



SCOPSERV
International inc.

ScopTEL™ IP PBX Software

Mediatrix Sentinel | ScopTEL VM Installation



The Mediatrix Sentinel appliance is a Gateway Appliance with several advanced features (some of which are activated by licensing).

- **Eight Gateway modules are supported per Sentinel and external Gateways are also supported.**
- **FXO/FXS modules supported**
- **ISDN modules supported**
- **DSP modules are supported for RTP CODEC support.**
- **Hardware transcoding is not yet supported**
- **SBC is supported by license. Licensing is per channel based**
- **Embedded Firewall**
- **Embedded Router supporting static routes**
- **Embedded NAT Router**
- **Embedded DHCP server**
- **VLAN Support**
- **QoS support**
- **2 Network interfaces (Uplink, Lan1) with each interface supporting a unique MAC address for bridging to Virtual Machine network interfaces.**
- **1 dedicated network interface for emergency management**

- **Additional Information is available on the Mediatrix Wiki**
- **http://wiki.media5corp.com/wiki/index.php?title=Category:Mediatrix_Sentinel**



ScopTEL Background and Pre-requisites

- ScopTEL installs within the Sentinel Appliance using a Virtual Machine container
- You must first download the ScopTEL 64 bit ISO from <http://download.scopserv.com/iso/>



Mediatrix Background and Pre-requisites

The Mediatrix Sentinel has three network interfaces

- Lan1 eth2-5
- Eth2-5 Default management interface IP address 192.168.0.10 255.255.255.0)
- Uplink eth1 (DHCP client)
- The Uplink eth1 port is the default SIP signalling and media interface (sip-default is bound to this interface)
- Hardware configurations vary by purchased configuration:
 - Solid State Drive space
 - RAM
 - Number of CPU cores
- The minimal configuration for a ScopTEL installation is:
- 4 CPU cores
- 4 GB RAM
- 64 GB minimum drive space recommended



Log into the webui <http://<IP of Mediatrix Uplink eth1>/> . The default user is 'admin' and password is 'administrator'.



❖ Please enter your username and password

User Name:

Password:

Login



- Click on the System tab then click on VM
- Enter the Vm Name
- Assign the maximum amount of RAM (Mb) available to the VM container based on the hardware platform
- Assign the maximum Storage (Gb) available to the VM container based on the hardware platform
- Assign the Maximum Nb Cores to the VM container based on the hardware platform
- The ISO Name must match the name of the ISO file you downloaded from the ScopServ download location
- Set the Usb to All
- Set Startup to Auto
- eth1 MAC address will be automatically given a MAC address
 - In this example 12:C4:CF:0B:5D:F0
- Eth2-5 MAC address will be automatically given a hidden MAC address
 - In this example 12:C4:CF:0B:5D:F1 (the last character of the MAC address will be incremented by 1)



System
 Network
 SBC
 ISDN
 SIP
 Media
 Telephony
 Call Router
 Management
 Reboot

Information
 Services
 Hardware
 Endpoints
 Syslog
 Events
 Local Log
 VM

Virtual Machines

Virtual Machine Status								
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Ram(Mb)	Storage(Gb)	Nb Cores	State
scoptel	scopserv-5.0.x86_64.iso	12:C4:CF:0B:5D:F0	0	All	3500	110	3	Started

