Using PING to Back Up and Restore the RSA Authentication Manager 8.2 Hardware Appliance

This document describes how to use PING to back up and restore the RSA Authentication Manager 8.2 hardware appliance.

Use these procedures to create a backup image after you deploy the RSA SecurID Appliance 130 (Intel) and the RSA SecurID Appliance 250 (Intel). These procedures apply to new deployments of RSA Authentication Manager 8.1 Service Pack 1 and RSA Authentication Manager 8.2, which use the same hardware appliance model.

Note: If you are upgrading to version 8.1 or 8.1 SP1 on an existing hardware appliance, see the Knowledgebase article number 000027254, "How to backup and restore an RSA SecurID Appliance 3.0 using PING."

RSA tested PING Release 3.02 2011-12-10 with kernel 3.1.2. For the most current software and documentation, refer to the website **http://ping.windowsdream.com/**.

The following sections are included:

Back Up to a Network File System (NFS)

RSA recommends using PING after you initially deploy the hardware appliance. A successful backup is required in the event that the hardware appliance needs to be restored. Reverting a hardware appliance back to the original settings requires a backup of the entire appliance, not just the database.

Note: PING does not encrypt the backup image. RSA recommends that you save the backup file to a protected location.

Before You Begin

- To download PING, go to **http://ping.windowsdream.com/**.

- Burn the PING ISO image onto a CD.

- Create a directory to store the appliance backup image on an NFS share. The directory that you create must contain a subdirectory called **Create_New_Image**.

- Attach a monitor and a keyboard to the appliance.

Procedure

1. Insert the PING CD into the CD drive.

2. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.

3. Press and hold the F11 function key until the boot menu displays.

4. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

5. Select the SATA CD-ROM. The PING CD boots.

6. When the >> prompt displays, press ENTER.

7. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

   a. Type **x** to go to the PING shell.

   b. Log on as the root user. No password is necessary.

   c. Do the following to provide the network settings:

      • To configure the appliance IP address and the network mask, type the following and press ENTER:

        `ifconfig eth0 <appliance ip> netmask <network mask> up`

        where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

      • To configure the default gateway, type the following and press ENTER:

        `route add default gateway <default gateway> eth0`

        where *<default gateway>* is the default gateway IP address.

   d. To return to the PING user interface, type the following and press ENTER:

      `/etc/rc.d/rc.ping`

8. At the **Welcome to PING** prompt, press ENTER.

9. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

10. At the **Where do you want to save/restore your images to/from** prompt, select **Network share**, select **OK**, and press ENTER.

11. At the **Will we map a network share with Samba CIFS, NFS or FTP** prompt, select **NFS**, select **OK**, and press ENTER.

12. At the **Enter a valid NFS Server IP** prompt, enter the IP address of the network share.

13. At the **Enter a valid NFS Share Name** prompt, enter the name of the share.

14. At the **Choose partitions to back up** prompt, use the spacebar to select **sda1**, **sda2**, **sda3**, **sda4**, and **sda5**.

15. At the **Enter a root directory containing your data** prompt, enter the directory to store the backup image, select **OK**, and press ENTER.

16. At the **Actions and Available images for restoration** prompt, select **Create_New_Image**, select **OK**, and press ENTER.

17. At the **Enter the name of the new image** prompt, enter the name of the new image (for example, 30410_appliance), select **OK**, and press ENTER.

18. When asked if you want to store details about each recorded file, select **No**, select **OK**, and press ENTER.

19. Select **gzip** to compress the backup image.

> **Note:** Only **gzip** is supported. Do not select the other options.

If the standing image has been selected it will back up in about 45 minutes and will use approximately 8 GB of disk space on the hard drive for a new install. The space used can vary depending on how much data is on the hard drive. Archive logs can be several GB and will increase both the time and space used.

20. Select **OK**, and press ENTER.

21. At the **Do you want partclone, zsplit or tar+gzip to be used instead of partimage?** prompt, select **Partimage**, select **OK**, and press ENTER.

