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# 1. What's New

# 2. Insights Analytics Quickstart



## 2.2. Dashboard Setup



## 2.3. Arbitrator Setup



## 2.4. Dashboard Integrations



## 2.5. Analytics Solution Documentation

### 2.5.1. Additional Reference Documentation

- Dashboard Release Notes
- · Compatibility Matrix
- Dashboard Install Guide
- Dashboard and Arbitrator Maintenance and Upgrade Guide
- Dashboard Administration Guide
- Dashboard API Guide
- Platform Guide
- Arbitrator Release Notes
- · Compatibility Matrix
- Arbitrator Install Guide
- Dashboard and Arbitrator Maintenance and Upgrade Guide
- Arbitrator Administration Guide
- Arbitrator API Guide
- Platform Guide
- · VOSS Insights Windows Forwarder Install Guide

# 3. Download

### 3.1. Dashboard Download

- · Dashboard OVA file:
  - 1. Log in on the VOSS Customer Portal
  - Go to Downloads > VOSS Insights > Insights Dashboard > <release number> > New Installation.
  - 3. Download the .ova file
  - 4. Verify that the original .sha256 checksums on the download site server match.

### - system checksum media/<ova\_file>

Checksum: <SHA256>

- · Dashboard upgrade file:
  - a. Log in on the VOSS Customer Portal
    - i. Go to Downloads > VOSS Insights > Insights Dashboard > <release number> > Upgrade.
    - ii. Download the .1xsp upgrade file
    - iii. Verify that the original .sha256 checksums on the download site server match.

#### system checksum media/<lxsp\_file>

Checksum: <SHA256>

or

- b. Use the direct link for automated download mechanisms for example:
  - i. http://www.layerxtech.com/downloads/analytix/updates/layerX-reporter-sp22.1-sp22.2.lxsp

To ensure continuity, the release updates will still be available from the LayerX download site, allowing customers to either download files manually, or via the automated download mechanisms from that location.

# 4. VMWare Specification and Requirements

## 4.1. Dashboard Reporting VM Sizing Specifications

Size	Cores (vCPU)	CPU Spec (Ghz)	Memory (Gb)	Storage (Gb)	Storage Spec	Network
Up to 5k users	8	2,8	16	500	SSD preferred Thick Eager Zero 15k HDD 1500 IOPS	1GB
5k to 20k users recom- mended option	12	2,8	32	500	SSD preferred Thick Eager Zero 15k HDD 1500 IOPS	1GB
20k to 40k users	16	2,8	128	500/1000	SSD preferred Thick Eager Zero 15k HDD 1500 IOPS	1GB

• The specs for 5k up to 20k users is the recommended option.

## 4.2. Cloud Installation

The VMWare specification and requirements for each product can be used as guidelines when preparing for cloud installations.

For example, for the example minimum sizes below, the VM specifications are best matched by the cloud VM types indicated:

Google Cloud products

Product	Size	Cloud VM Specification
Arbitrator	< 5k users	n2-standard-8
Dashboard	< 10k users	n2-standard-8
Raptor	N/A	custom
DS-9	< 1,000 flows/sec	n2d-standard-16

### Amazon Web Services

Product	Size	Cloud VM Specification
Arbitrator	< 5k users	t2.2xlarge
Dashboard	< 10k users	t2.2xlarge
Raptor	N/A	t2.small
DS-9	< 1,000 flows/sec	m6g.4xlarge

### Microsoft Azure

Product	Size	Cloud VM Specification
Arbitrator	< 5k users	B8ms
Dashboard	< 10k users	B8ms
Raptor	N/A	B1ms
DS-9	< 1,000 flows/sec	D16 v5

# 5. Port Requirements

## 5.1. Arbitrator and Dashboard System Connectivity

This table includes connectivity requirements between Insights Arbitrator, Reporting Dashboard, as well as connectivity between these and the following: VOSS Automate, NTP, DNS and AD.

