

]HackingTeam[

Remote Control System
Technical Requirements

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1 Objectives

The present document details Hardware and Network requirements needed for the installation of Remote Control System 8.

The document includes:

- High Level Overview of the Architecture of Remote Control System 8
- Hardware specifications for Remote Control System 8
- Network Configuration for the deployment of Remote Control System 8

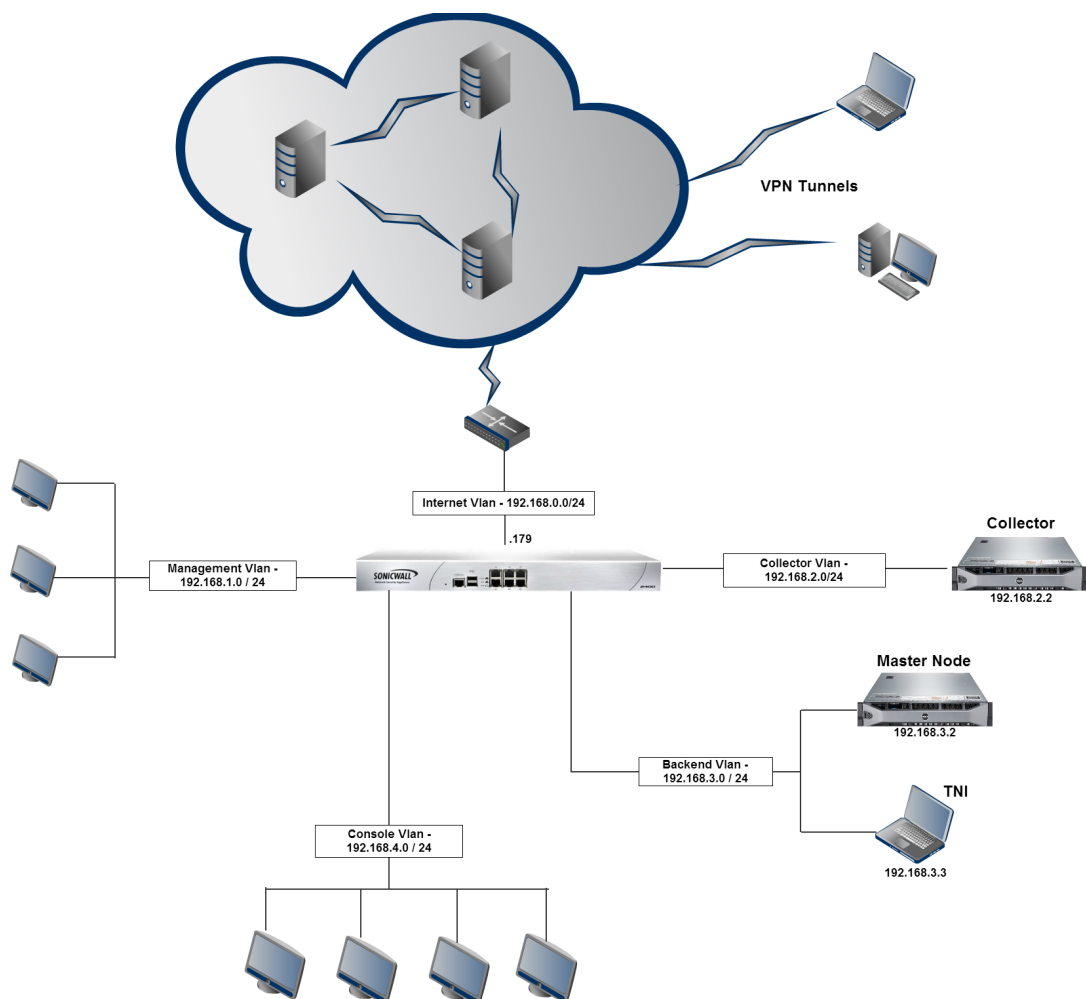
2 Environment

2.1 Requirements

The following system requirements must be present:

1. Rack cabinet
2. KVM or separated items (monitor + USB keyboard + USB mouse)
3. UPS and power strips to cover all production systems
4. Network switch and Firewall as specified in the Hardware Requirements section
5. Wired high-speed Internet connection with Static IP Address

2.2 RCS Network Diagram



3 Hardware Requirements

Following, the Hardware Requirements for each component of a Remote Control System 8 installation.

