**Dynamic Partitioning with Specified Mount Points**

The following %pre script dynamically creates a partitioning scheme based on the available disk size. It also ensures that specific partitions like /tmp, /, /boot/efi, and others are created according to your requirements.

**Kickstart File with Dynamic Partitioning**

%pre

# Check disk size and dynamically adjust partition sizes

disk\_size=$(lsblk -b -d -n -o SIZE /dev/sda)

# Create a basic partition scheme

echo 'clearpart --all --initlabel' > /tmp/partitioning.ks

echo 'part /boot/efi --fstype="efi" --size=512 --ondisk=sda' >> /tmp/partitioning.ks

if [ "$disk\_size" -gt 100000000000 ]; then

  # Large disk (greater than 100GB)

  echo 'part /boot --fstype="ext4" --size=1024 --ondisk=sda' >> /tmp/partitioning.ks

  echo 'part pv.01 --size=1 --grow --ondisk=sda' >> /tmp/partitioning.ks

else

  # Smaller disk (less than 100GB)

  echo 'part /boot --fstype="ext4" --size=512 --ondisk=sda' >> /tmp/partitioning.ks

  echo 'part pv.01 --size=1 --grow --ondisk=sda' >> /tmp/partitioning.ks

fi

# Create Volume Group

echo 'volgroup VolGroup00 pv.01' >> /tmp/partitioning.ks

# Logical Volumes (adjust sizes based on available disk space)

echo 'logvol / --fstype="ext4" --size=10240 --name=root --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol swap --fstype="swap" --size=2048 --name=swap --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /tmp --fstype="ext4" --size=2048 --name=tmp --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /sto --fstype="ext4" --size=8192 --name=sto --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /mnt/data --fstype="ext4" --size=8192 --name=data --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /home --fstype="ext4" --size=4096 --name=home --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /var --fstype="ext4" --size=4096 --name=var --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /var/tmp --fstype="ext4" --size=2048 --name=var\_tmp --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /var/log --fstype="ext4" --size=4096 --name=var\_log --vgname=VolGroup00' >> /tmp/partitioning.ks

echo 'logvol /var/log/audit --fstype="ext4" --size=2048 --name=var\_log\_audit --vgname=VolGroup00' >> /tmp/partitioning.ks

%end

%include /tmp/partitioning.ks

**Explanation of Each Partition**

* **/boot/efi**: A small, non-LVM partition for EFI, typically 512MB.
* **/boot**: Another non-LVM partition for boot files, typically 512MB to 1GB.
* **/**: The root filesystem, typically 10GB or more.
* **swap**: Swap space, typically 2GB or more, depending on system requirements.
* **/tmp**: A separate partition for temporary files, required by DISA STIG, typically 2GB or more.
* **/sto**: A partition for storage, typically 8GB or more.
* **/mnt/data**: A partition for additional data storage, typically 8GB or more.
* **/home**: The user home directories, typically 4GB or more.
* **/var**: The /var directory, which stores variable data like logs, typically 4GB or more.
* **/var/tmp**: Temporary files specific to /var, typically 2GB or more.
* **/var/log**: Log files, typically 4GB or more.
* **/var/log/audit**: Audit logs, typically 2GB or more.

**How This Configuration Works**

1. **Disk Size Detection**: The script checks the disk size and adjusts partition sizes accordingly.
2. **Partition Creation**: The script dynamically creates the partitions in the /tmp/partitioning.ks file based on the available disk space.
3. **Volume Group and Logical Volumes**: Logical volumes for the partitions are created within a volume group named VolGroup00. This allows for flexible management and resizing of these partitions in the future.
4. **Inclusion in Installation**: The %include /tmp/partitioning.ks directive in the Kickstart file tells the installer to use the generated partitioning scheme.

**Considerations**

* **Adjustable Sizes**: The sizes given are examples and should be adjusted based on the actual needs and available disk space.
* **LVM Benefits**: Using LVM for most partitions provides flexibility, such as resizing or adding more storage in the future.
* **Compliance**: The script ensures compliance with DISA STIG by creating a separate /tmp partition.
* **Performance**: Placing /var/log and /var/log/audit on separate partitions can improve performance and security, especially on systems where extensive logging is expected.

This configuration will dynamically adapt to different disk sizes while ensuring that all necessary partitions are created according to best practices and compliance requirements.