22. At the **Most filesystems can be reduced before being stored** prompt, select **No**, select **OK**, and press ENTER.

    The **Save partition to image file** screen displays the progress of the backup.

23. After the backup process completes, PING gets a shell, as you selected in step 9.

    To take a backup of the logical volume using PING, do the following:

    a. At the PING login prompt, type **root**, and press ENTER.

    b. Create a backup of the files located in the mapper directory, which is located at the share name entered in step 13. Type the following, and press ENTER:

        mkdir /mnt/smbfs/PartImage/mapper_backup

    c. Change the directory to the share location used by PING for this type of backup. Type the following, and press ENTER:

        cd /mnt/smbfs/PartImage/<backup_location_entered_in
        _step_13>/mapper

    For example, if the backup location entered in step 13 is *<82_Appliance_backup>*, type the following:

        cd /mnt/smbfs/PartImage/<82_Appliance_backup>/mapper

24. Move the following files to the mapper_backup location created in the previous step:

    • systemVG-LVRoot.000

    • systemVG-LVRoot.001

    • systemVG-LVRoot.002

    • systemVG-LVRoot.003

    Run the following command to move the required files

        mv systemVG-LVRoot.00* ../mapper_backup

> **Note:** After you execute the move command, only three files should be present in the mapper location: **systemVG-LVRoot.first_sectors**, **systemVG-LVSwap**, and **systemVG-LVSwap.first_sectors**.

25. At the PING command prompt, run the following command:

```
"partimage -f3 -z1 -b -c -d  -M -V630  -o save
/dev/mapper/systemVG-LVRoot
/mnt/smbfs/PartImage/<backup_location_entered_in
_step_13>/mapper/ systemVG-LVRoot.gz
```

26. After successfully executing the command, rename the newly created *gz files. Run the following command for each of the gz files:

```
"mv systemVG-LVRoot.gz.000 systemVG-LVRoot.000"
```

```
"mv systemVG-LVRoot.gz.001 systemVG-LVRoot.001"
```

```
"mv systemVG-LVRoot.gz.002 systemVG-LVRoot.002"
```

```
"mv systemVG-LVRoot.gz.003 systemVG-LVRoot.003"
```

> **Note:** Make sure that **gz** is removed from each of the file names.

27. After the backup process completes, PING gets a shell, as you selected in step 9. To remove the PING CD, do the following:

   a. At the **PING login** prompt, type **root**, and press ENTER.

   b. To eject the CD drive, type **eject**.

   c. Remove the PING CD.

28. To reboot the appliance, in the PING command prompt, type **reboot**, and press ENTER.

Restore from a Network File System (NFS)

The following procedures restore the original settings for the hardware appliance.

Follow these procedures in order:

1. Clear Information About Existing Partitions
2. Restore the Hardware Appliance

Clear Information About Existing Partitions

Before you restore the hardware appliance, you must use PING to clear information about existing partitions from the master boot record (MBR).

This procedure removes all data from the appliance.

Before You Begin

Save any log files to a location that is not on the hardware appliance.

Procedure

1. Insert the PING CD into the CD drive.
2. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.
3. Press and hold the F11 function key until the boot menu displays.
4. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.
5. Select the SATA CD-ROM. The PING CD boots.
6. When the >> prompt displays, type **x** and press ENTER. PING gets a shell.
7. At the **PING login** prompt, type **root** and press ENTER. No password is needed.
8. In the PING shell command prompt, type the following:

   ```
   dd if=/dev/zero of=/dev/sda bs=512 count=1
   ```

   and press ENTER. The MBR is cleared.

Next Step

Restore the Hardware Appliance

Restore the Hardware Appliance

Use the following procedure to restore the original settings for the hardware appliance.