3.1 RCS Master Node

3.1.1 System Requirements

The following **must** be present:

1. 96 GB of RAM minimum
2. 2 x 146GB SAS HD, RAID1 for operating system
3. 4 x 600GB SAS HD, RAID 10 for RCS
4. Windows Server 2008 R2 SP1 Enterprise Edition 64 Bit (English)

3.1.2 Disk configuration

The following table details how to configure the disks:

Qty	Disk	RAID	Partitioning	Notes
2	146 GB	RAID 1	NTFS, single partition	Install operating system here
4	600 GB	RAID 10	NTFS, single partition	Mount as C:\RCS

3.1.3 Suggested Hardware Specification

Below there is a recommended hardware configuration for RCS Master Node.

Dell PowerEdge R720
CPU : Intel Xeon E5-2660 2.20Ghz, 20MB Cache
RAM : 12 x 8GB RDIMM, 1600Mhz
HD (OS) : 2 x 146GB SAS 6Gbps 15k 2.5" HD Hot Plug (RAID1)
HD (Data) : 4 x 600GB SAS 6Gbps 10k 2.5" HD Hot Plug (RAID10)
RAID : PERC H710p Integrated RAID Controller
Network : Broadcom 5720 QP 1Gb Network Card
Optical : 16X DVD+/-RW Drive SATA

3.1.4 Additional Configurations

1. Enable the NTP Synchronization towards the NTP Server on the RCS Collector

3.2 RCS Shard

NOTE: This is an RCS optional module and this section can be skipped if client's license does not include it.

3.2.1 System Requirements

The following is needed according to the purchased licence:

1. 96 GB of RAM minimum
2. 2 x 146GB SAS HD, RAID1 for operating system
3. 4 x 600GB SAS HD, RAID 10 for RCS
4. Windows Server 2008 R2 SP1 Enterprise Edition 64 Bit (English)

3.2.2 Disk configuration

The following table details how to configure the disks:

Qty	Disk	RAID	Partitioning	Notes
2	146 GB	RAID 1	NTFS, single partition	Install operating system here
4	600 GB	RAID 10	NTFS, single partition	Mount as C:\RCS

3.2.3 Suggested Hardware Specification

Below there is a recommended hardware configuration for RCS Shard.

Dell PowerEdge R720
CPU : Intel Xeon E5-2660 2.20Ghz, 20MB Cache
RAM : 12 x 8GB RDIMM, 1600Mhz
HD (OS) : 2 x 146GB SAS 6Gbps 15k 2.5" HD Hot Plug (RAID1)
HD (Data) : 4 x 600GB SAS 6Gbps 10k 2.5" HD Hot Plug (RAID10)
RAID : PERC H710p Integrated RAID Controller
Network : Broadcom 5720 QP 1Gb Network Card
Optical : 16X DVD+/-RW Drive SATA

3.2.4 Additional Configurations

1. Enable the NTP Synchronization towards the NTP Server on the RCS Collector

3.3 RCS Collector

3.3.1 System Requirements

The following **must** be present:

1. 16 GB of RAM
2. 2 x 300GB SAS HD, RAID1 for operating system and RCS
3. Windows Server 2008 R2 SP1 Foundation Edition 64 Bit or above (English)

3.3.2 Disk configuration

The following table details how to configure the disks:

Qty	Disk	RAID	Partitioning	Notes
2	300 GB	RAID 1	NTFS, single partition	Install operating system here

3.3.3 Suggested Hardware Specification

Below there is a recommended hardware configuration for RCS Collector.