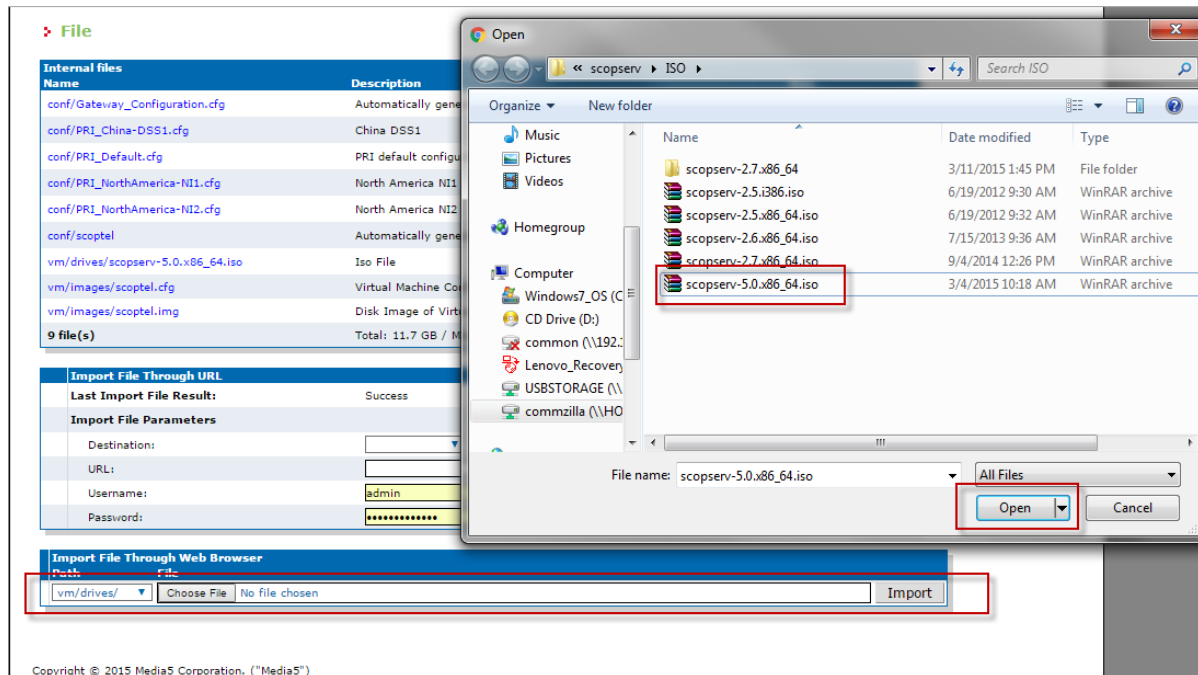
Virtual Machine Configuration						
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Startup	Actions
scoptel	scopserv-5.0.x86	12:C4:CF:0B:5D:F0	0	All	Auto	▶ ◻ ◻ ◻ ◻ ◻

Virtual Machine Creation			
Vm Name	Ram(Mb)	Storage(Gb)	Nb Cores
<input type="text"/>	<input type="text"/>	<input type="text"/>	1

Apply Cancel



- You will have to use tight-vnc viewer to complete the installation of the ScopTEL ISO image to the Mediatrix vm/images/ folder Refer to the VM Service guide available from the Mediatrix Wiki at http://wiki.media5corp.com/wiki/images/c/c8/VM_Service_User_Guide_Dgw_v2-0.pdf
- After you have logged into the Sentinel Click on the Management tab then click on File
 1. If you are not using HTTPS, click Activate unsecure file transfer through web browser located at the top of the page.
 2. Import File Through Web Browser
 3. Select vm/drives/ from the drop list selection and click Choose File
 4. Locate the file on your computer select it and click on Open
 5. Click on Import to save the ISO file to the vm/drive/ file system on the Sentinel and this will transfer the ISO to the Sentinel so you can complete the installation using tight-vnc





- Once you have started the ScopTEL VM use [tight-vnc](#) to connect to the installation ISO
- At the first boot prompt type the word 'manual' omitting any quotation marks and press enter on your keyboard so you can set the drive partitions later.
- The software installation will begin once the enter key is pressed



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- To automatically install press the <ENTER> key.
- To install in manual mode, type: manual<ENTER>.
- Use the function keys listed below for more information.

[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]

```
boot: manual_
```




- **ScopTEL Server Installation from ISO**
- **On the Partitioning Type screen use the keyboard arrows to select the option to 'Use free space on selected drives and create default layout' and select OK and proceed with the installation**
- **When you get to the Review and Modify Partitioning Layout it is advantageous to use the ext4 file system for better I/O performance**
- **To install using the optional ext4 file system use the keyboard and select 'Yes'**
- **On the partitioning screen choose the / partition and change the file system option to ext4**
- **Select OK and allow the installation to continue**
- **Once the software has been extracted and installed to the Sentinel vm/images/ you will be prompted to reboot.**
- **Once the VM is rebooted you will be able to login to the ScopTEL web interface and begin configuration of the ScopTEL server.**



- The Sentinel and ScopTEL server installation both share eth1 and eth2-5 Sentinel Interfaces by bridging the MAC addresses with ScopTEL's ethX interfaces.
- In this example the Sentinel shares the Uplink Interface using eth1 with the MAC address assigned to the ScopTEL Virtual Machine container



System Network SBC ISDN SIP Media Telephony Call Router Management Reboot

Status Host Interfaces VLAN QoS Local Firewall IP Routing Network Firewall NAT DHCP Server

Status

Interfaces Status					
Name	Link	IP Address	Default Router	VLAN Override	Status
Lan1	eth2-5	172.16.159.254/16		Disable	Active
OAM	eth2-5	192.168.0.10/24		Disable	Active
Uplink	eth1	192.168.192.158/24	192.168.192.254	Disable	Active