Before You Begin

Clear Information About Existing Partitions

Procedure

1. Reboot the appliance with PING. In the PING shell command prompt, type **reboot** and press ENTER.

2. Press and hold the F11 function key until the boot menu displays.

3. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

4. Select the SATA CD-ROM. The PING CD boots.

5. When the >> prompt displays, press ENTER.

6. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

   a. Type **x** to go to the PING shell.

   b. Log on as the root user. No password is necessary.

   c. Do the following to provide the network settings:

      • To configure the appliance IP address and the network mask, type the following and press ENTER:

        ```
        ifconfig eth0 <appliance ip> netmask <network mask> up
        ```

        where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

      • To configure the default gateway, type the following and press ENTER:

        ```
        route add default gateway <default gateway> eth0
        ```

        where *<default gateway>* is the default gateway IP address.

   d. To return to the PING user interface, type the following and press ENTER:

      ```
      /etc/rc.d/rc.ping
      ```

7. At the **Welcome to PING** prompt, press ENTER.

8. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

9. At the **Where do you want to save/restore your images to/from** prompt, select **Network share**, select **OK**, and press **ENTER**.

10. At the **Will we map a network share with Samba CIFS, NFS or FTP** prompt, select **NFS**, select **OK**, and press ENTER.

11. At the **Enter a valid NFS Server IP** prompt, enter the IP address of the network share.

12. At the **Enter a valid NFS Share Name** prompt, enter the name of the share.

13. At the **Choose partitions to back up** prompt, use the spacebar to select **### CHOOSE THIS if you want a RESTORATION###**. Select **OK**, and press ENTER.

14. At the **Enter a root directory containing your data** prompt, enter the directory that contains the backup image, select **OK**, and press ENTER.

15. At the **Actions and Available images for restoration** prompt, select the image to restore, select **OK**, and press ENTER.

16. At the **BIOS settings have been recorded on your image. Do you want them to be restored?** prompt, select **Yes**, select **OK**, and press ENTER.

17. Read and understand the warning that displays. The existing partition and all data on it will be overwritten.

18. At the prompt, type **YES**, and press ENTER.

19. PING may detect that there will be extra space on your drive after restoring the image. If the **We can extend partitions for you** prompt displays, select **No** and press ENTER.

    The **Restore partition from image file** screen displays the progress of the restore process. Allow 15 to 20 minutes for the restoration to complete.

20. After restoration completes, PING gets a shell, as you selected in step 8. To remove the PING CD, do the following:

    a. At the **PING login** prompt, type **root**, and press ENTER.

    b. To eject the CD drive, type **eject**.

    c. Remove the PING CD.

21. Shut down the hardware appliance normally. Do not just power off the appliance. For example, at the **PING login** prompt, run the shutdown command:

    `/sbin/shutdown -h now -t 30`

    If prompted, enter the operating system password.

22. Press the power button to restart the hardware appliance.

23. Verify that the restore completed as you expected.

Back Up to a Windows Share

RSA recommends using PING after you initially deploy the hardware appliance. A successful backup is required in the event that the hardware appliance needs to be restored. Reverting a hardware appliance back to the original settings requires a backup of the entire appliance, not just the database.

Note: PING does not encrypt the backup image. RSA recommends that you save the backup file to a protected location.

Before You Begin

- To download PING, go to **http://ping.windowsdream.com/**.

- Burn the PING ISO image onto a CD.

- Create a directory to store the appliance backup image on a Windows share. The directory that you create must contain a subdirectory called **Create_New_Image**.

- Attach a monitor and a keyboard to the appliance.

Procedure

1. Insert the PING CD into the CD drive.

2. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.

3. Press and hold the F11 function key until the boot menu displays.

4. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

5. Select the SATA CD-ROM. The PING CD boots.

6. When the >> prompt displays, press ENTER.

7. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

   a. Type **x** to go to the PING shell.

   b. Log on as the root user. No password is necessary.

   c. Do the following to provide the network settings:

      - To configure the appliance IP address and the network mask, type the following and press ENTER:

        ifconfig eth0 *<appliance ip>* netmask *<network mask>* up

        where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

      - To configure the default gateway, type the following and press ENTER:

        route add default gateway *<default gateway>* eth0

        where *<default gateway>* is the default gateway IP address.

   d. To return to the PING user interface, type the following and press ENTER:

      `/etc/rc.d/rc.ping`

8. At the **Welcome to PING** prompt, press ENTER.

9. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

10. At the **Where do you want to save/restore your images to/from** prompt, select **Network share**, select **OK**, and press ENTER.

