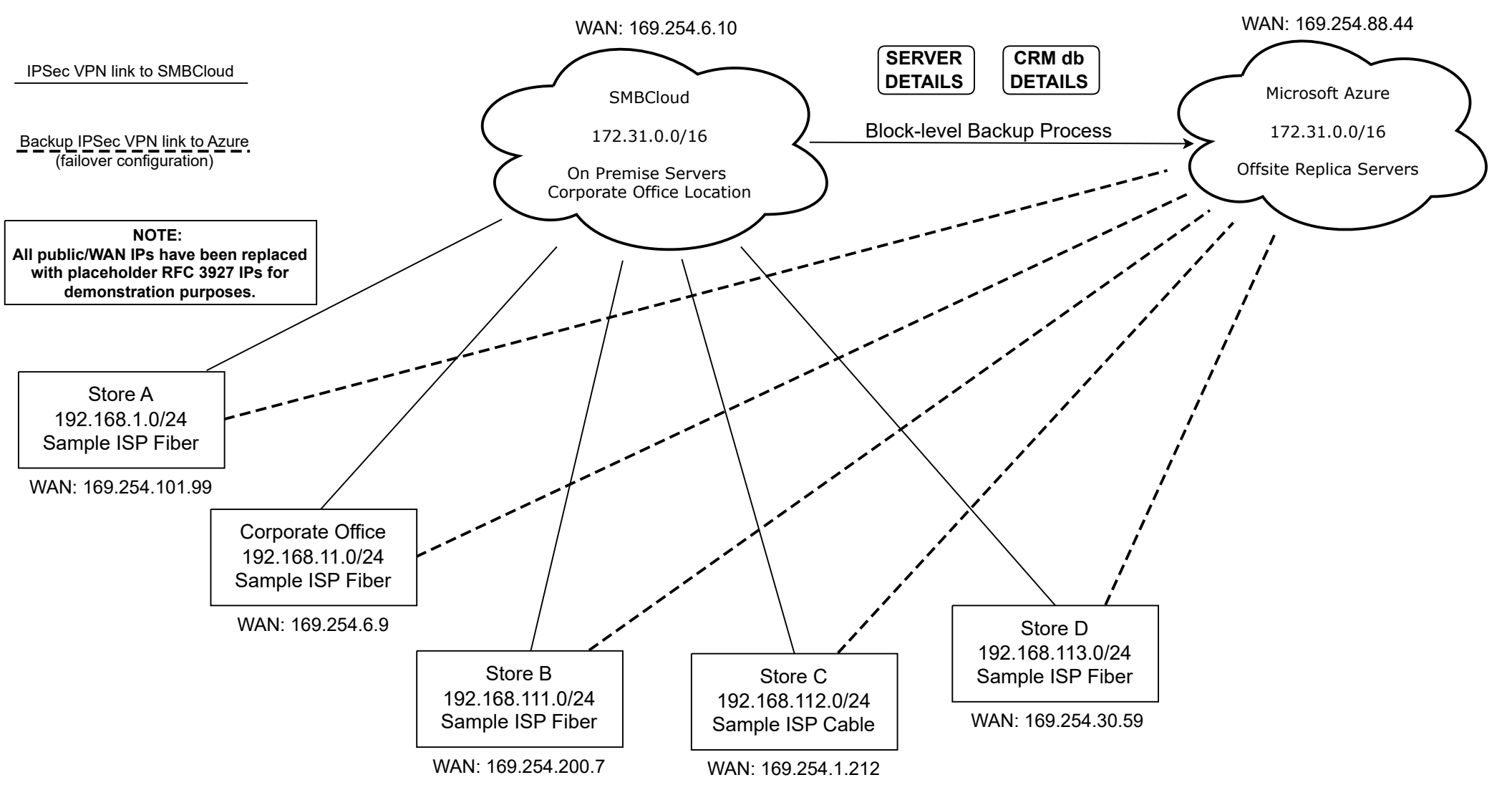