Dell PowerEdge R210 II
CPU : Intel Xeon E3-1230 3.20Ghz, 8MB Cache
RAM : 2 x 8GB DDR3, 1333Mhz
HD (OS) : 2 x 300GB SAS 6Gbps 15k 2.5" HD Hot Plug (RAID1)
RAID : PERC H200 RAID Controller
Network : 2 x Broadcom 5720 QP 1Gb Network Card
Optical : 16X DVD+/-RW Drive SATA

3.3.4 Additional Configurations

1. Enable the NTP Service
2. Enable the NTP Synchronization towards the closest public NTP Server

3.4 RCS Anonymizer

RCS Anonymizer is a rented VPS (Virtual Private Server).

3.4.1 System Requirements

The following system requirements must be present:

1. 128 MB of RAM
2. 10 GB Hard Disk
3. Linux CentOS 6 32-bit
4. Static Public IP Address
5. 2 Mbit/s Internet Connection

NOTE: Due to company policies and to protect client's confidentiality requirements, Hacking Team is not allowed to provide accounts on VPS services.

3.4.2 Suggested VPS List

The following list is just an example of possible VPS Providers.

- | | | |
|----------------|---|------------------------------|
| 1. LINODE | http://www.linode.com | USA and many other locations |
| 2. HOST EUROPE | http://www.hosteurope.de | Germany and other locations |

3.5 RCS Console

NOTE: A VPN connection is suggested when connecting to the RCS Master Node from an external network.

3.5.1 System Requirements

The following system requirements must be present:

1. Windows or OS X Operating System
2. 4 GB of RAM
3. 320 GB SATA HD
4. Display capable of a minimum resolution of 1280x800 pixel

3.5.2 Suggested Hardware Specification

Below there is a recommended hardware configuration for RCS Console.

Dell Vostro 3560
CPU : Intel Core i3-3120M 2.50Ghz, 3MB Cache
RAM : 1 x 4GB DDR3, 1600Mhz
HD : 1 x 320GB SATA 7.2k 2.5" HD
Video : Intel HD Graphics 4000
Network : 1 x Dell Wireless 1901 802.11 a/b/g/n
Optical : 8X DVD+/-RW Drive SATA

3.5.3 Additional Configurations

1. Adobe Air runtime must be installed on the system.

3.6 Backup

The Backup unit is a SAN (Storage Area Network) or NAS (Network Attached Storage) device that is responsible for all RCS data backup.

3.6.1 System Requirements

The following system requirements must be present:

1. 64 GB of RAM
2. 6 x 1 TB SAS HD RAID 6, NTFS formatted, single partition, for backup storage.

3.6.2 Connection to Master Node

The Backup storage must be mounted as a NTFS directory as “C:\RCS\DB\backup”.

3.6.3 Suggested Hardware Specification

Below there is a recommended hardware configuration for Backup unit.

DELL PowerVault MD3200i
HD : 6 x 1TB SAS 6Gbps 7.2k HD Hot Plug (RAID 6)

3.7 Firewall

3.7.1 System Requirements

The following minimum system requirements must be present:

1. Support for VPN Connection client to site (SSL or IPSEC)
2. Stateful Throughput of 1 Gbps
3. IMIX Performance of 235 Mbps
4. Maximum Connections of 225000
5. VPN Throughput of 300 Mbps

3.7.2 Suggested Hardware Specification

Below there is a recommended hardware configuration for the Firewall.

SonicWall NSA 2400MX Network Security Appliance
IPSEC VPN Connections client to site: Up to 10
Stateful Throughput: 775 Mbps
IMIX Performance: 235 Mbps
Maximum Connections: 225000
VPN Throughput: 300 Mbps

3.8 Switch

3.8.1 System Requirements

The following minimum system requirements must be present:

1. 24 Ports
2. Support for 10/100/1000 Mbps

3.8.2 Suggested Hardware Specification

Below there is a recommended hardware configuration for the Switch.