11. At the **Will we map a network share with Samba CIFS, NFS or FTP** prompt, select **CIFS**, select **OK**, and press ENTER.

12. At the **Enter a valid SMB Server IP** prompt, enter the IP address of the network share.

13. At the **Enter a valid SMB Share Name** prompt, enter the name of the share.

14. At the **Enter a valid username** prompt, enter the username of the Windows administrator who can access the share.

15. At the **Enter a valid password** prompt, enter the password for the administrator account you specified in the previous step.

16. At the **Choose partitions to back up** prompt, use the spacebar to select **sda1**, **sda2**, **sda3**, **sda4**, and **sda5**. Select **OK**, and press ENTER.

17. At the **Enter a root directory containing your data** prompt, enter the directory to store the backup image, select **OK**, and press ENTER.

18. At the **Actions and Available images for restoration** prompt, select **Create_New_Image**, select **OK**, and press ENTER.

19. At the **Enter the name of the new image** prompt, enter the name of the new image (for example, 30410_appliance), select **OK**, and press ENTER.

20. When asked if you want to store details about each recorded file, select **No**, select **OK**, and press ENTER.

21. Select **gzip** to compress the backup image.

   Note: Only **gzip** is supported. Do not select the other options.

   If the standing image has been selected it will back up in about 45 minutes and will use approximately 8 GB of disk space on the hard drive for a new install. The space used can vary depending on how much data is on the hard drive. Archive logs can be several GB and will increase both the time and space used.

22. Select **OK**, and press ENTER.

23. At the **Do you want partclone, zsplit or tar+gzip to be used instead of partimage?** prompt, select **Partimage**, select **OK**, and press ENTER.

24. At the **Most filesystems can be reduced before being stored** prompt, select **No**, select **OK**, and press ENTER.

   The **Save partition to image file** screen displays the progress of the backup.

25. After the backup process completes, PING gets a shell, as you selected in step 9. To take a backup of the logical volume using PING, do the following:

    a. At the PING login prompt, type **root**, and press ENTER.

    b. Create a backup of the files located in the mapper directory, which is located at the share name entered in step 13. Type the following, and press ENTER:

    ```
    mkdir /mnt/smbfs/PartImage/mapper_backup
    ```

    c. Change the directory to the share location used by PING for this type of backup. Type the following, and press ENTER:

    ```
    cd /mnt/smbfs/PartImage/<backup_location_entered_in
    _step_13>/mapper
    ```

    For example, if the backup location entered in step 13 is *<82_Appliance_backup>*, type the following:

    ```
    cd /mnt/smbfs/PartImage/<82_Appliance_backup>/mapper
    ```

26. Move the following files to the mapper_backup location created in the previous step:

    • systemVG-LVRoot.000

    • systemVG-LVRoot.001

    • systemVG-LVRoot.002

    • systemVG-LVRoot.003

    Run the following command to move the required files

    ```
    mv systemVG-LVRoot.00* ../mapper_backup
    ```

    Note: After you execute the move command, only three files should be present in the mapper location: **systemVG-LVRoot.first_sectors**, **systemVG-LVSwap**, and **systemVG-LVSwap.first_sectors**.

27. At the PING command prompt, run the following command:

    ```
    "partimage -f3 -z1 -b -c -d  -M -V630  -o save
    /dev/mapper/systemVG-LVRoot
    /mnt/smbfs/PartImage/<backup_location_entered_in
    _step_13>/mapper/ systemVG-LVRoot.gz
    ```

28. After successfully executing the command, rename the newly created *gz files. Run the following command for each of the gz files:

    ```
    "mv systemVG-LVRoot.gz.000 systemVG-LVRoot.000"
    ```

    ```
    "mv systemVG-LVRoot.gz.001 systemVG-LVRoot.001"
    ```

    ```
    "mv systemVG-LVRoot.gz.002 systemVG-LVRoot.002"
    ```

    ```
    "mv systemVG-LVRoot.gz.003 systemVG-LVRoot.003"
    ```

    Note: Make sure that **gz** is removed from each of the file names.