Source	Destination	Port / protocol	Notes
Arbitrator Server / Dash- board Server	Arbitrator Server / Dash- board Server	5432, 5433, 5000, 60514, 64514, 64515, 65515, 65516, 64005, 64004, 62009, 62010 (all TCP)	Note: Intra-system com- munication and queries – Bi-directional
Arbitrator Server	Arbitrator Server	62002, 62003, 62004, 62005, 62006, 11501,30501, 30503, 40501, 40503 (all TCP)	Note: VOSS Fabric TLS tunnel Connection Ports – Bi-directional between Customer systems and NOC systems for event for- warding
Arbitrator Server / Dash- board Server	Network Resources (NTP, DNS)	53, 123 UDP	Time and DNS
Client PC – GUI Interface and CLI Management Ac- cess	Arbitrator Server / Dash- board Server	443, 8443, 22, 80 TCP	User Interface Access
VOSS Automate	Dashboard Server	27020	Database access
Arbitrator Server / Dash- board Server	AD	389 636 TCP UDP	Authentication

## 5.2. Cisco UC Monitoring System Connectivity

Source	Destination	Port / protocol	Notes
Monitored Cisco UC sys- tem	Correlation Server / Dash- board Server	514 tcp/udp, 22 tcp, 162 udp	Cisco syslog, snmp trap, CDR/CMR file transfer
Correlation Server	Monitored Cisco UC sys- tem	443 tcp, 8443 tcp, 22 tcp, 21 tcp, 161 udp	Correlation server AXL query, ssh and snmp query

## 5.3. MS Teams System Connectivity

Source	Destination	Port / protocol	Notes
Cloud Arbitrator	Dashboard Server	5432 TCP	Pushes data to the dash- board to display dash- board data
Client PC - GUI Interface and CLI Management Ac- cess	Correlation Server / Dash- board Server	443, 8443, 22, 80 TCP	User Interface Access
Arbitrator	VOSS Webhooks Server	443 TCP	The VOSS Webhooks server receives call record notifications from Microsoft. The Webhooks server only receives call record IDs with minimal details. The Arbitrator periodically pulls these call record IDs from the Webhooks server. In order to do this, the Arbitrator requires access to the internet, specifically, to cloud.voss-solutions.com on port 443.
Arbitrator	Microsoft (https://graph. microsoft.com/v1.0)	443 TCP	The Arbitrator will then pull the full call record details directly from Microsoft, using the https://graph. microsoft.com/v1.0 API.

## 5.4. NetFlow and DS9 Monitoring System Connectivity

Source	Destination	Protocol	Port	Direction	Description
NetFlow Source	DS9	UDP	4739	Unidirectional	IPFIX (Optional)
NetFlow Source	DS9	UDP	2055	Unidirectional	NetFlow v9 (Optional)
NetFlow Source	DS9	UDP	9996	Unidirectional	NetFlow v5 (Optional)
NetFlow Source	DS9	UDP	6343	Unidirectional	Sflow v5 (Optional)
DS9	NetFlow Source	UDP	161	Unidirectional	SNMP queries

### 5.4.1. Communication ports between NetFlow Source and DS9

# 5.4.2. Communication ports between Dashboard Server Users and Dashboard Server

Source	Destination	Protocol	Port	Direction	Description
Dashboard users	Dashboard Server	TCP	443	Unidirectional	HTTPS (GUI access)

### 5.4.3. Communication ports between the DS9 Server and Dashboard Server

Unless the DS9 and Dashboard Servers are located in the same subnet, system administrators need to ensure the following network ports are open between these two components.

Source	Destination	Protocol	Port	Direction	Description
Dashboard Server	DS9	ТСР	5432	Unidirectional	Data respository access
Dashboard Server	DS9	ТСР	8082	Unidirectional	Data respository access
Dashboard Server	DS9	ТСР	443	Unidirectional	DS9 System Stats and management
DS9	Dashboard Server	UDP	514	Unidirectional	DS9 System Logs

### 5.4.4. Communication ports that are required for remote management purposes

Source	Destination	Protocol	Port	Direction	Description
Admin users	DS9	ТСР	22	Unidirectional	SSH (remote CLI access) and file transfer
Admin users	Dashboard Server	ТСР	22	Unidirectional	SSH (remote CLI access) and file transfer
Admin users	Dashboard Server	TCP	443	Unidirectional	WEB access

## 5.5. VOSS Automate Port Usage

VOSS Automate port usage for each node type:

Protocol	Ports	WebProxy node	Application node	Database node
ssh / sFTP	TCP 22	Х	Х	Х
http	TCP 80	Х	Х	
https	TCP 443, 8443	Х	Х	
snmp	TCP/UDP 161, 162	Х	Х	Х
mongodb	TCP 27017, 27030		Х	
mongodb	TCP 27019, 27020			Х
LDAP	TCP/UDP 389 (636 TLS/SSL)		Х	
NTP	UDP 123		Х	
SMTP	TCP25		Х	Х

## 5.6. Skype for Business Monitoring System Connectivity

Source	Destination	Port / protocol	Notes
VOSS Forwarder installed on Windows Machine	Customer SfB Monitoring Server (SQL)	1433	Collection of CDR/QoS Data. SfB monitoring server is typically de- ployed on the SfB Front- End Server (Option 1)
VOSS Forwarder installed on Windows Machine	Separate Customer SfB Reporting Server - QoE DB (SQL)	1433	Collection of CDR/QoS Data from the Reporting (QoE) Server that is a replication of the SfB Mon- itoring Server (Option 2)
VOSS Forwarder installed on Windows Machine	Arbitrator Correlation	62009-62010, 514	Management and Syslog Traffic
VOSS Forwarder installed on Windows Machine	Dashboard / Reporting	62009-62010, 5432-5433, 80, 443, 514, 1194	Management and Syslog Traffic
SfB Monitoring Server	Dashboard / Reporting	1433	SQL Transactional Data Replication
SfB Monitoring Server	Arbitrator Correlation	80, 443	SDN Traffic
SfB Monitoring Server	Dashboard / Reporting	80, 443	SDN Traffic

# 6. Deploy and Networking Setup

## 6.1. Deploy and VM Installation

### 6.1.1. Base Install and Configuration

This procedure installs the base system, and involves the following tasks:

- · Download the OVA.
- Deploy the OVA.
- Run the VM.
- Log in as admin.
- · Change your password.
- Configure network settings.
- 1. Download the OVA for your system, to a directory accessible by the VM client.
- 2. Deploy the OVA:
  - 2.1. Select the downloaded OVA file, and choose a VM name.

1 New virtual machine	
1 Select creation type	Select creation type
2 Select OVF and VMDK files	How would you like to create a Virtual Machine?
3 Select storage	-
4 License agreements	
5 Deployment options	Create a new virtual machine
6 Additional settings	Deploy a virtual machine from an OVF or OVA file
7 Ready to complete	Register an existing virtual machine

2.2. At **Select storage**, configure storage settings, based on the recommended hardware specifications for the required configuration. See the *VMWare Specification and Requirements* for your system.

2.3. Configure the network mappings based on the recommended hardware specifications for the required configuration. See the *VMWare Specification and Requirements* for your system.

3. Run the VM, and monitor installation of the packages, which may take some time.

Info:	install_package	Unpacking	/mnt/cd/pkg/iana-etc.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/nan-pages.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/attr.lxp
Info:	install package	Unpacking	/mnt/cd/pkg/bc.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/berkeley-db.lxp
Info:	install package	Unpacking	/mnt/cd/pkg/bglibs.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/bridge-utils.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/dhcpcd.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/diffutils.lxp
Info:	install_package	Unpacking	/nnt/cd/pkg/dnapi.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/ethtool.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/expat.lxp
Info:	install_package	Unpacking	/nnt/cd/pkg/gnp.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/lsof.lxp
[nfo:	install_package	Unpacking	/nnt/cd/pkg/ndadm.lxp
[nfo:	install_package	Unpacking	/nnt/cd/pkg/ncurses.lxp
[nfo:	install_package	Unpacking	/nnt/cd/pkg/net-tools.lxp
Info:	install_package	Unpacking	/nnt/cd/pkg/patch.lxp
[nfo:	install_package	Unpacking	/mnt/cd/pkg/paxctl.lxp
Info:	install_package	Unpacking	/nnt/cd/pkg/per1-SSLeay.lxp
Info:	install_package	Unpacking	/nnt/cd/pkg/popt.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/speex.lxp
[nfo:	install_package	Unpacking	/mnt/cd/pkg/strace.lxp
Info:	install_package	Unpacking	/mnt/cd/pkg/tar.lxp

