**Red Forest Backups**

**Introduction:**

This document will contain all documentation for Backups. This will include the following

1. Step by Step process of the Build
2. Documentation of the current configuration
3. Step by step process of recovery in the event of a disaster.

**Types of Backups**

1. VM Snapshots
2. System state
3. Bare Metal Backup
4. **Build Process for VM Snapshots**

**Steps to the build process are as follows:**

**Vault Setup:**

1. Log into the Azure Portal.
2. Go to “All Services” and search “Recovery Services Vault”
3. Click Add and fill out the necessary information
4. After the vault has been created and go into the blade, then scroll down to policies
5. Modify the “default policy” to what you need and create additional policies as needed.

**II. Onboarding**

1. Go to the home screen of the portal.
2. Click Virtual Machines
3. Select any Virtual Machine
4. Scroll down to “backup” and fill out the proper information and select “Enable Backup”
5. Then you will see a link to onboard multiple machines at the same time. Select that and the select all the machines you want to onboard then “onboard” them
6. After you onboard them select the backup policies you want applied to them.

**III. Build Process for System State and Bare Metal Backups:**

1. DC1 and DC2 has a 300 gb local backup drive which can be dismounted and mounted as needed.
2. Invoke-command -scriptblock {Install-windowsfeature Windows-Server-Backup} -computername $computers
3. Allow gmsa account to logon locally, logon as batch, backup data in group policy
4. Baremetal backups are scheduled to run every Monday/Wednesday/Friday
5. Snapshots are taken at night and stored in the Cooud

3. Run script which will backup with wbadmin

**IV. Current Configuration**

**Currently there are 2 Classes of servers**.

1. Mission Critical Servers
2. Domain controllers
3. Enterprise CA.
4. Non Critical Servers.
5. All other servers

**Backup Policies**

1. Backups run weekly Sunday, Tuesday Thursday for non critical servers.

Retention = 4 weeks

1. CriticalVMDailyBackUp - Run daily for Mission Critical Servers

Retention = 4 weeks.

**Windows Backups**

1. Non Critical Servers backup system state twice a week on Wednesday and sunday
2. Critical servers backup BareMetal on Sundays and SystemState Monday-Saturday.

BareMetal and System State Backups are the best ways you’re going to be able to restore Active Directory.

**V. Restore Process**

**Restoring a Snap Shot:**

There are several ways you can do this which will be listed below. To restore a snapshot go to “Virtual Machines” then select the virtual machine you want. Select Backup, and click the restore button. After you select your restore point, select one of the following ways you can restore.

1. Restore and Create a new VM
2. Restore only the disks
3. Restore and replace exist machine (The VM hast to be powered off and deallocated to perform this)

**Bare Metal Recovery and System State restores**

Due to limitations in Azure and our Current build of servers we have to perform restores in this way. There is 1 VM in each domain with the OS drive of the critical servers already pre-downloaded, with Nested Virtualization set up on them for the restore process.

1. Determine what you want to restore. When you figure out the iage you want to restore
2. Create a .vhd in windows that points to a network share
3. Copy the backup image onto the .vhd
4. Dismount vhd from windows
5. Create a hyper-vm with the oS disk you want. Make sure to create blank data drives for the server you want to restore.
6. Mount vhd as a scsi data drive.
7. Make sure that .iso is first in the boot order
8. When ready, boot and keep pressing any key to boot from CD rom
9. Select boot to Installation
10. Then select repair
11. Select repair from Image
12. This will now scan for your restore, if it doesn’t find it you will be prompted for a path manually.
13. After restore is done, use Storage Explorer and upload your hard disks to azure
14. After upload has finished, select the VM, go to disks, and select “Swap OS Disks”