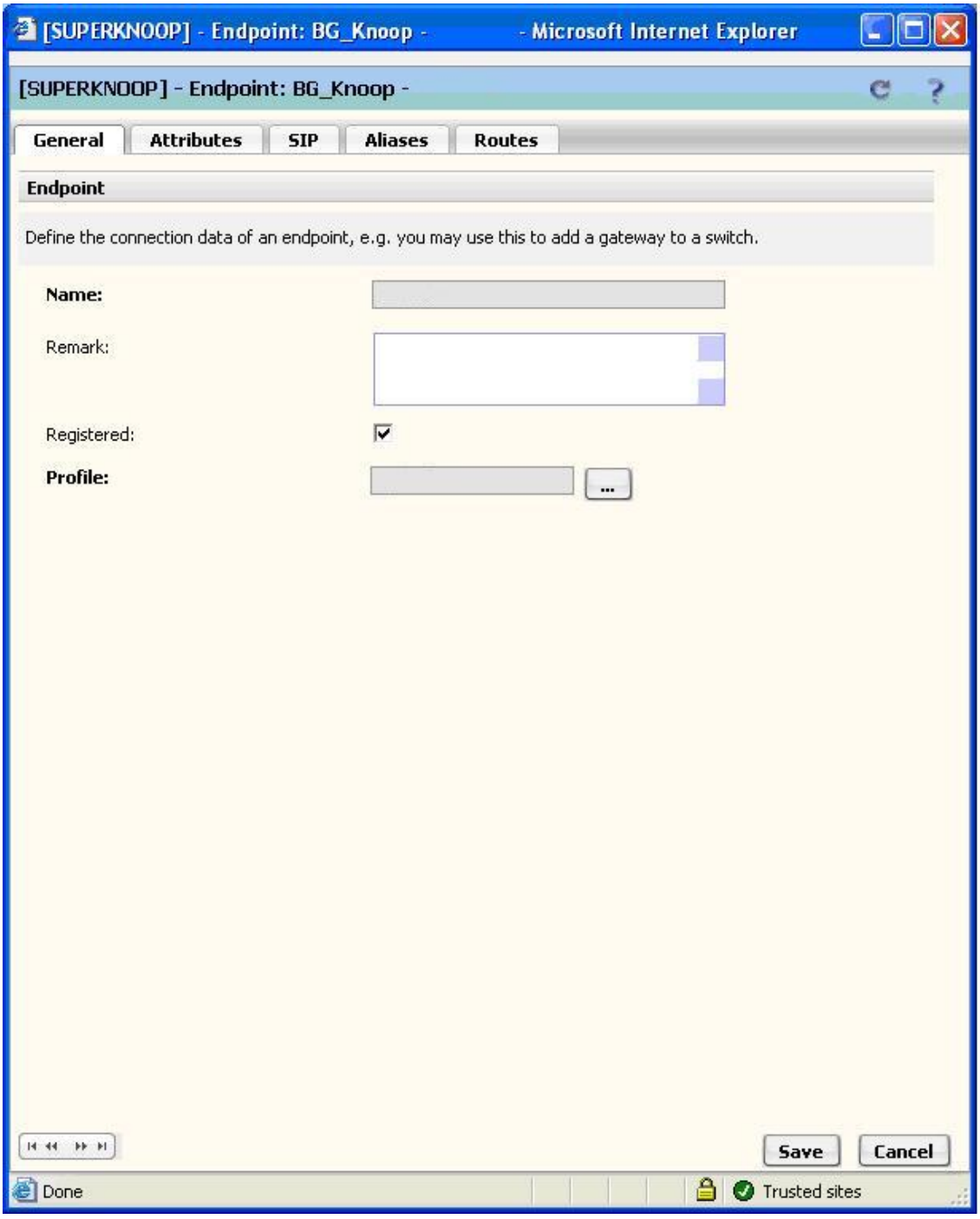
For beneficial functionality and reliability, Siemens suggests the following:
The server should ideally be used with an Endpoint Profile configuration (static registration).