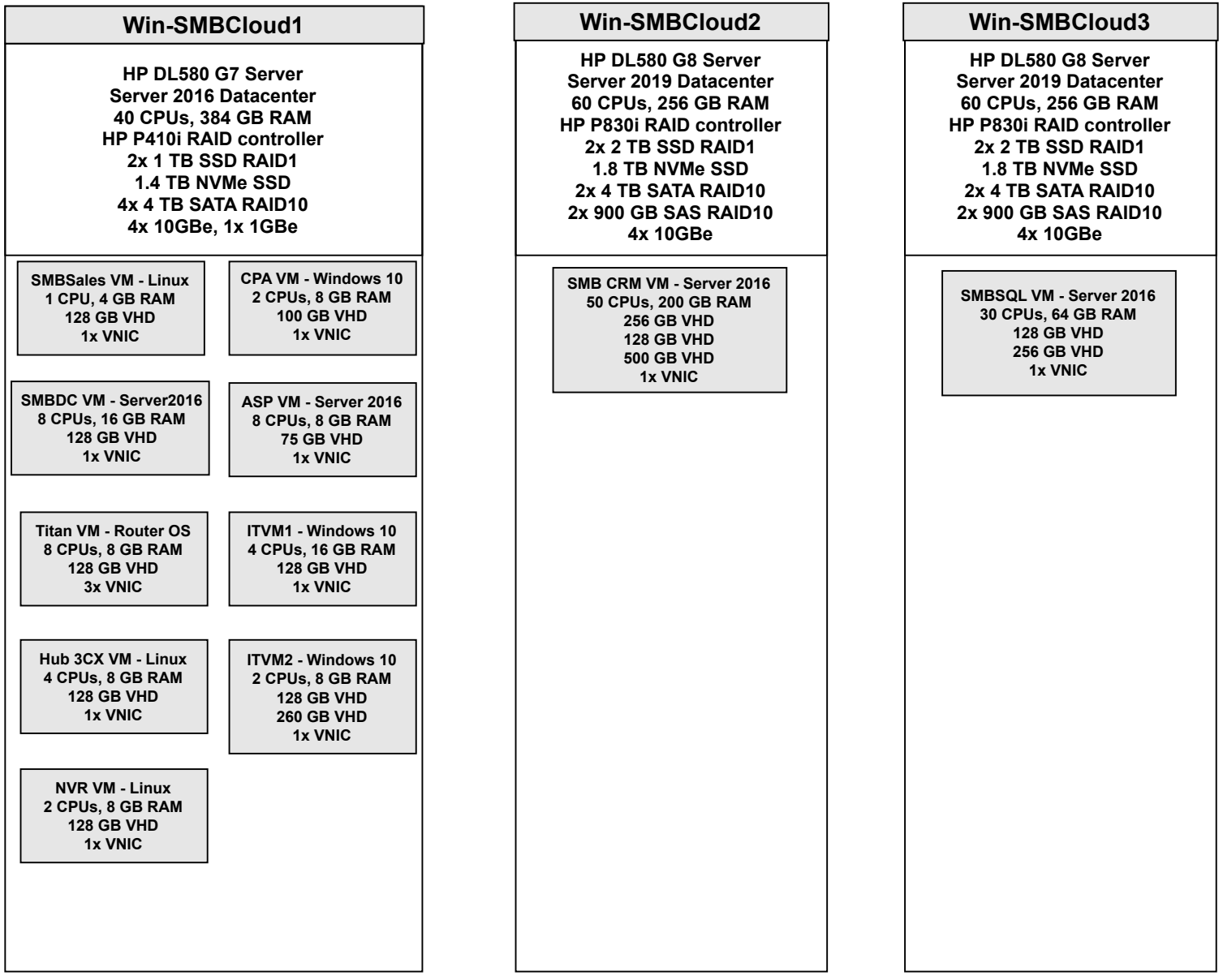

