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Dialogic® Brooktrout® SR140 Fax Software with 3Com® VCX™ V7000 IP PBX Platform

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 ***3Com® VCX™ V7000*** 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 ***3Com® VCX™ V7000***.

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.

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. The 3Com® VCX™ V7000 will be denoted herein as 3Com V7000 or V7000, or some other form thereof.

2. Configuration Details

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

2.1 3Com® VCX™ V7000 IP PBX

Vendor	***3Com®***
Model(s)	***VCX™ V7000***
Software Version(s)	***9.0.7***
PSTN Device	***Standard fax machine***
Protocol to PSTN Device	***Analog DID***
IP Device	***Dialogic® Brooktrout® SR140***
Additional Notes	***The 3Com® VCX™ V7000 was configured by 3Com engineers. It requires 3Com platform specialist to configure all the nodes and dial plan to route the calls.***

2.2 Dialogic® Brooktrout® SR140 Fax Software

Vendor	***Dialogic***
Model	***Dialogic® Brooktrout® SR140 Fax Software***
Software Version	***SDK 6.1.1***
Protocol to Gateway or Call Manager	***SIP***
callctrl.cfg file	***Default callctrl.cfg file included in SDK 6.1.1***

2.3 Network System Configuration

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

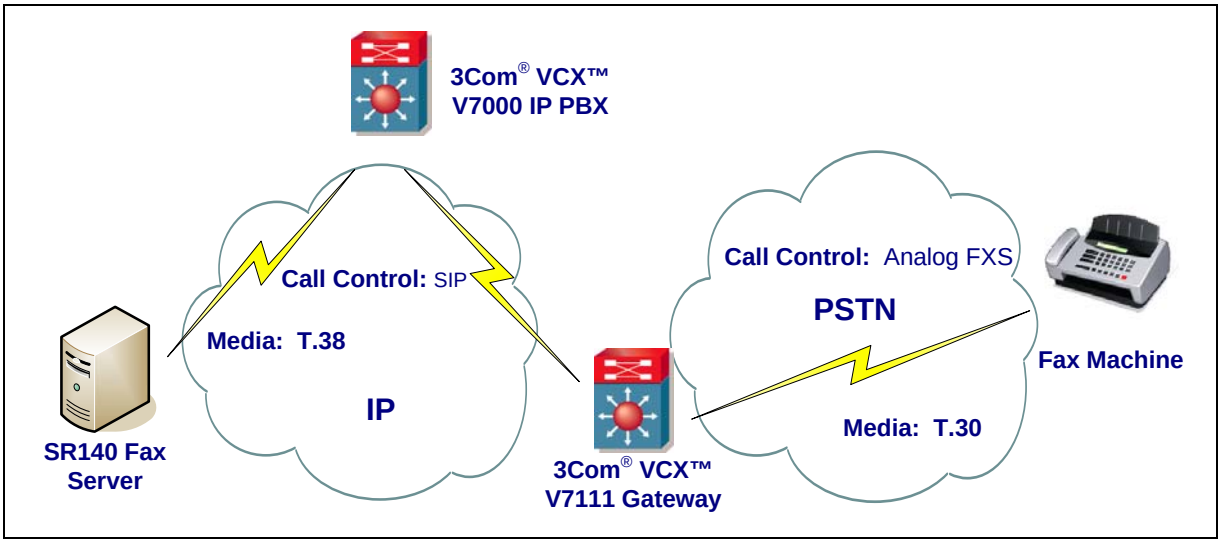


Diagram Notes:
SR140 Fax Server = Fax Server including Dialogic® Brooktrout® SR140 Fax Software and third party fax application.

3. Prerequisites

The 3Com® VCX™ V7000 must be on firmware version 9.0.7 and higher. Older firmware versions will not work.

4. Summary of Limitations

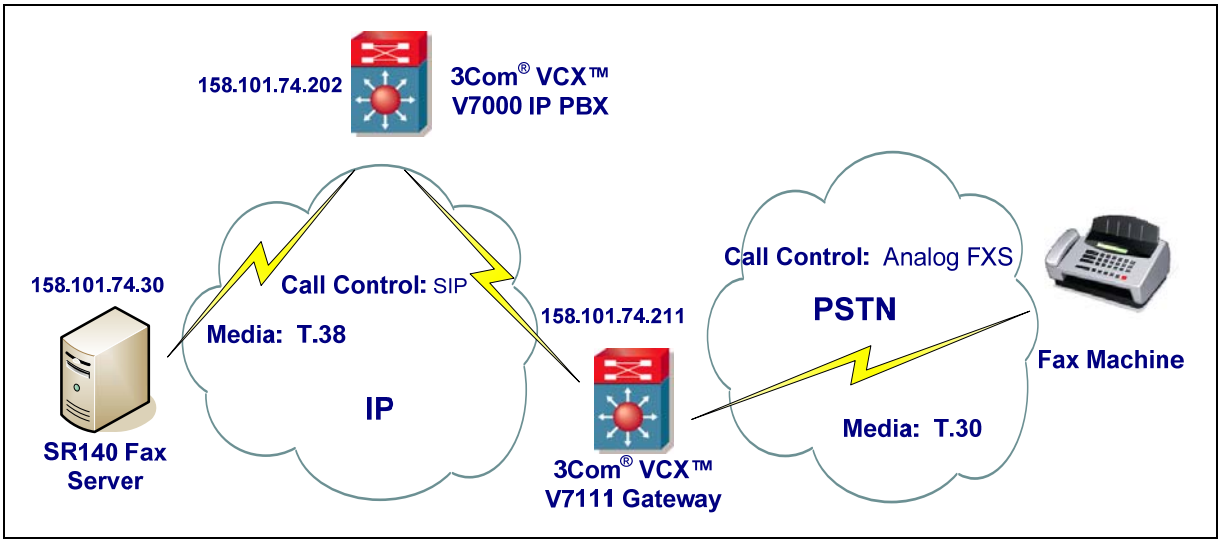
3Com® VCX™ V7000 firmware versions older than 9.0.7 were not tested.