7.1.1 Endpoint

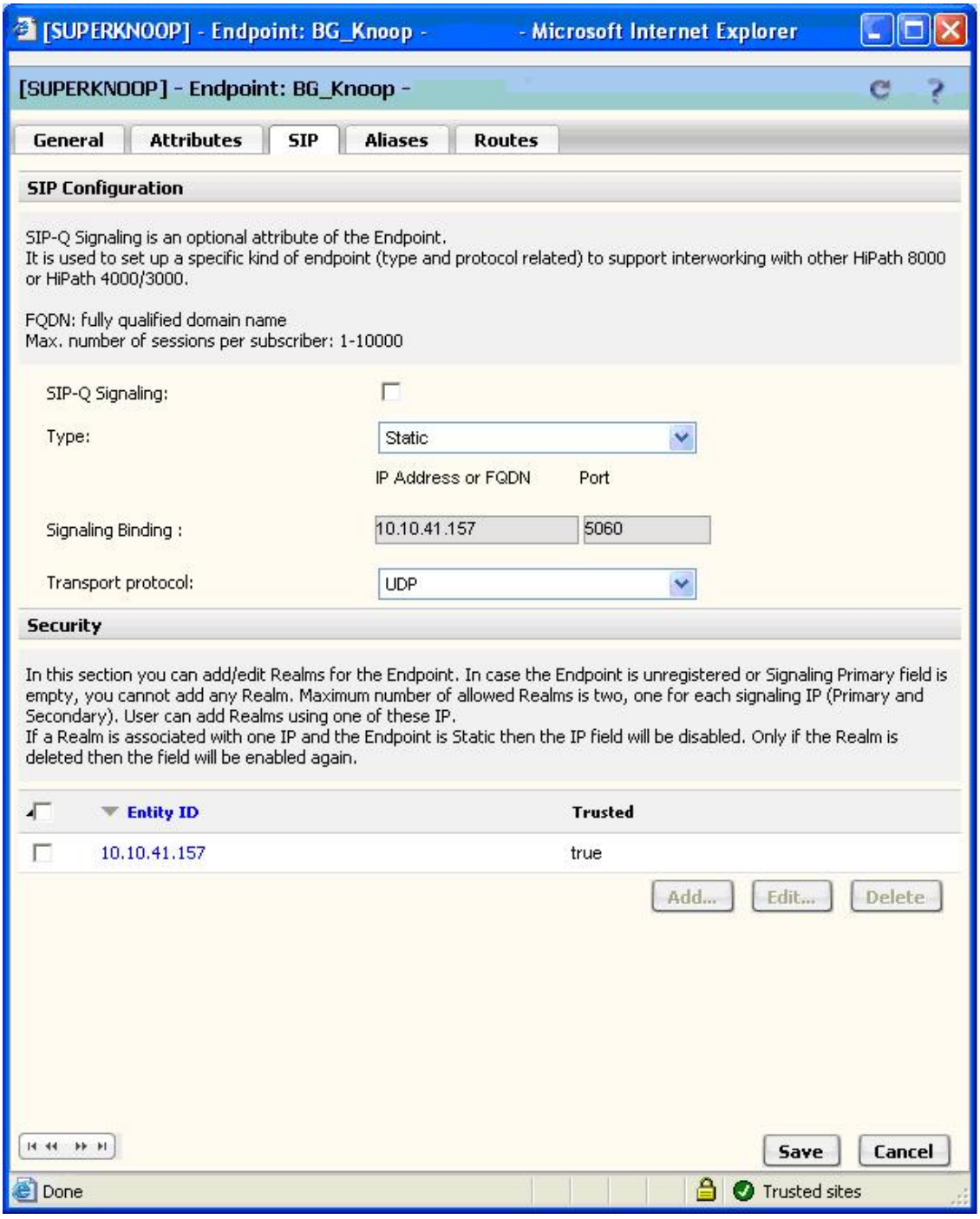
Create an Endpoint Profile.