WAN: 169.254.6.10
WAN: 169.254.88.44
IPSec VPN link to SMBCloud
Backup IPSec VPN link to Azure
(failover configuration)
SERVER DETAILS
CRM db DETAILS
SMBCloud
172.31.0.0/16
On Premise Servers
Corporate Office Location
Block-level Backup Process
Microsoft Azure
172.31.0.0/16
Offsite Replica Servers
NOTE:
All public/WAN IPs have been replaced with placeholder RFC 3927 IPs for demonstration purposes.
Store A
192.168.1.0/24
Sample ISP Fiber
WAN: 169.254.101.99
Corporate Office
192.168.11.0/24
Sample ISP Fiber
WAN: 169.254.6.9
Store B
192.168.111.0/24
Sample ISP Fiber
WAN: 169.254.200.7
Store C
192.168.112.0/24
Sample ISP Cable
WAN: 169.254.1.212
Store D
192.168.113.0/24
Sample ISP Fiber
WAN: 169.254.30.59

Top Level

SMBCloud

Systems View

Network View

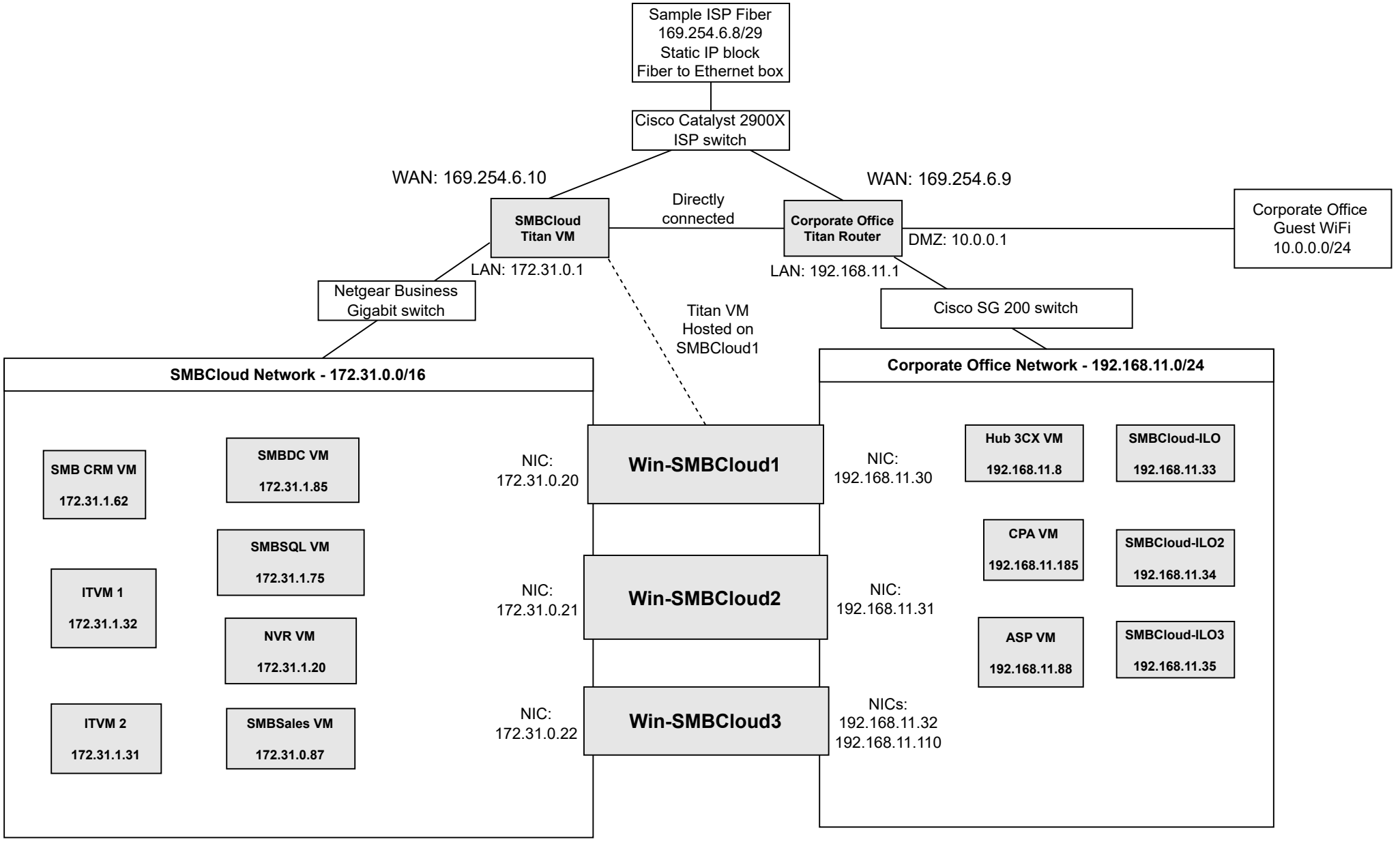


Top Level

SMBCloud

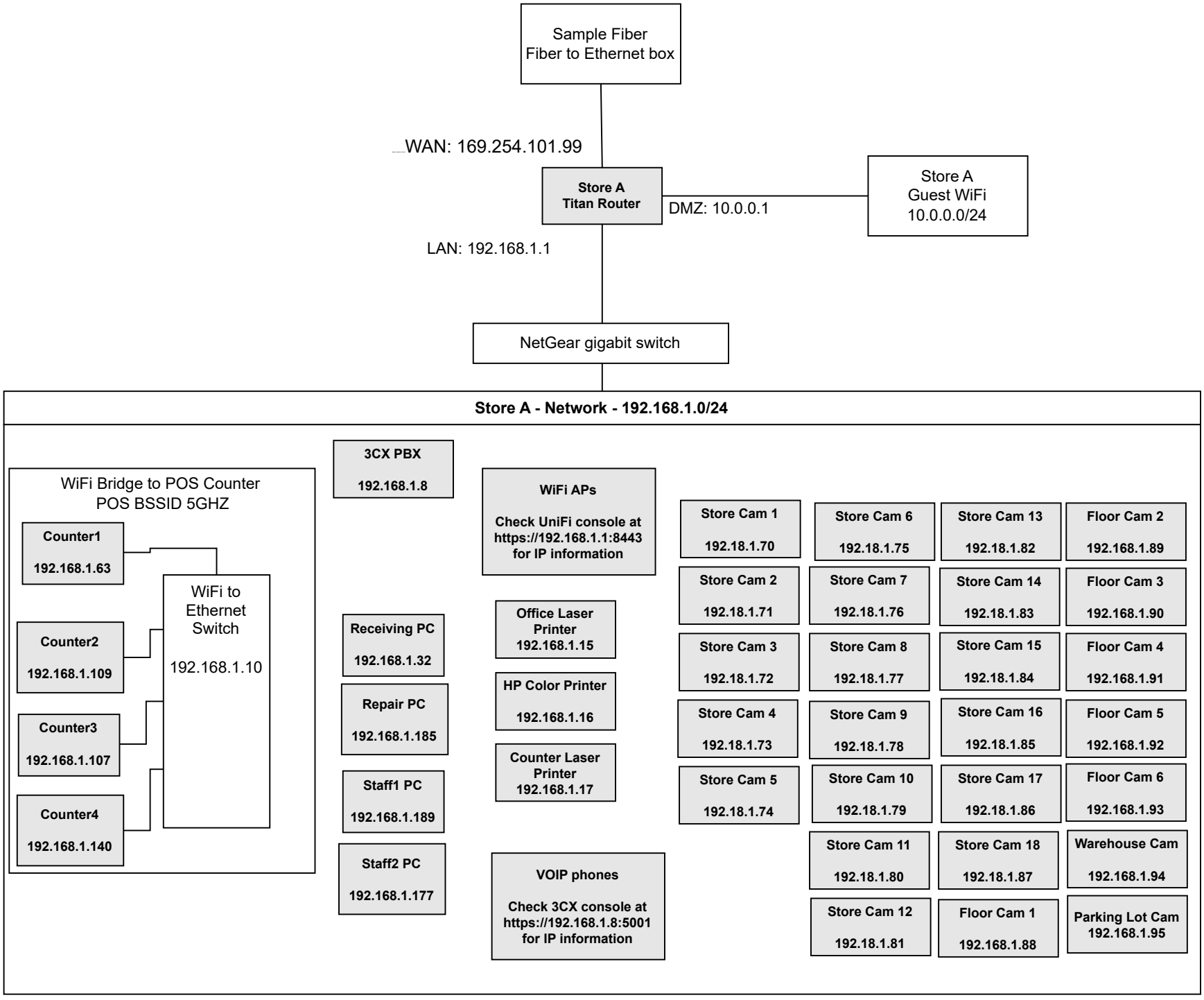
Systems View

Network View



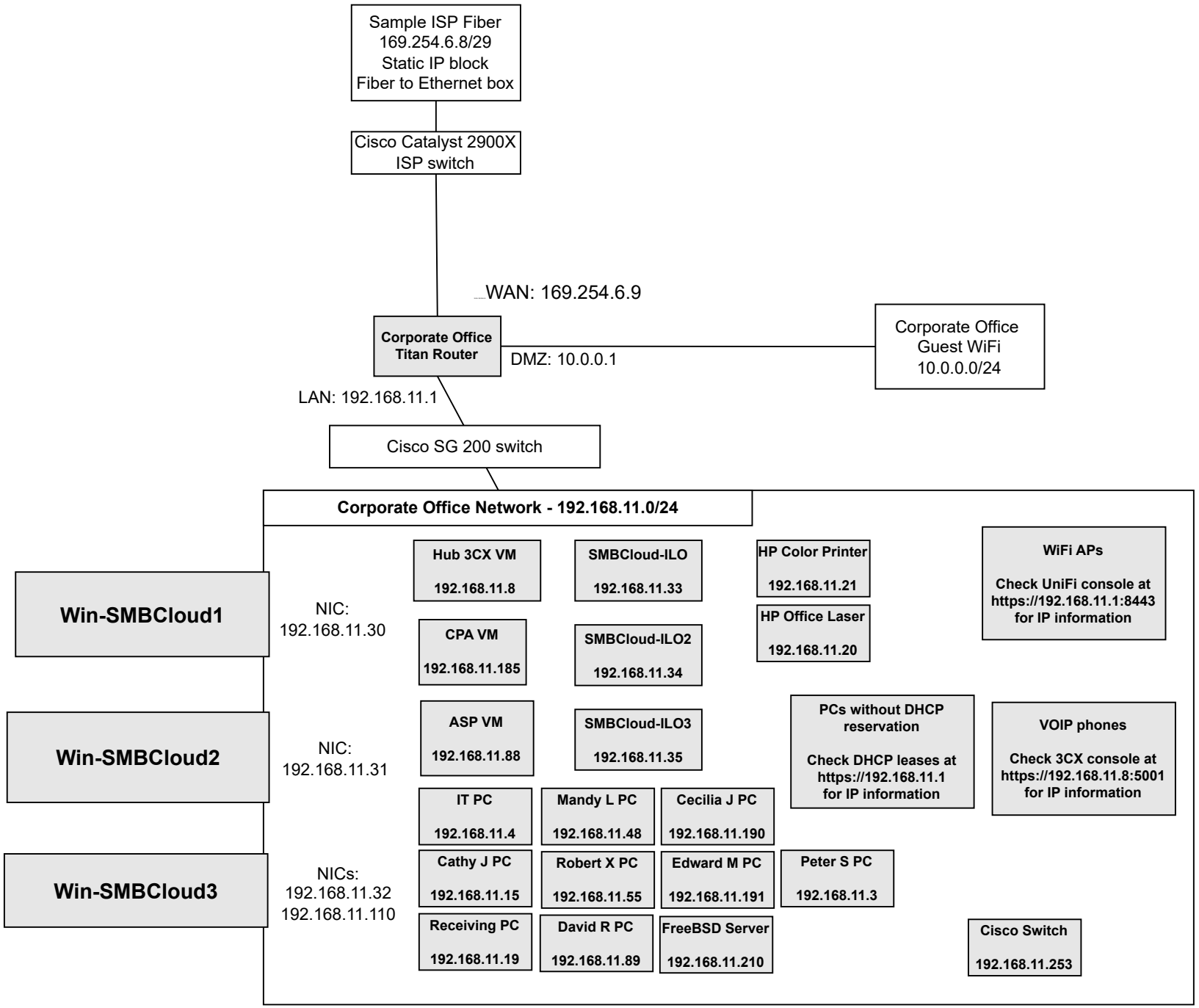
Top Level