System Network SBC ISDN SIP Media Telephony Call Router Management Reboot

Information Services Hardware Endpoints Syslog Events Local Log VM

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Virtual Machine Status									
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Ram(Mb)	Storage(Gb)	Nb Cores	State	
scoptel	scopserv-5.0.x86_64.iso	12:C4:CF:0B:5D:F0	0	All	3500	110	3	Started	

Virtual Machine Configuration							
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Startup	Actions	
scoptel	scopserv-5.0.x86	12:C4:CF:0B:5D:F0	0	All	Auto	▶ ◻ ▶ ◻ ◻ ◻ ◻	



- The ScopTEL eth0 interface will automatically be bridged with the same MAC address in DHCP client mode


Network:


Configuration Interfaces IP Routing Static Hosts


Edit Interface


General

* Interface Name:
Format: **interface.vlanid**
Example: **eth0** (Primary Interface), **eth0.456** (VLAN ID 456 membership on eth0)

* Mode :

* Type :

Act as a Master (Bonding) Interface ? :

Act as a Slave Interface ? :

Hardware Address (MAC):

Interface Speed:
Default: Automatic

Duplex Mode:
Default: Automatic



- The ScopTEL eth1 interface must be manually created using the ‘hidden MAC address’ created by the Sentinel VM creation.
- The IP address must be unique and cannot match the Sentinel host Uplink address eth2-5

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Status Host Interfaces VLAN QoS Local Firewall IP Routing Network Firewall NAT DHCP Server

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Lan1		eth2-5	172.16.159.254/16		Disable	Active
OAM		eth2-5	192.168.0.10/24		Disable	Active
Uplink		eth1	192.168.192.158/24	192.168.192.254	Disable	Active

Network:

Configuration Interfaces IP Routing Static Hosts

Edit Interface

General

* Interface Name: eth1
Format: interface.vlanid
Example: eth0 (Primary Interface), eth0.456 (VLAN ID 456 membership on eth0)

* Mode: LAN

* Type: Static

* IP Address: IPv4: 172 . 16 . 159 . 1
IPv6:

Subnet Mask: IPv4: 255 . 255 . 0 . 0
IPv6:

Gateway: IPv4:
IPv6:

Enable VLAN (802.1q)?:

Act as a Bridge Interface?:

Act as a Master (Bonding) Interface?:

Act as a Slave Interface?:

Hardware Address (MAC): 12:C4:CF:0B:5D:F1



- Once the ScopTEL Network configuration is complete click on the Commit button to write changes to the ScopTEL database

Network:

Configuration Interfaces IP Routing Static Hosts

Interfaces: [1 to 2 of 2] [Add a new Interface](#)

Search: Search

Interface	Mode	Type	IP Address	Subnet	Gateway	VLAN	
eth0	WAN	Dynamic					<input checked="" type="checkbox"/>
eth1	LAN	Static	172.16.159.1	255.255.0.0			<input checked="" type="checkbox"/>

- Then restart the ScopTEL container using the Sentinel VM manager

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Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Ram(Mb)	Storage(Gb)	Nb Cores	State	
scoptel	scopserv-5.0.x86_64.iso	12:C4:CF:0B:5D:F0	0	All	3500	110	3	Started	

Virtual Machine Configuration								Actions
Vm Name	Iso Name	MAC Address	Vnc Id	Usb	Startup			
scoptel	scopserv-5.0.x86_64.iso	12:C4:CF:0B:5D:F0	0	All	Auto			<input type="button" value="▶"/> <input type="button" value="■"/> <input type="button" value="▶"/> <input type="button" value="⊙"/> <input type="button" value="−"/>

Virtual Machine Creation				
Vm Name	Ram(Mb)	Storage(Gb)	Nb Cores	
<input type="text"/>	<input type="text"/>	<input type="text"/>	1	<input type="button" value="+"/> <input type="button" value="−"/>



- **Never reboot the Sentinel appliance without first gracefully shutting down the ScopTEL server. Doing so can corrupt the file system and you cannot recover without restoring from a backup!**
- **You can shut down the ScopTEL Server using the GUI**

Services Status:

Web Management:	Running	Restart Service	Stop Service
MySQL Daemon:	Stopped	Start Service	
TFTP Server:	Running	Restart Service	Stop Service
SSH Daemon:	Running	Restart Service	Stop Service
DenyHosts (Block SSH attack):	Running	Restart Service	Stop Service
Time Server (NTP) Daemon:	Running	Restart Service	Stop Service
Sensors (Temperature/Fan) Daemon:	Service Disabled		
SNMP Daemon:	Service Disabled		
OpenLDAP Server:	Service Disabled		
Server:	Running	Reboot Server	Power Off

[Edit Services](#) [Refresh](#)

- **Or use SSH or tight-vnc logged as root by typing the command ‘shutdown -h now’**



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