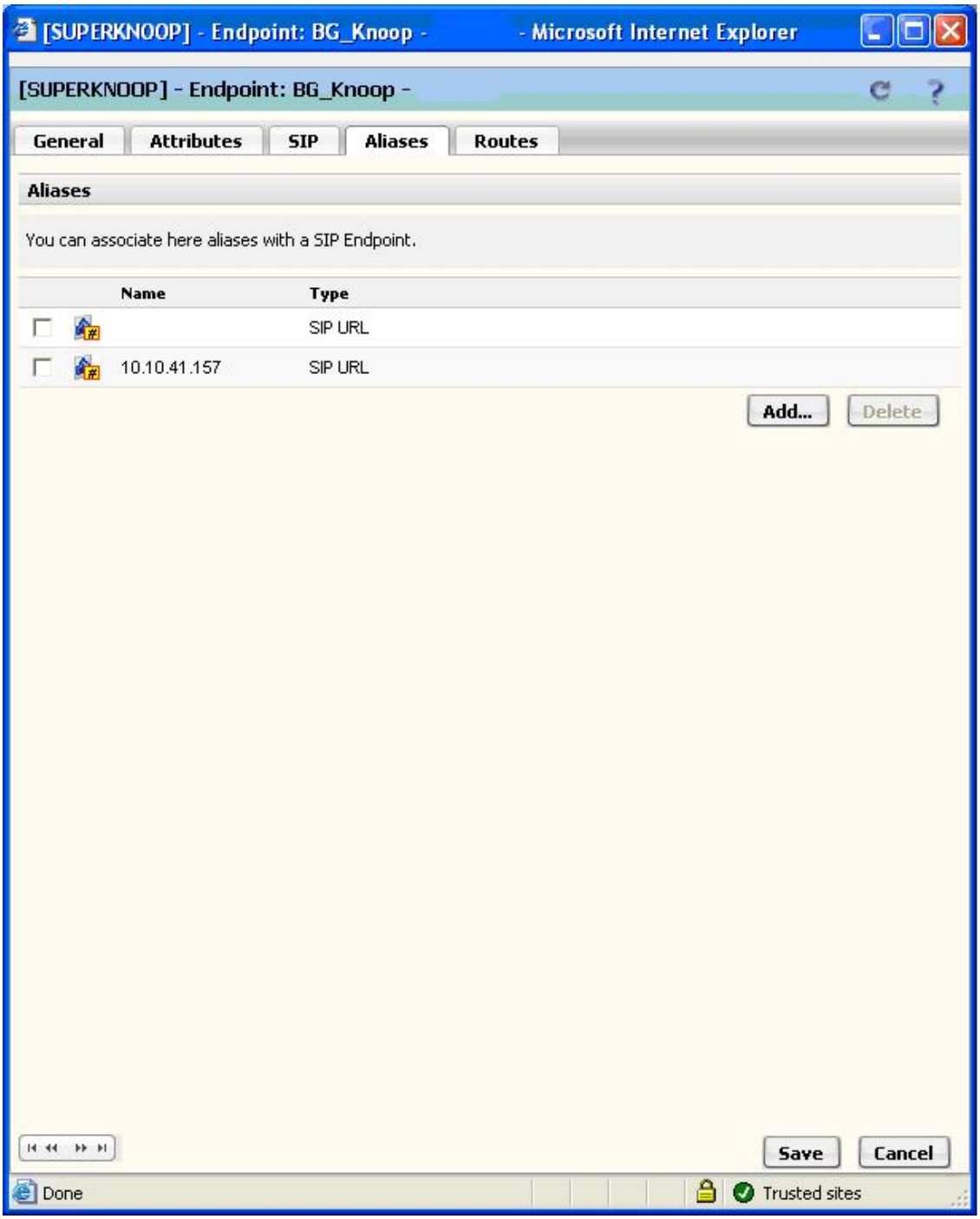
Create an Endpoint and assign the Endpoint Profile to it. Nothing needs to be ticked in the Attributes tab.



Go to the SIP tab and choose your registration type. In this test configuration, Type = Static.