Store A



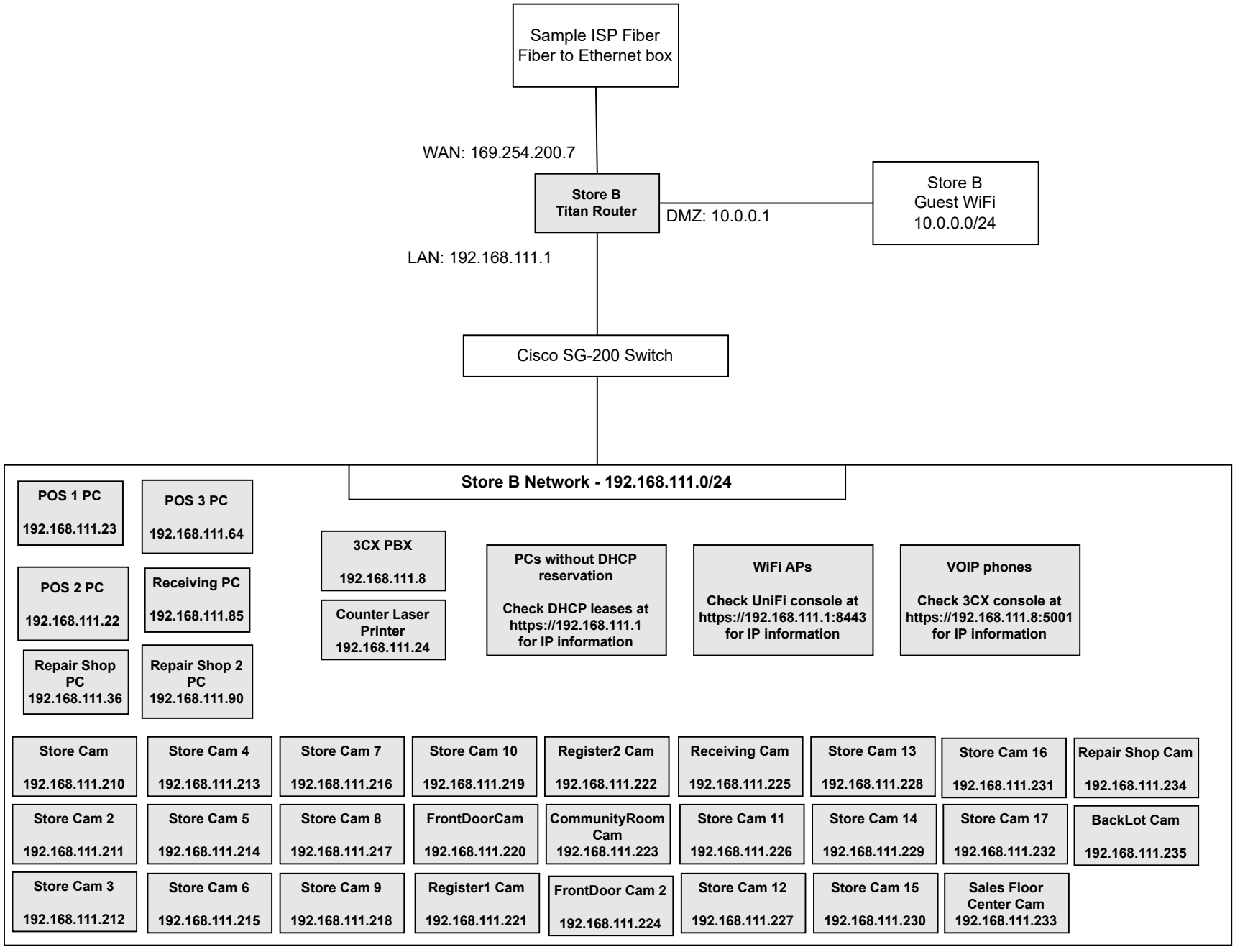
Top Level

Corporate Office



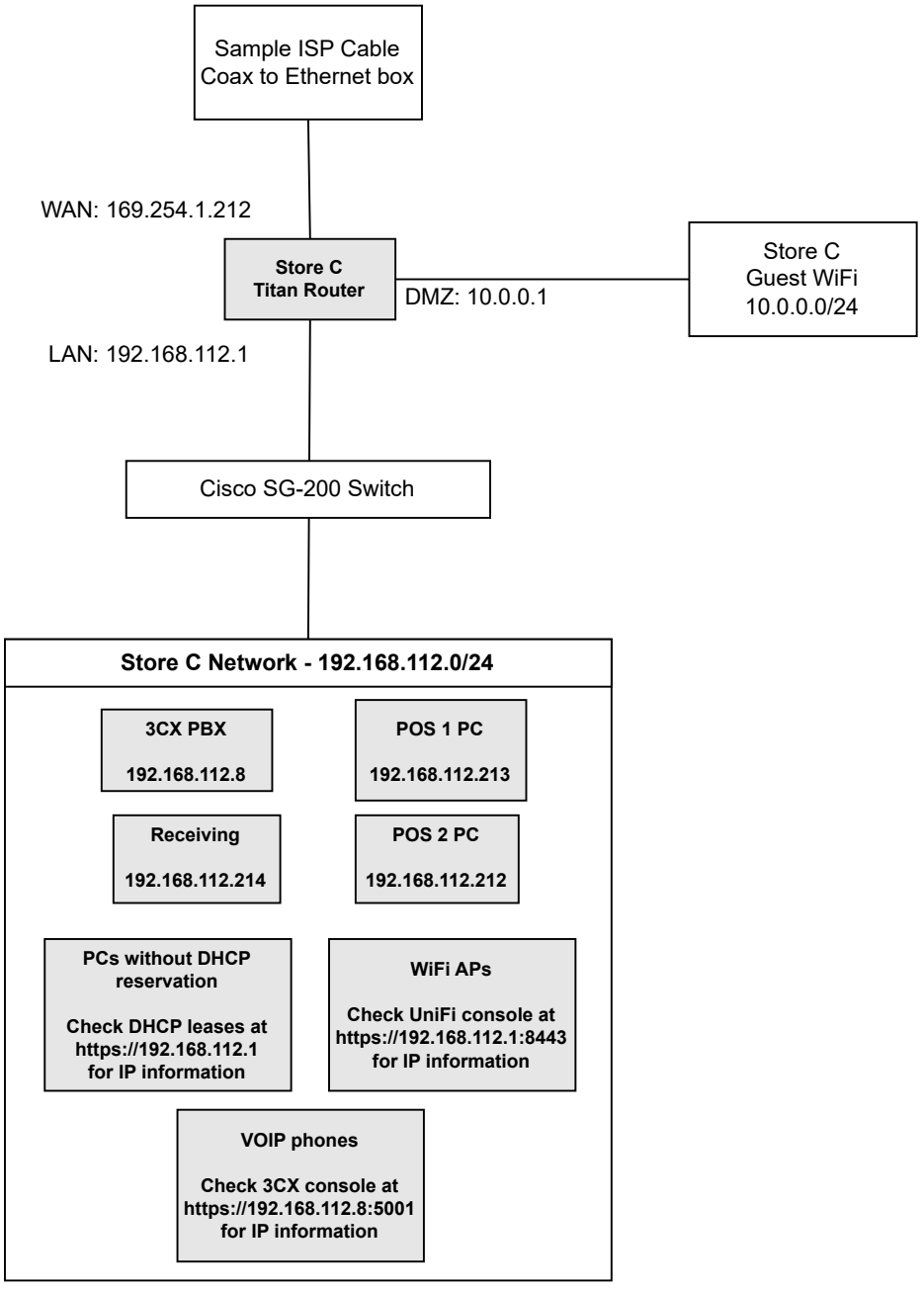
Top Level

Store B



Top Level

Store C



Top Level

Store D

Sample Fiber
Fiber to Ethernet box

WAN: 169.254.30.59

Store D
Titan Router

DMZ: 10.0.0.1

Store D
Guest WiFi
10.0.0.0/24

LAN: 192.168.113.254

Cisco SG-200 Switch

Store D Network - 192.168.113.0/24

POS1 PC
192.168.113.52

POS2 PC
192.168.113.51

POS3 PC
192.168.113.53

Repair
192.168.113.34

Receiving
192.168.113.44

3CX PBX
192.168.113.8

Counter Laser Printer
192.168.113.242

Office Laser Printer
192.168.113.252

PCs without DHCP reservation

Check DHCP leases at https://192.168.113.254 for IP information

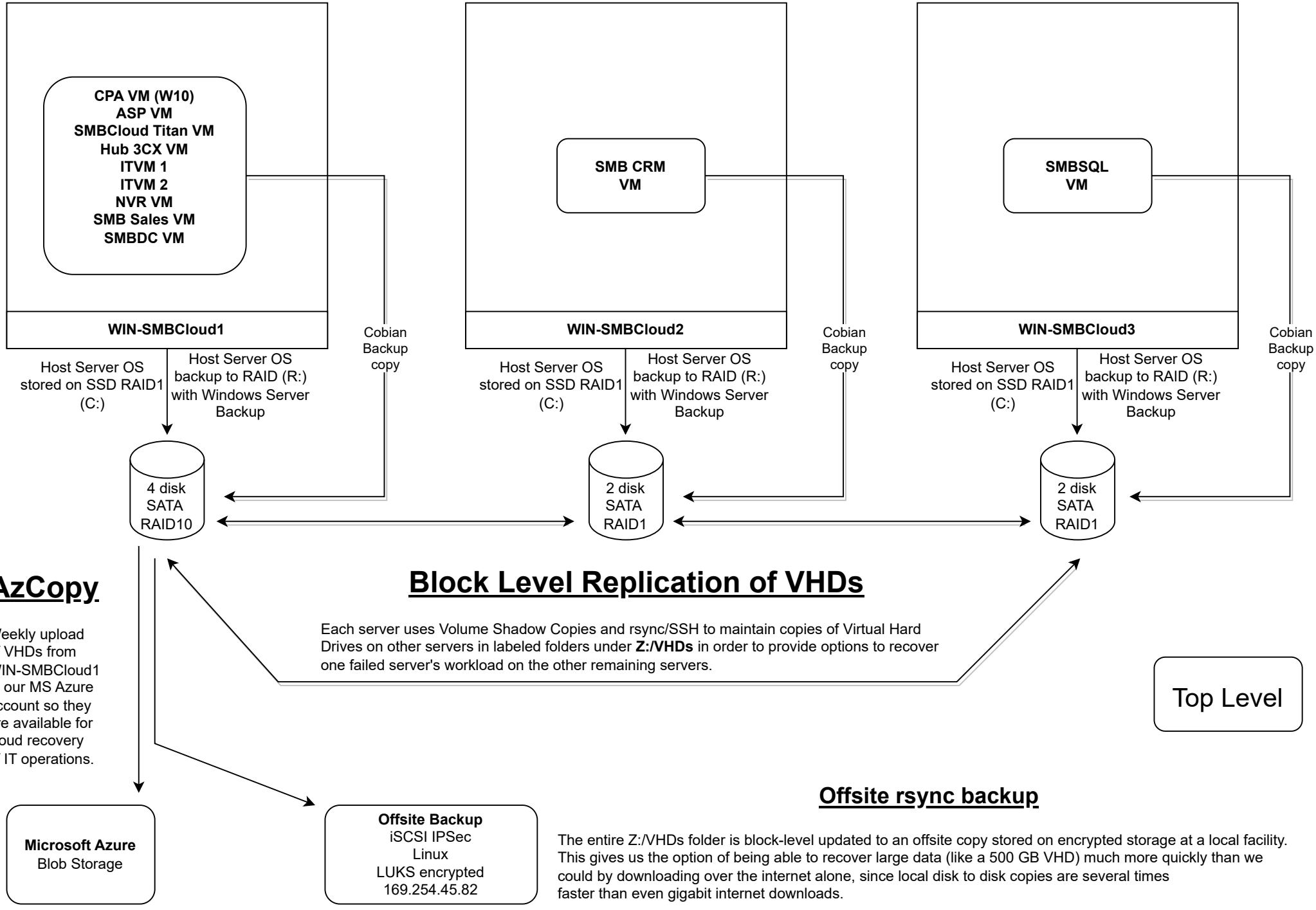
WiFi APs

Check UniFi console at https://192.168.113.254:8443 for IP information

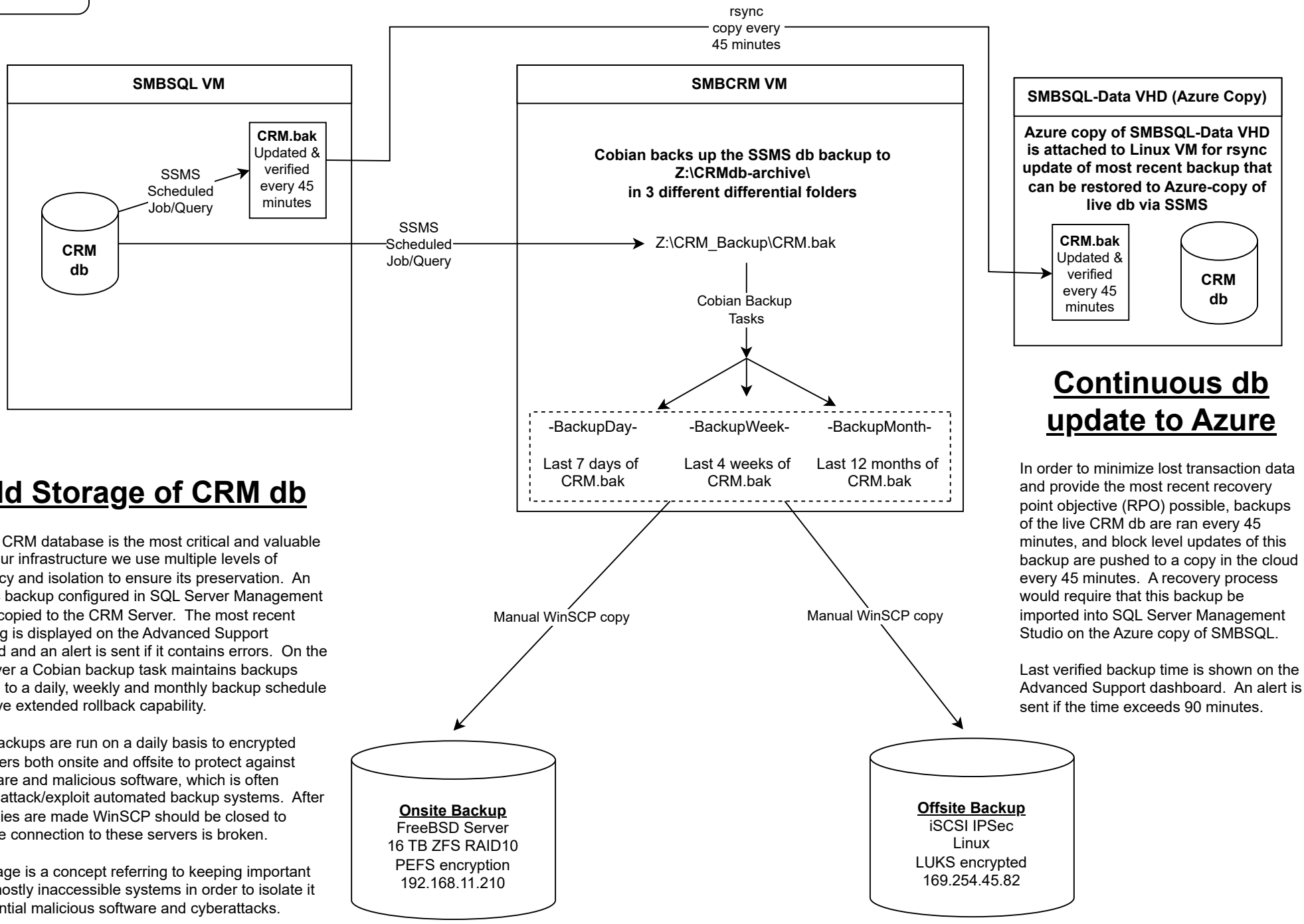
VOIP phones

Check 3CX console at https://192.168.113.8:5001 for IP information