Once all packages are installed, the VM is automatically powered off, confirmed via the auto-poweroff message on the console.

hH to OPT. 755 nurr ωn oth8 10 on eth8 to 255. 5.5 bort ath® to 25,5 255.2040 F 1 to et NB 255. 10 O T et 出居 to oth® on to on eth8 to 255.255.0.01 1.0 HCPOFFERS received. obtain a lease on firs ru. Exiting to add: user 'admin' already exists /mnt/target/deu: deuice 1-11 M T

The system reboots. Wait until you see the **About** console, which displays placeholder values for hostname, version, license, days licensed and remaining, and so on.

About Hostname: <hostname> Version: <version> Theme: <theme>

(continues on next page)

(continued from previous page)

```
Flavor:
License: NNNNN-NNNNN-NNNNN-NNNNN-NNNNN
Days Licensed: nnnnn
Days Remaining: nnnnn
Product Key:
Website: <website>
Kernel: Linux n.nn.nn-lxt-3 x86_64 GNU/Linux
<hostname> login:
```

4. Log in:

On the **About** console, at **<hostname> login:**, log in as admin and use as the password, the last 10 characters of the value at **License**, *excluding the dash*.

**Important:** The **License** key value is *only* displayed on the **About** console. When you *ssh* in, it is not visible, thus, you must copy the admin password from the **About** console.

Once you're logged in, the **Administration** menu displays (the image displays an example for DS9):



5. Change your password:

On the Administration menu, select Change Passwords, then change your password.

Note: It is strongly recommended that you change your password immediately.

6. Configure network settings.

On the Administration menu, select Network Configuration, then:

- 6.1 Configure interface settings:
- 6.1.1 Select the Interface Settings menu, then select the interface to configure.
- 6.1.2 Modify the parameters for the selected interface:

Hhich parameter would	Network Configu you like to cha	ration nge on eth0?	
	HCP IPs Extra Routes Spoud Duplex Clear Save Cancel	auto full	
	K OK >		

- Select IPs, then set the IP address and netmask in the format nn.nn.nn/24.
- · Save your changes.



6.2 Configure the default gateway:

Select the Extra Routes menu:

Which parameter would	Network Configu you like to cha	nge on eth0?
	HCP IPs Extra Routes Spoud Duplex Clear Save Cancel	off  auto full
	<u>&lt; 0</u> k >	

- Use the following format for the entry: *default <gateway IP address>*
- The word *default* is required. For additional route entries use the *<subnet> < gateway>* format. Similar to what would be done on a Linux system at the CLI.

CYes > CNo >
Configuring eth0.
Cannot advertise duplex full Cannot set new settings: Operation not supported
not setting duplex
Cannot advertise duplex full
Cannot set new settings: Operation not supported not setting dupley
not setting autoneg
Notifying network services of new parameters.

- 6.3 Configure DNS settings:
- 6.3.1 Select the DNS Settings menu.

6.3.2 Select DNS Servers.

What	would	you li	ke to change?
     			DNS Servers Default Search Domains Save Cancel
+			< <mark>c</mark> k >

6.3.3 Add the IP address for each DNS server, one per line, then click **OK**.

+	List of DNS Se	rvers
1.1.1.1		
8.8.8.8		
+		
		(Paper) >
		(Cancer>

6.3.4 Click Save.

1	DNS Servers	
	Default Searc	n Domains
i	Cancel	
i		
1		
l.		
•		
-		

6.4 Configure the hostname:

6.4.1 Select the Hostname menu to configure settings.

6.4.2 Save to trigger the update. The console displays a message, *Updating hosts*. This setup may take a few minutes.



6.5 Configure Apache. Select the **Apache Config** menu to configure settings.

### Note:

- SSLCipherSuite defaults to HIGH encryption.
- For SSLProtocol, only TLSv1.2 is supported.
- OpenLDAP defaults to HIGH encryption.
- OpenSSH does not support weak ciphers.





6.6 Configure SSH.

Select the SSH Config menu to configure settings.