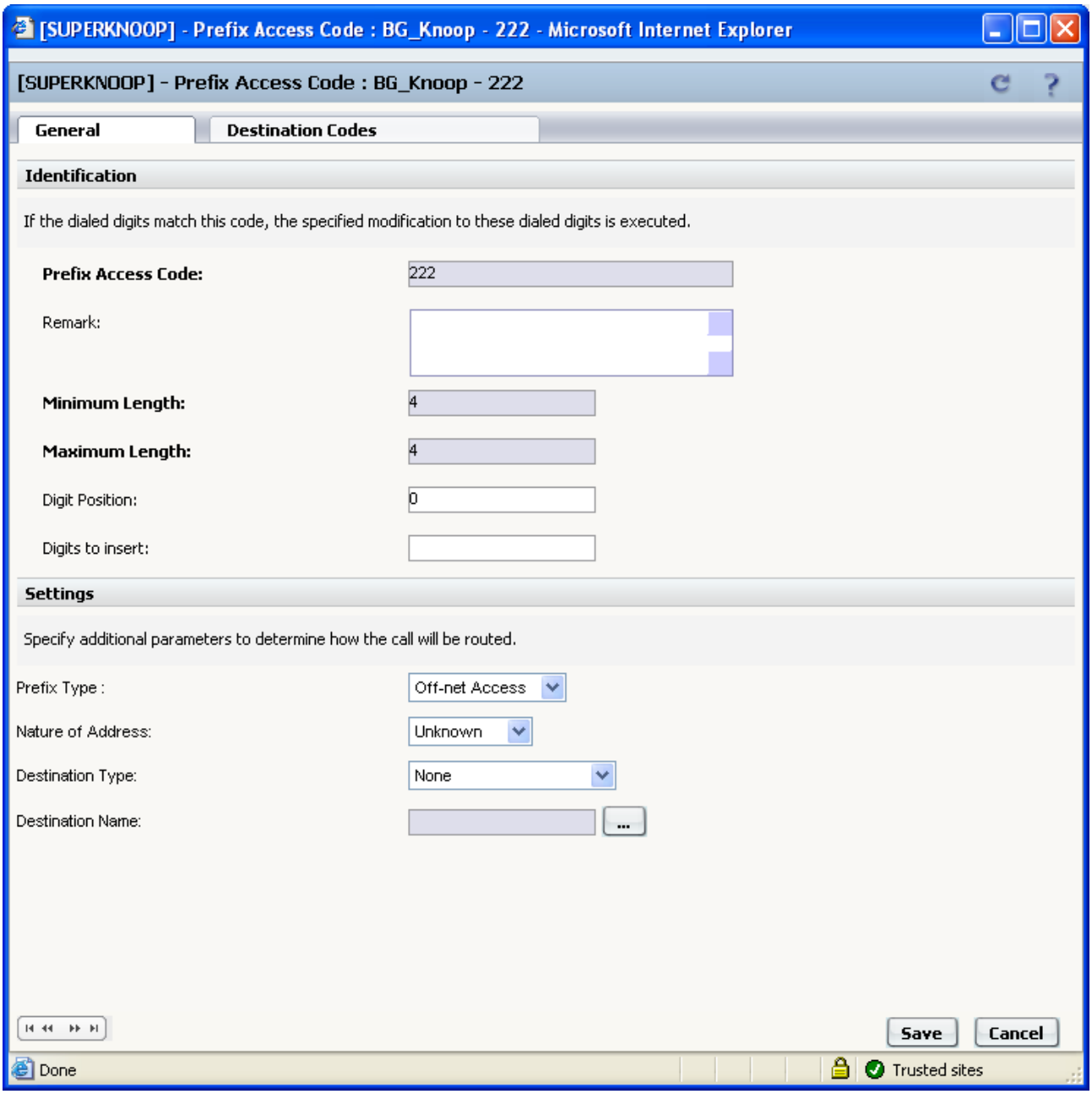


Go to the Aliases tab. It is important to add one or more aliases, from which at least one is the IP address or DNS record the Endpoint is operating under. Once this is done, the Endpoint is set up.

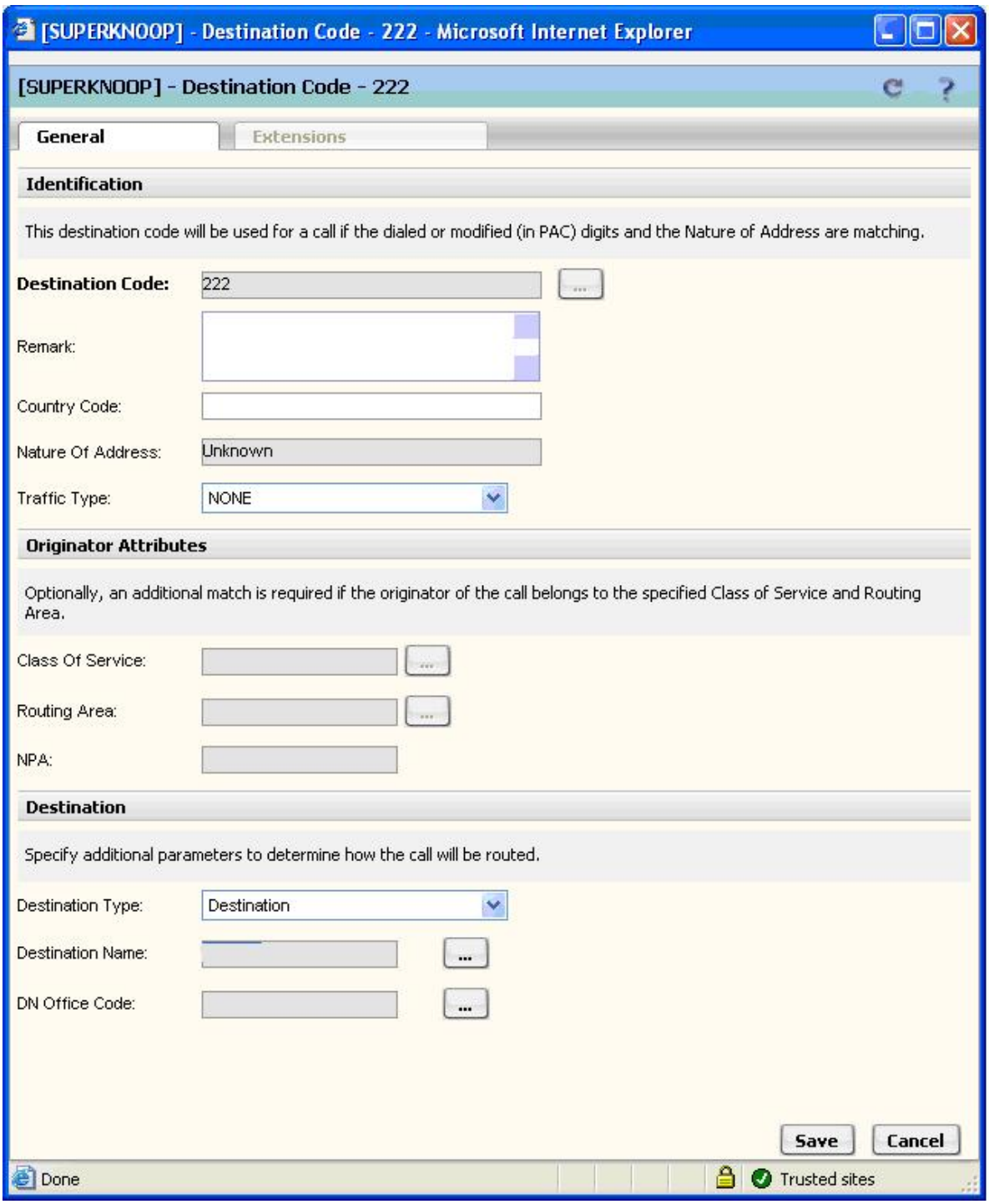


Go to the Routes tab (screen shot not available) and create an empty destination under Destinations and Routes and name it: “toFaxServer” and click Save. The details can be filled in later on.