Store Cam 1 **192.168.113.200**	**Store Cam 4** **192.168.113.203**	**Store Cam 7** **192.168.113.206**	**Store Cam 10** **192.168.113.209**	**Store Cam 13** **192.168.113.212**	**Store Cam 16** **192.168.113.215**	**Store Cam 19** **192.168.113.218**	**Office Cam 2** **192.168.113.221**
Store Cam 2 **192.168.113.201**	**Store Cam 5** **192.168.113.204**	**Store Cam 8** **192.168.113.207**	**Store Cam 11** **192.168.113.210**	**Store Cam 14** **192.168.113.213**	**Store Cam 17** **192.168.113.216**	**Store Cam 20** **192.168.113.219**	**Office Cam 3** **192.168.113.222**
Store Cam 3 **192.168.113.202**	**Store Cam 6** **192.168.113.205**	**Store Cam 9** **192.168.113.208**	**Store Cam 12** **192.168.113.211**	**Store Cam 15** **192.168.113.214**	**Store Cam 18** **192.168.113.217**	**Office Cam 1** **192.168.113.220**	


CPA VM (W10)
ASP VM
SMBCloud Titan VM
Hub 3CX VM
ITVM 1
ITVM 2
NVR VM
SMB Sales VM
SMBDC VM
SMB CRM VM
SMBSQL VM
WIN-SMBCloud1