Dell PowerConnect 2800
Ports : At least 24
Speed : 10/100/1000 Mbps

4 Network Configuration

4.1 VLANs Configuration on Switch

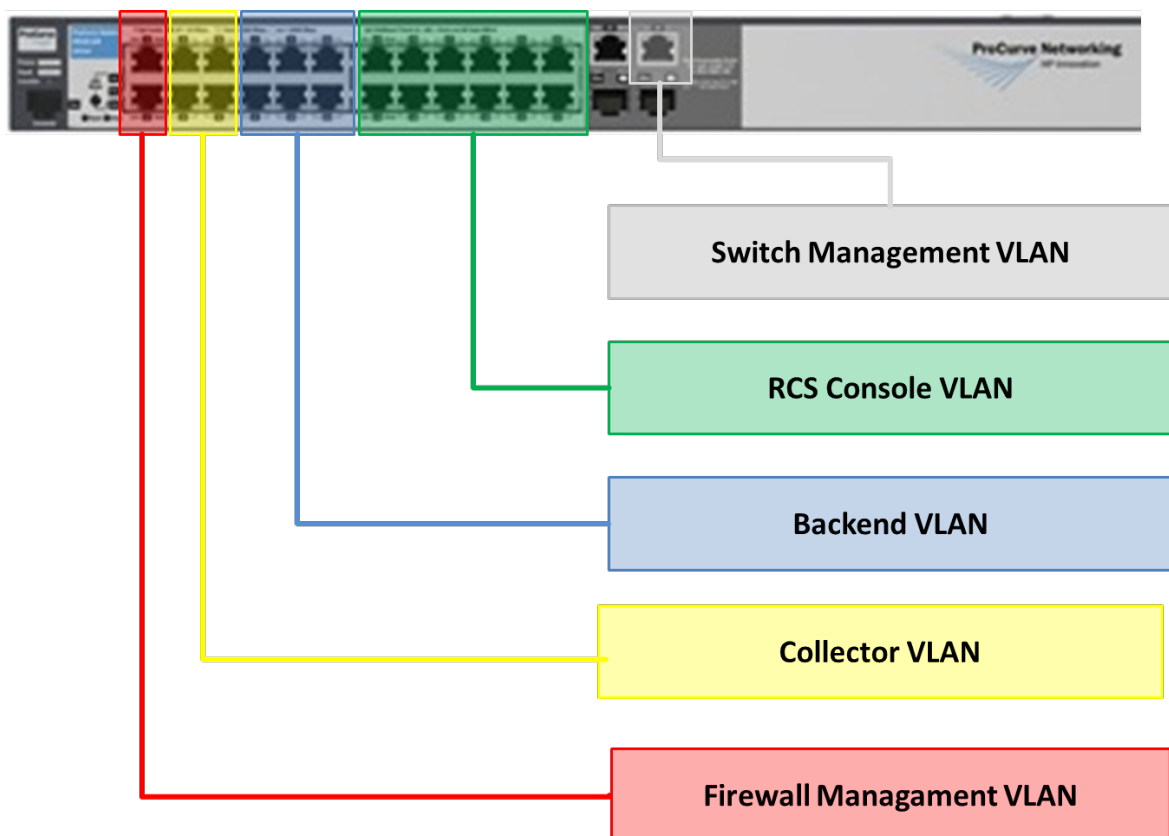
The RCS environment requires 5 VLANs on a Switch.

These VLANs create a different logical LAN for each RCS components and for devices management.

On the switch you can create these VLANs:

- RCS Console VLAN
- Backend VLAN
- Collector VLAN
- Firewall Management VLAN
- Switch Management VLAN

The ports on the switch assigned for each VLAN could be 2 or more, depending on the architecture