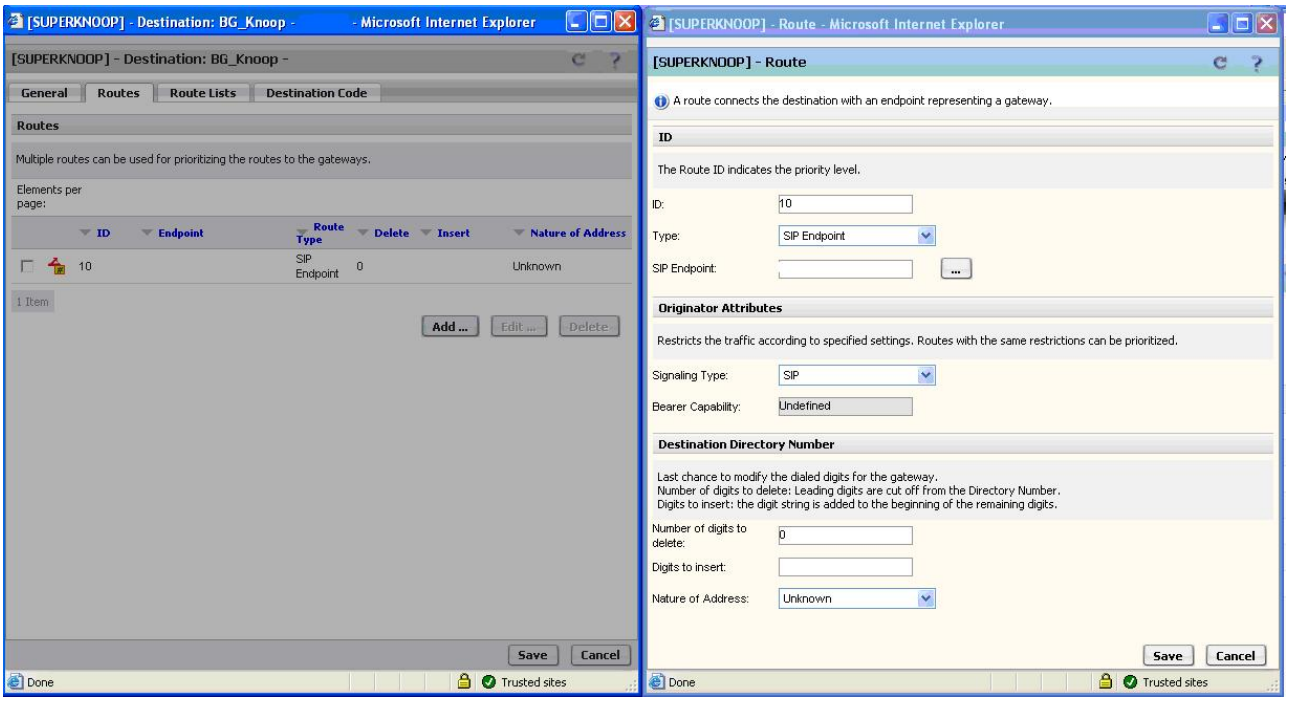
Create a Prefix Access Code to route all “222” dialed digits to the Fax Server.



Create a Destination Code of “222” to point to the Fax Server destination that was entered earlier.