Custom entries can be added, if required. The following entries have been added:

kexalgorithms
diffie-hellman-group14-sha1
diffie-hellman-group-exchange-sha1
hostkeyalgorithms
ssh-rsa

6.7 Configure SSHD:

Select the SSHD Config menu to configure settings.

Multi-line entries can be added, if required. For example, for CUCM v11.5 support, see: *Multi-line CUCM Cipher Support*.

**Note:** This step is relevant *only* to an Insights Assurance solution and its integration with Cisco UC systems.

This step is not relevant to the DS9 and Insights NetFlow solution.

6.8 Enable/disable FTPD, or restart the FTPD daemon:

On the Administration menu, select Network Configuration, then select FTPD Config.

Important: On new installs, the FTPD daemon is disabled by default.

It is strongly recommended that the FTPD daemon remains disabled, unless there is a good reason you need to use it. It has been seen that enabling the FTPD daemon may introduce a system vulnerability.

FTPD is typically *only* required in rare situations, where FTP is the only way to transfer files to the server. Instead of using FTPD, it is recommended that you use the drop account with SCP or SFTP.

What would you	Network Configuration	
	Disable FTPD Restart FTPD Back	
•		
	<mark>&lt; 0K &gt;</mark>	

7. Base system installation is now complete.

Select **Quit** to exit the **Administration** menu on the console and continue with product registration, and with the configuration of your system through the GUI:

Insights Dashboard

See the VOSS Automate Database Setup section in the VOSS Insights Install Guide.

- Insights Arbitrator (relevant only to an Insights Assurance solution and its integration with Cisco UC systems)
  - See the Install Arbitrator System section in the VOSS Insights Install Guide.
- Insights DS9

Note: Prior to opening the DS9 GUI, reboot the system.

See the DS9 Product Registration and Configuration on the Dashboard section in the VOSS Insights DS9 for NetFlow Install Guide.

### 6.1.2. Multi-line CUCM Cipher Support

This section provides details for the use of the SSHD Config menu option.

**Note:** This section is not relevant to the DS9 and Insights NetFlow solution. This solution is relevant only to an Insights Assurance solution and its integration with Cisco UC systems.

You can copy the keys into the screen in a comma separated list (without spaces).

For CUCM v11.5 support:

kexalgorithms diffie-hellman-group1-sha1,diffie-hellman-group14-sha1,diffie-hellman-→group-exchange-sha1 ciphers aes128-cbc,3des-cbc,aes128-ctr,aes192-ctr,aes256-ctr,aes128-gcm@openssh.com, →aes256-gcm@openssh.com macs hmac-md5,hmac-sha1,hmac-sha2-256,hmac-sha1-96,hmac-md5-96 hostkeyalgorithms ssh-rsa,ssh-dss

# 7. VOSS Automate Database and System Setup

## 7.1. VOSS Automate Database Setup

1. Add a Database user - this is a Read only user

olatform@gsr10-un1:~\$	database	user	add	1.1.1.1	Analytix <mark>.</mark>
				Server	of Dashboard

- 2. Take note of the username and password you just configured
- 3. Log in to the GUI on the Dashboard Server username admin password admin
- 4. Click the toolbar Hamburger Menu icon adjacent to the admin menu.

🛓 admin 🛨 🦯
Show data source selector Hide dashboard tabs

5. Click Data Sources.



6. Click New Data Source.



7. Choose Voss Mongo Database, and change AuthSource from admin to VOSS.

Voss Mongo Databas	e .
Ip	
localhost	
Port	
27020	
Db	
VOSS	
Username	
admin	
AuthSource	
VOSS	
Password	
Ssl	
true	`
Alias	

- 8. Fill out the form presented:
  - At Name, fill out a name for the data source.
  - At Data Source Type, choose the data source type.
  - At IP, set the IP address of VOSS Automate UN1/primary database node.
  - Fill out values for Port and DB.
  - At **Username**, fill out the username you set on VOSS Automate.
  - At AuthSource, change the AuthSource from admin to VOSS.
  - Fill out the password set up in VOSS Automate.
  - Set SSL to True.
- 9. Repeat the steps above to add the Arbitrator as a Data Source:
  - Fill out a name for the data source.