5. Deployment Details

5.1 Network Addresses

Device #	Device Make, Model, and Description	Device IP Address
1	3Com® VCX™ V7000	158.101.74.202 (SR140)
2	SR140	158.101.74.30
3	3Com® VCX™ V7111	158.101.74.211

5.2 Dialing Plan Overview



Calls were made from the SR140 to 3Com® VCX™ V7000. All calls originating from the SR140 were routed to the 3Com VCX V7111 FXS gateway which drives the standard fax machine used for this testing. Similarly, all the calls originating from the fax machine were routed to the VCX V7000 platform from the 3Com FXS gateway. The VCX V7000 switch then routed the calls to SR140 configured as an endpoint connected with this switch.

5.3 Call Routing Configuration

Direct routing to gateway was used on the SR140.

6. Dialogic® Brooktrout® SR140 Fax Software Setup Notes

The Installation and Configuration Guides for SDK 6.1.1 are available from the site:

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

For the sample test configuration, the SR140 was configured using the default values from SDK 6.1.1 and is shown below for reference.

```
# callctrl.cfg
#
# Sample Call Control configuration file for Boston Bfv API.
#
# This is an all-in-one file that contains examples for several
# different types of configurations.  All of the configuration lines have
# been commented out.  You should uncomment the lines that are
# appropriate for your configuration.
#
# NOTE: Ensure that you use an absolute path for all the parameters that accept
#   file names.
#
# Default installation location
#-------------------------------------------------------------------------------
# OS                          | default [INSTALL_LOCATION]
#-----------------------------+-------------------------------------------------
# Windows BSS (boston.msi)      | "C:/Program Files/Brooktrout"
# Windows SDK (sdk_windows.exe) | C:/Brooktrout/Boston
# Linux                         | /usr/sys/brooktrout/boston
# Solaris                       | /usr/sys/brooktrout/boston
#-------------------------------------------------------------------------------
#
# Parameters that accept file names
#-------------------------------------------------------------------------------
# Parameter     | OS          | Location
#---------------+-------------+-----------------------------------------------
# trace_file    | All         | [INSTALL_LOCATION]/config/ecc.log
#---------------+-------------+-----------------------------------------------
# country       | All         | [INSTALL_LOCATION]/config/us600.qslac
#---------------+-------------+-----------------------------------------------
# protocol_file | All         | [INSTALL_LOCATION]/config/analog_loopstart_us.lec
#---------------+-------------+-----------------------------------------------
# module_library| Windows BSS | C:/Windows/System32/brktsip.dll
#               | Windows SDK | [INSTALL_LOCATION]/bin/brktsip.dll
#               | Linux       | /usr/lib/brktsip_mt.so
#               | Solaris     | /usr/lib/brktsip_mt.so
#---------------+-------------+-----------------------------------------------
# vb_firm       | Windows BSS | [INSTALL_LOCATION]/bin/bostvb.dll
#               | Windows SDK | [INSTALL_LOCATION]/fw/bostvb.dll
#               | Linux       | [INSTALL_LOCATION]/fw/bostvb.so
#-------------------------------------------------------------------------------
#
# Refer to the Call Control Configuration File section in the Brooktrout Fax
# and Voice API Programmer's Reference Manual for more information.

 api_trace=verbose
 internal_trace=verbose
 l3l4_trace=verbose
 l4l3_trace=verbose
 host_module_trace=verbose
 ip_stack_trace=verbose
 vtty_trace=true
 max_trace_files=1
 max_trace_file_size=100
 trace_file="C:\Documents and Settings\kshahab\My Documents\Mydata\Dialogic\FAE\Tools\FoIP Interop Kit\interop kit SDK611
v1.2\fdtool-6.1.1\logs\ecc.log"
[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_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=5
 t38_UDPTL_redundancy_depth_image=2
[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=0
 sip_session_timer_minse=-1
 sip_session_timer_refresh_method=0
 sip_ip_interface={8E1FF376-7756-4984-A9ED-6C9AD1743FB5}:0
 sip_ip_interface_port=5060
 sip_redirect_as_calling_party=0
 sip_redirect_as_called_party=0
[module.41]
 model=SR140
virtual=1
 exists=1
 vb_firm=C:\Documents and Settings\kshahab\My Documents\Mydata\Dialogic\FAE\Tools\FoIP Interop Kit\interop kit SDK611
v1.2\fdtool-6.1.1\bin\bostvb.dll
 channels=2
[module.41/ethernet.1]
 ip_interface={8E1FF376-7756-4984-A9ED-6C9AD1743FB5}:0
 media_port_min=56000
 media_port_max=57000
[module.41/host_cc.1]
 host_module=1
 number_of_channels=2
```

7. 3Com VCX Platform Setup Notes

The 3Com® VCX™ V7000 was configured by 3Com engineers. It requires 3Com platform specialist to configure all the nodes and dial plan to route the calls.

Several 3Com references are noted below:

3Com® VCX™ V7000 IP PBX-
http://www.3com.com/products/en_US/printsafe.jsp?sku=WEBBNGVCXV7000&pathtype=purchase

3Com® VCX™ V7000 datasheet - http://www.3com.com/other/pdfs/products/en_US/400865.pdf

3Com® VCX™ V7111 FXS Gateway -
http://support.3com.com/infodeli/tools/vcx/V7111/VCX_V7111_User_Guide.pdf

8. 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.