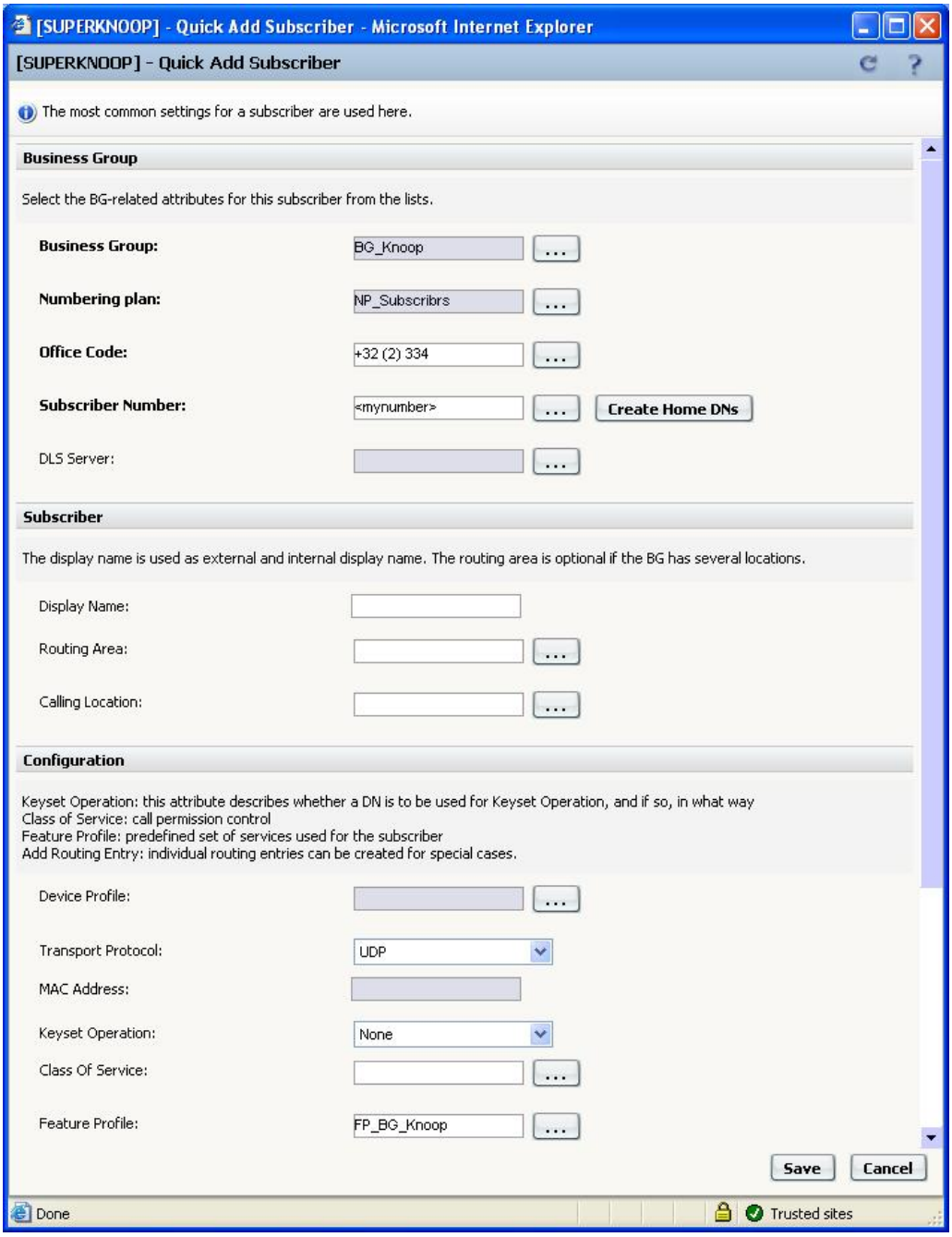


Open the Destination and new Route that points to the correct Endpoint. Click Save to save the configuration.