- Select the data source type (Remote Arbitrator Postgre Database), and fill in the rest of the fields.
- At Host set the IP address of the Arbitrator.
- · Fill out the port.

## 7.2. Install Dashboard System

- 1. Access the Dashboard Server: admin/admin
- 2. In the top banner bar click on admin, then click on Import/Export Wizard.

		•	) Options <del>-</del>	admin <del>-</del>	≡
	1	Show data s	Fimport /	Export Wizard	i i
Summary Dashboard Summary D	Dashboard_Drilldown	WOSS-4-UC Sync	Manage	Dashboards	
	2 Click to Refresh Data	🋗 Jun 5, 2020 10:	Edit Field	l Groupings	•
	🕈 Number Inver	ntory Status	User Seti Manage	tings Forwarders	

3. Click on **Choose file**, then navigate to the file you wish to import (dashboard files have the .1xtr file extension) then click **OK**.

× BCX > Dashboards v Õ	Search Dashboards	Q	
folder	8== ▼ □	•	9 VOSS Partner Portal 📙 BT CR 📃 Engineering Cb Best JSON Viewer a
^ Name	Date modified	Туре	
Dashboards-std.lxtr	02/06/2020 09:14	LXTR File	Import Export
* * <		>	
ile name: Dashboards-std.ktr v	All Files Open Canc	el	
Se	elect a file to Import		
a	an be a .lxtr or .csv file.		
5 FC	or a CSV mapping file, make su	ire there is	no header line. File will be parsed using one of two orders:
	First order: key,value.		
	Second order: type, key, value. (	with type I	has values 0:Regex, 1: Greater Than, 2: Less Than, 3: Range, 4: Equals) (Range's format is 'Min : Max')
	Choose file. No file chosen		
		1	
			UPLOAD

4. Ensure your file is visible adjacent to **Choose file**, then click **Upload**.

Second order: type, key, value.	with type has values 0:Regex	r, 1: Greater Than, 2: Less 1	Դեսո, 3: Range, 4: Equals) (Range'։
Choose file Dashboards-sto	Ixtr 🚽		
	1		
			UPLOAD
			/

5. Your file will then upload, and you will see the below — click OK.



File imported successfully.

OK

## 6. Log in to the Dashboard CLI as admin/admin.

7. Navigate down to **Voss - Force Collection** and click **OK**. This will then sync VOSS Automate data into the dashboard.

Please choose from the following options.
Out of Band Configuration
Resize Disk
Restart Dashboard Services Restart Reporter Services
Restart openIdap
VPN Server Configuration
Voss4uc - Force Collection
Voss4uc - Force Collection Transactions Voss4uc - Manual Sync
Power Off +v(+)

# 8. Certificates

## 8.1. Add or Update Certificates

Users can now update SSL Certificates and SSL keys from the Admin console menu.



### 8.1.1. Add Certificates

To add your own certificate, you will need both the certificate and private key.

- 1. SSH to the system using admin account
- 2. Select Network Configuration
- 3. Select Apache Certs
- 4. Select Insert Cert
- 5. Paste in customer certificate

A certificate has the following header and footer

```
--BEGIN CERTIFICATE--
```

```
--END CERTIFICATE--
```