WIN-SMBCloud2
WIN-SMBCloud3
Host Server OS stored on SSD RAID1 (C:)
Host Server OS backup to RAID (R:) with Windows Server Backup
Cobian Backup copy
4 disk SATA RAID10
2 disk SATA RAID1
2 disk SATA RAID1
AzCopy
Weekly upload of VHDs from WIN-SMBCloud1 to our MS Azure account so they are available for cloud recovery of IT operations.
Block Level Replication of VHDs
Each server uses Volume Shadow Copies and rsync/SSH to maintain copies of Virtual Hard Drives on other servers in labeled folders under Z:/VHDs in order to provide options to recover one failed server's workload on the other remaining servers.
Top Level
Microsoft Azure
Blob Storage
Offsite Backup
iSCSI IPSec
Linux
LUKS encrypted
169.254.45.82
Offsite rsync backup
The entire Z:/VHDs folder is block-level updated to an offsite copy stored on encrypted storage at a local facility. This gives us the option of being able to recover large data (like a 500 GB VHD) much more quickly than we could by downloading over the internet alone, since local disk to disk copies are several times faster than even gigabit internet downloads.

Top Level



Cold Storage of CRM db

Since the CRM database is the most critical and valuable piece of our infrastructure we use multiple levels of redundancy and isolation to ensure its preservation. An automatic backup configured in SQL Server Management Studio is copied to the CRM Server. The most recent backup log is displayed on the Advanced Support dashboard and an alert is sent if it contains errors. On the CRM server a Cobian backup task maintains backups according to a daily, weekly and monthly backup schedule so we have extended rollback capability.

Manual backups are run on a daily basis to encrypted *NIX servers both onsite and offsite to protect against ransomware and malicious software, which is often design to attack/exploit automated backup systems. After these copies are made WinSCP should be closed to ensure the connection to these servers is broken.

Cold storage is a concept referring to keeping important data on mostly inaccessible systems in order to isolate it from potential malicious software and cyberattacks.

Both cold storage servers exist in facilities with 24/7 electronic security monitoring and use strong file system encryption to protect customer data in the event of a theft.

Continuous db update to Azure

In order to minimize lost transaction data and provide the most recent recovery point objective (RPO) possible, backups of the live CRM db are ran every 45 minutes, and block level updates of this backup are pushed to a copy in the cloud every 45 minutes. A recovery process would require that this backup be imported into SQL Server Management Studio on the Azure copy of SMBSQL.

Last verified backup time is shown on the Advanced Support dashboard. An alert is sent if the time exceeds 90 minutes.