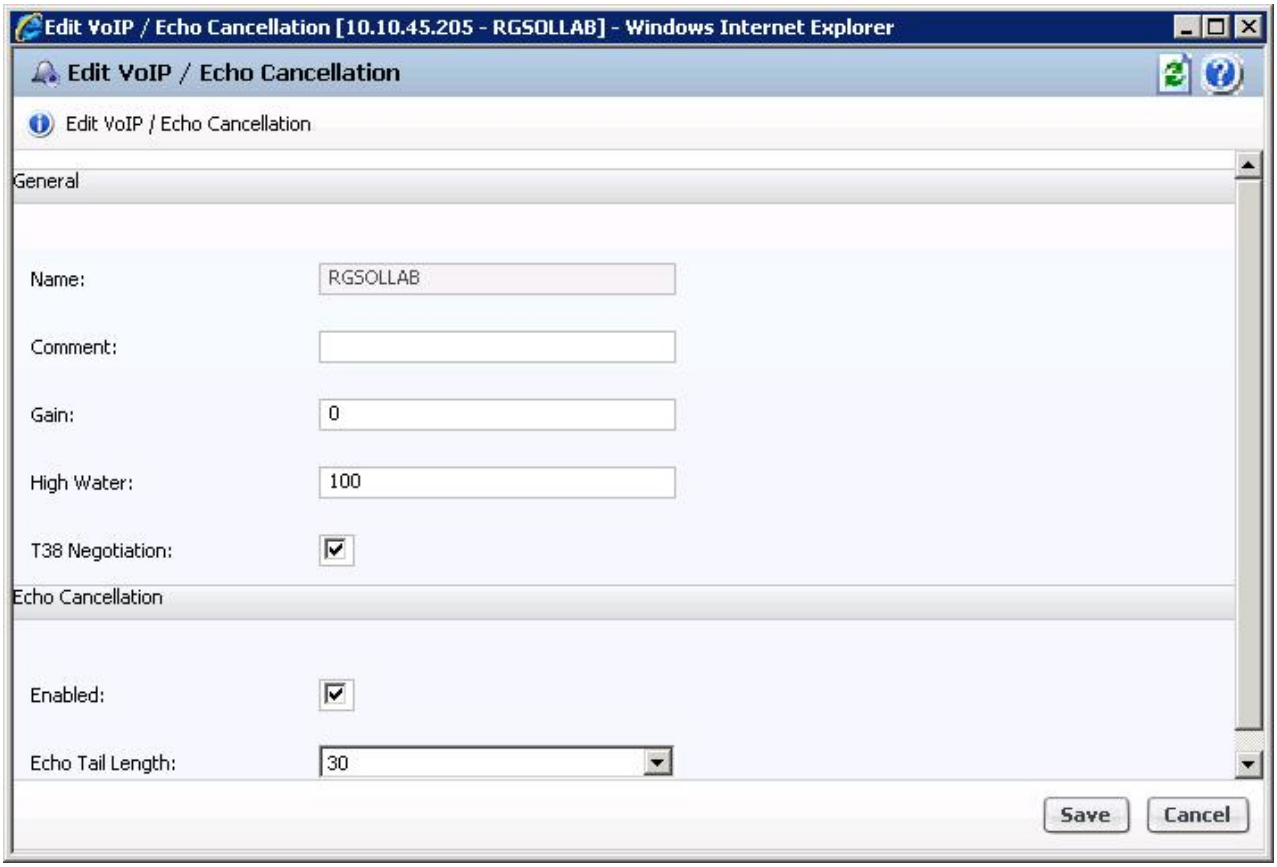
7.1.2 Subscriber

For beneficial functionality and reliability, Siemens suggests configuring the server as an Endpoint Profile configuration (refer to section 7.1.1). However, if you plan to configure as a Subscriber, you can add a Subscriber as you would do for a SIP phone. Most Fax Servers are able to register dynamically on the Subscriber Number you just created. In the Feature Profile, enable all appropriate features such as Call Transfer, Music on Hold, and Name Delivery options.