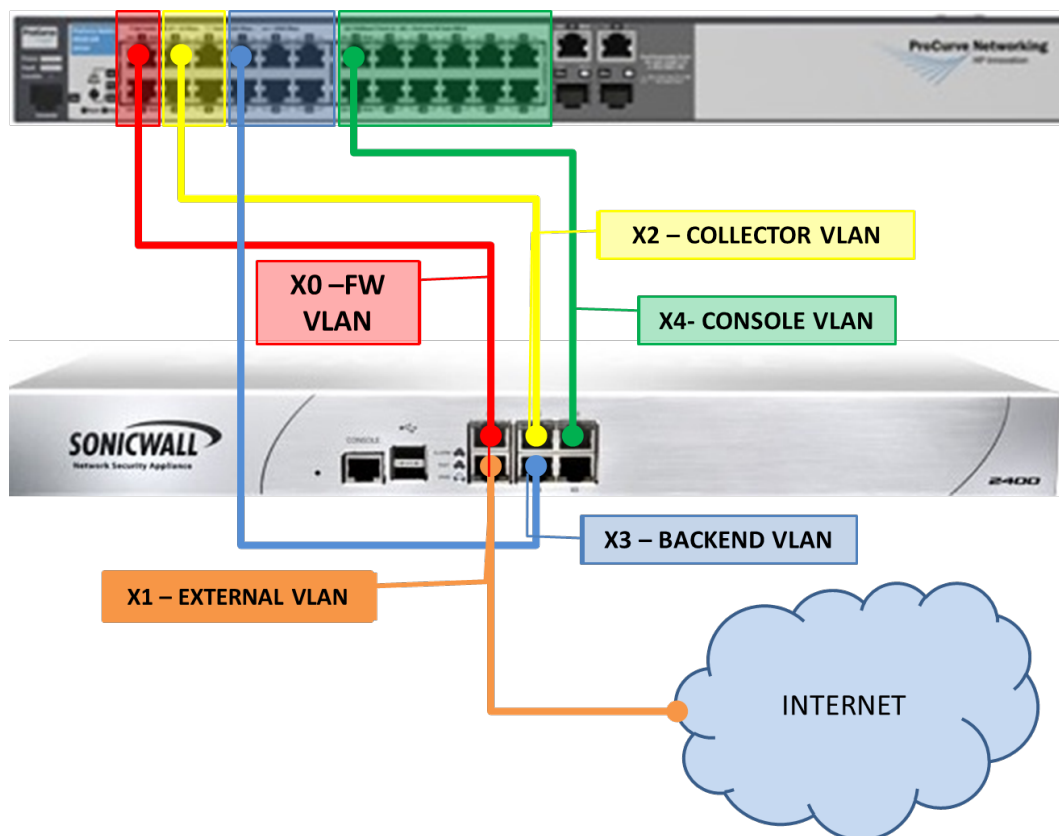


4.2 Firewall – Switch Interconnection

The firewall is used to regulate communication between VLANs. Five Zones are configured on the Firewall:

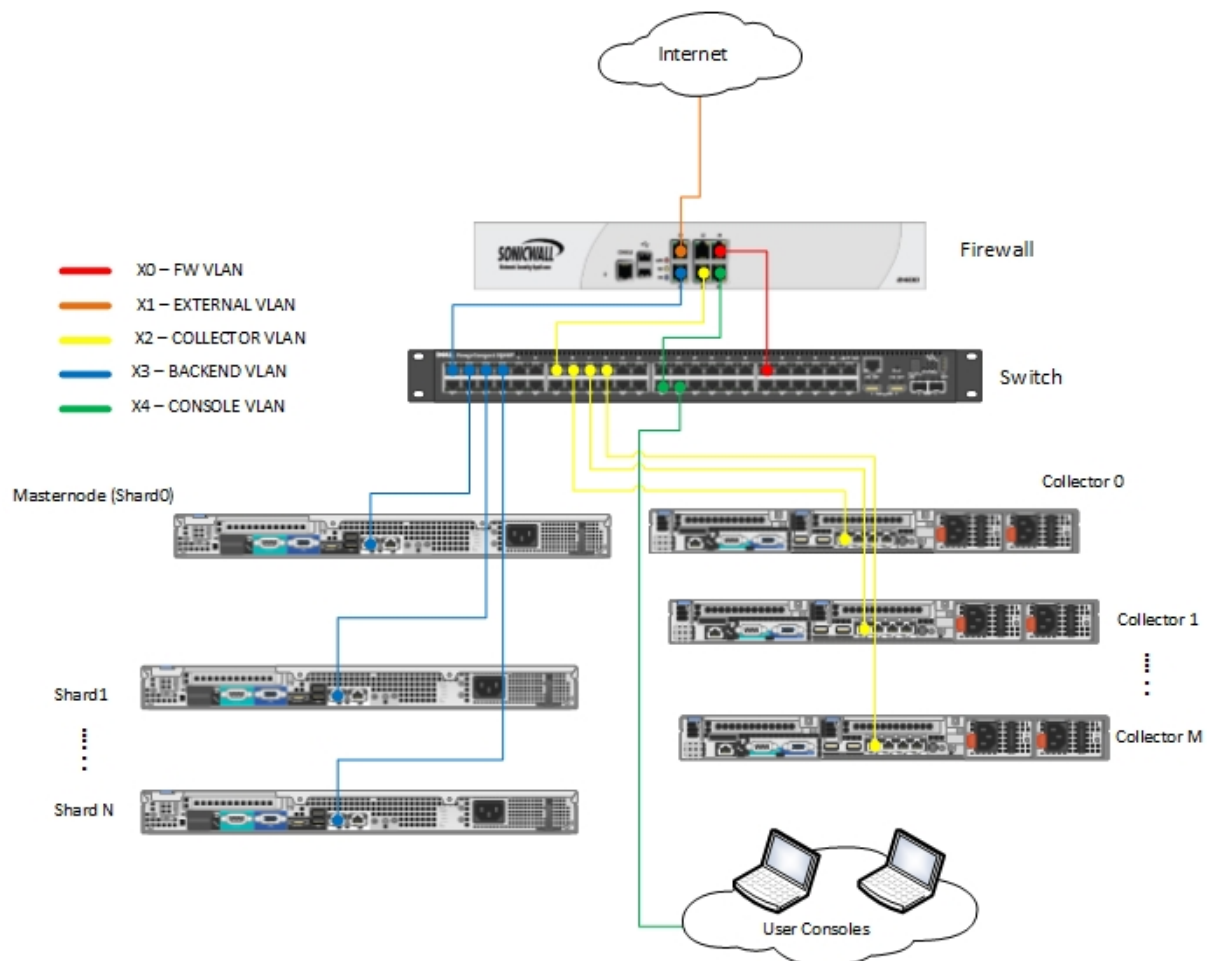
- Firewall Management VLAN
- External VLAN (Internet)
- Collector VLAN
- Backend VLAN
- RCS Console VLAN

Zones on the firewall and VLANs on the switch must be connected according to the picture below.



4.3 Hardware interconnection schema

Following is represented the whole architecture with its interconnections.



4.4 Firewall Rules Setup

The following rules must be implemented on the firewall for Remote Control System 8 to work correctly.

Colors in the table reflect the colors used previously to indicate each VLAN.

Source	Destination	Service	Protocol	Port
Backend	Any	DNS	UDP	53
Backend	Any	NTP	UDP	123
Backend	Collector	HTTPS	TCP	443
Backend	Collector	HTTP	TCP	80
CNSL	Any	HTTPS	TCP	443
CNSL	Any	HTTP	TCP	80
CNSL	Any	DNS	UDP	53
CNSL	Any	ICMP	ICMP	
CNSL	Collector	RDP	TCP	3389
CNSL	Backend	RDP	TCP	3389
CNSL	Backend	HTTPS	TCP	443
CNSL	Backend	TCP_444	TCP	444
Collector	Any	DNS	UDP	53
Collector	Any	HTTP	TCP	80
Collector	Any	HTTPS	TCP	443
Collector	Any	NTP	UDP	123
Collector	Backend	HTTPS	TCP	443
Anonymizer(s)	Collector	HTTP	TCP	80