MTTDaTCCA	GaAwTBAaT	JAND9HCYM	17p5MA00	GCSaGSTb3D		CzAJBaNV
BAYTALVTM	4wDAYDV001	DAVUZXhh	czEPMA00	A1UEBwwGS	KJ2aW5nM00v	CwYDVOOK
DARWb3NzM	wwCaYDV00L	DANkZXYw	HhcNMjMv	MjA2MjM10	M2WhcNMjav	MjA1MjM1
ODM2WjBLM	swCOYDV000	<b>EwJVUzEO</b>	MAWGA1UE	CAWFVGV4Y	KMxDzANBgN	/BAcMBkly
dmluZzENW	sGA1UECawE	Vm9zczEM	MAoGA1UE	CwwDZGV2M	IIBIjANBaka	hkiG9w0B
AQEFAAOCAO	8AMIIBCaK	AQEAnPxE	LbSPykX-	-ZUKVar0Z9	YmeHn50e3	yIxhPY5L
anV0zw0FoF	Hufh6S1LXh	NbI6BtV+	Yva+NBp>	bk8JHLPsc	TT5IDx47aU2	xwHBM6Z6
ljcmeKWT/1	k/5W0W5cMc	oQUOkiER	jC/nwo60	btUxDrIiA	jlyCsaH1h9J	lt7/GQueK
eM/a0THcRI	)P+VNzkGdhM	AglHTXYcL		sryi+wUX4	08EzN+j7hH3	DX5Hao3q
RBGMIZ00Sn	1c0q07GqAP>	bdHgpJ+2	YB4/MUql	JGQ6D+MExZ	68RPwkmo+5	jHMf/+en
YrbGs2w5cd	5DzB0v077	/BrpL74lc	criLz6ai	e7afMAXJS	wIDAQABo1Aw	TjAdBaNV
H04EFq0UC	Wr/Dw0izc>	ofted5is	oBzveWOv	www.www.www.www.www.www.www.www.www.ww	BawFoAUCMVr	/Dw0izcx
ofted5isoE	zveWOwDAYD	<b>VRØTBAU</b> w	AwEB/zAM	Bakahki G9	WOBAQsFAAO	AQEAA/Ip
						CCN

- 6. Select Insert Private Key
- 7. Paste in customer private key

A private key has the following header and footer

BEGIN PRIVAT	Е КЕҮ КЕҮ
+	Please Enter New PRIVATE KEY
BEGIN PRIVATI  MIIEvQIBADANBgkqhl  uqhGi5+yX9dRytDVyr  jx3qbx89Tc0R1HZGW  8ToNp86EihvF8YamH  fqUv4Ya1pITAgBhs1  12TsszHt6r1RcWR4o  t0P1xyo1AgMBAAECgu  ld99duMKkIftk2Bwo  IUzUeYLi3FmHzz6rZ]  C5NzKzET7ASe14ijf  Q+V7eA8Bhu9rGEIed  2BgQzR3oi5ZyChzLm  RVdpK4FYmYkIYOLd1 +	E KEY kiG9w0BAQEFAASCBKcwggSjAgEAAoIBAQDGpeDK8U0szTE8 m9k9JvDQBxq/ezqsv/nONJHeDb8+A5FFGILQMkY8mE2YI5i 1waX1X1Y4TzhBrLjcvsaKDP0jNnKdaRiF2ijxU8WGF7w2/F 9VwLtArI39wbtz8EDUqIfkGdNHTGA22tIKwqhE9CwyyDjI8 tMg5aJJzdVCFtVnaHkKPQLPVSOHfFACINHWK+Gp9S+jsj17 c58IUipcOos56KHhnGRsKp0RPJnSOs+ifHDCYHMz+Q0s2CJ gEAXS52cfwa7YcbL5eHVAAu2ydmA3IV4BNjiYHMhxxNuEqA SrcitbK/i7ENxO39reXmt6hUspqBZEaIgq8+4n48nDKbshr hMHiTeBCJuUrs+QVN01HaG3iyiVupZ/SPHp1wO+113Ca+Rh pYAPI44Xd8HtSNbU6RQ+QfKuZJXXvVd1PPzd/xxOEVH0fMW 9HjHr2XHox+wrGu701H8/UT8aQrNEVXaRWcjIOqdJIv/u5 ISXcfRCifTRY00gcMHKPZhigQKBQQDrqHz3BPKEuCyJd0TX +QxcKad/zvWFMfg70GltuqqXCQ9yGS7Tyy1yXybLex/ADbR
+   +	< OK > <cancel></cancel>

- 8. Select Display Cert Details to view certificate details.
- 9. Select **Back** and exit the menu.
- 10. Refresh the browser. The system should be using the new certificate.

### 8.1.2. Update Certificates

If you want to generate a new unsigned certificate or to reset a certificate and private key:

- 1. SSH to the system using admin account
- 2. Select Network Configuration
- 3. Select Apache Certs
- 4. Select Generate New Unsigned Cert

5. When prompted, fill in the information requested.



- 6. Select **Back** and exit the menu.
- 7. Refresh browser. The system should be using the new unsigned certificate.

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