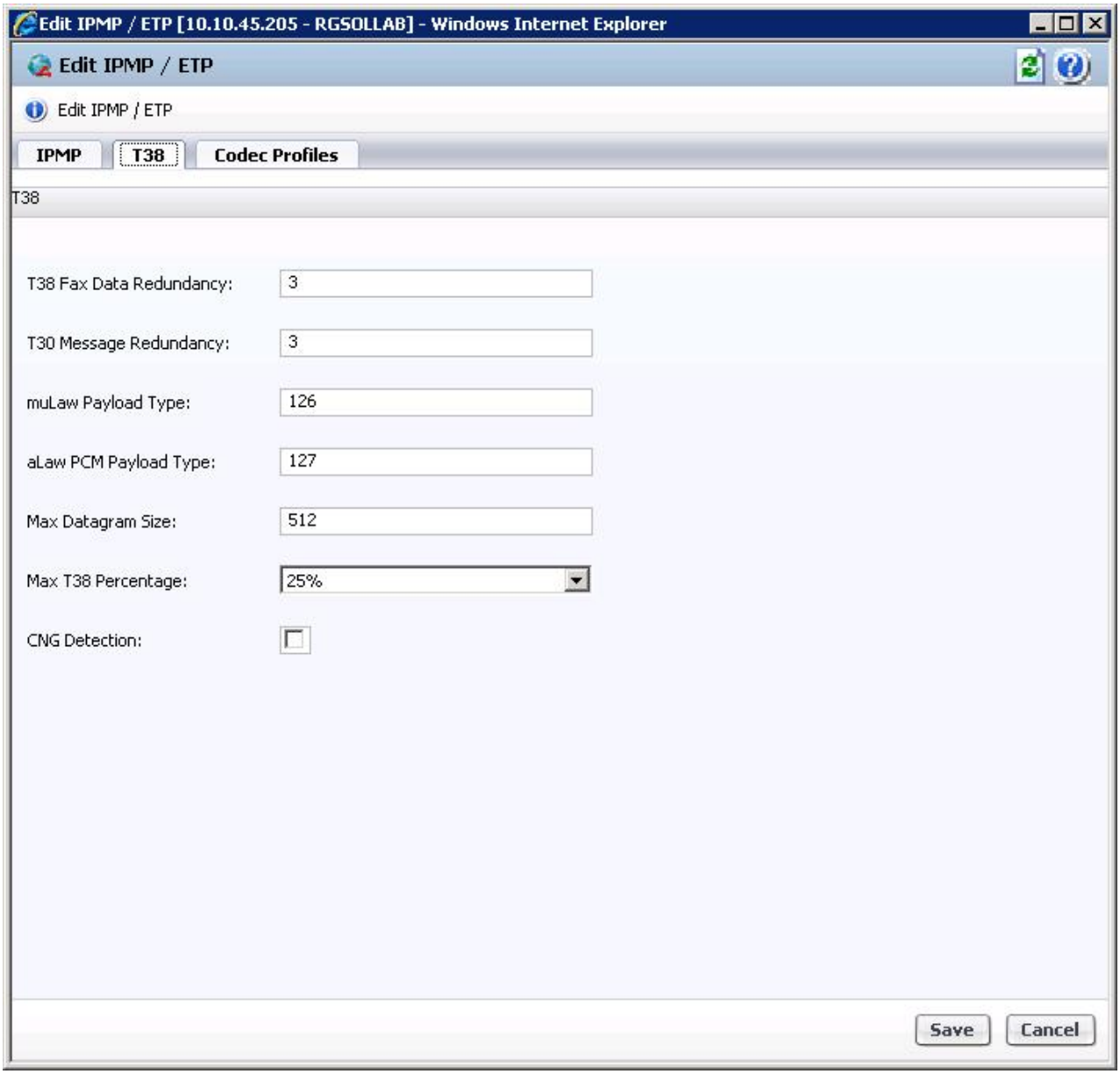


8. Siemens RG8702 Gateway Setup Notes

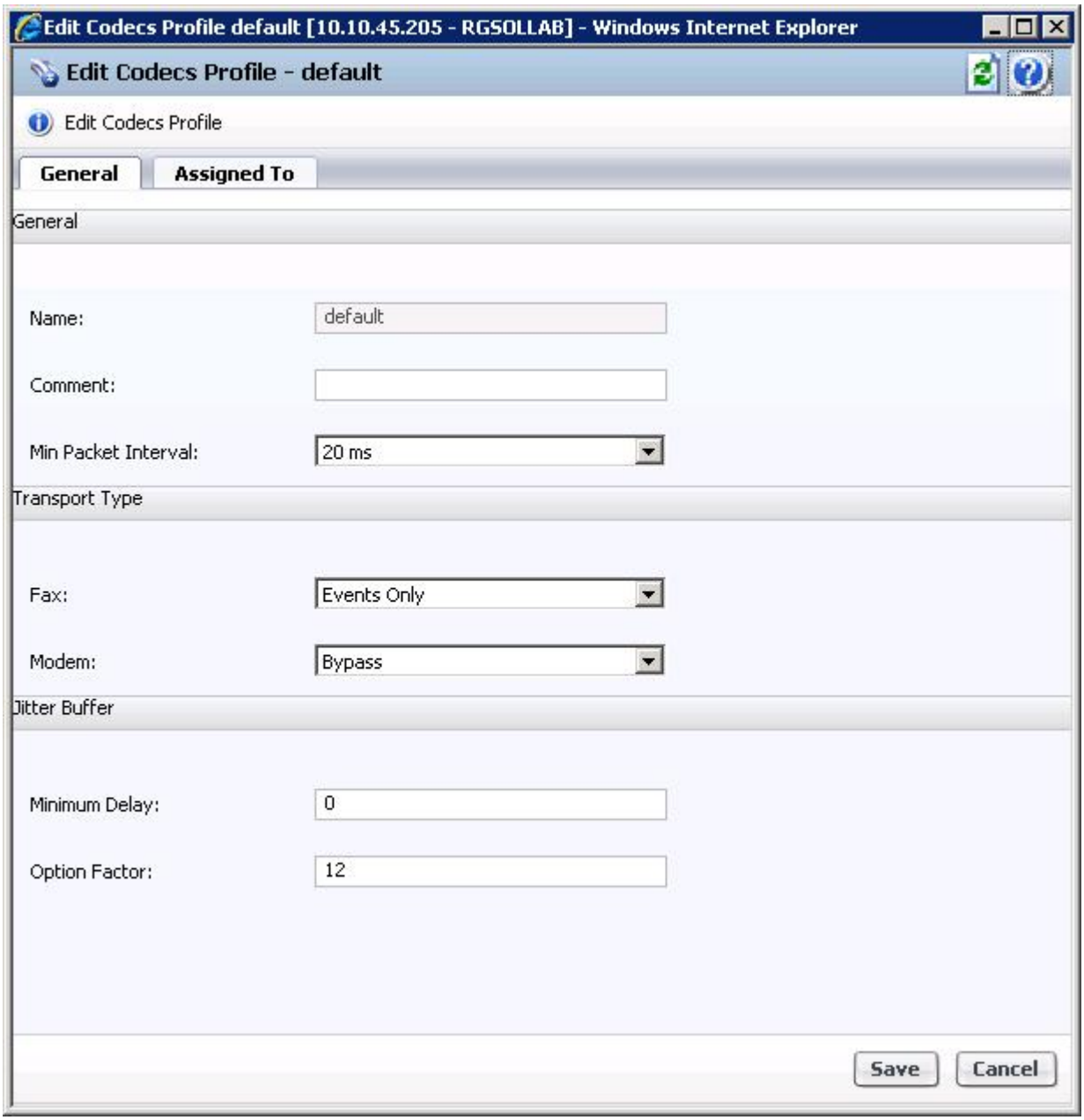
Verify that T.38 Negotiation is enabled on the Siemens RG8702 Gateway.



Enable CNG tone detection in the gateway. See below for an indication of where this parameter can be found. Select the CNG Detection box.



DMTF detection settings can be found as shown below.



9. 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.