29. After the backup completes, PING gets a shell, as you selected in step 9. To remove the PING CD, do the following:

    a. At the **PING login** prompt, type **root**, and press ENTER.

    b. To eject the CD drive, type **eject**.

    c. Remove the PING CD.

30. Shut down the hardware appliance normally. Do not just power off the appliance. For example, at the **PING login** prompt, run the shutdown command:

    ```
    /sbin/shutdown -h now -t 30
    ```

    If prompted, enter the operating system password.

31. Press the power button to restart the hardware appliance.

Restore from a Windows Share

The following procedures restore the original settings for the hardware appliance.

Follow these procedures in order:

1. Clear Information About Existing Partitions
2. Restore the Hardware Appliance

Clear Information About Existing Partitions

Before you restore the hardware appliance, you must use PING to clear information about existing partitions from the master boot record (MBR).

This procedure removes all data from the appliance.

Before You Begin

Save any log files to a location that is not on the hardware appliance.

Procedure

1. Insert the PING CD into the CD drive.
2. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.
3. Press and hold the F11 function key until the boot menu displays.
4. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.
5. Select the SATA CD-ROM. The PING CD boots.
6. When the >> prompt displays, type **x** and press ENTER. PING gets a shell.
7. At the **PING login** prompt, type **root** and press ENTER. No password is needed.
8. In the PING shell command prompt, type the following:

    ```
    dd if=/dev/zero of=/dev/sda bs=512 count=1
    ```

    and press ENTER. The MBR is cleared.

Next Step

Restore the Hardware Appliance

Restore the Hardware Appliance

Use the following procedure to restore the original settings for the hardware appliance.

Before You Begin

Clear Information About Existing Partitions

Procedure

1. Reboot the appliance with PING. In the PING shell command prompt, type **reboot** and press ENTER.

2. Press and hold the F11 function key until the boot menu displays.

3. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

4. Select the SATA CD-ROM. The PING CD boots.

5. When the >> prompt displays, press ENTER.

6. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

   a. Type **x** to go to the PING shell.

   b. Log on as the root user. No password is necessary.

   c. Do the following to provide the network settings:

   - To configure the appliance IP address and the network mask, type the following and press ENTER:

     `ifconfig eth0 <appliance ip> netmask <network mask> up`

     where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

   - To configure the default gateway, type the following and press ENTER:

     `route add default gateway <default gateway> eth0`

     where *<default gateway>* is the default gateway IP address.

   d. To return to the PING user interface, type the following and press ENTER:

     `/etc/rc.d/rc.ping`

7. At the **Welcome to PING** prompt, press ENTER.

8. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

9. At the **Where do you want to save/restore your images to/from** prompt, select **Network share**, select **OK**, and press ENTER.

10. At the **Will we map a network share with Samba CIFS, NFS or FTP,** prompt, select **CIFS**, select **OK**, and press ENTER.

11. At the **Enter a valid SMB Server IP** prompt, enter the IP address of the network share.

12. At the **Enter a valid SMB Share Name** prompt, enter the name of the share.

13. At the **Enter a valid username** prompt, enter the username of the Windows administrator who can access the share.

14. At the **Enter a valid password** prompt, enter the password for the administrator account you specified in the previous step.

15. At the **Chose partitions to back up** prompt, use the spacebar to select **### CHOOSE THIS if you want a RESTORATION###**, select **OK**, and press ENTER.

16. At the **Enter a root directory containing your data** prompt, enter the directory that contains the backup image**,** select **OK**, and press ENTER.

17. At the **Actions and Available images for restoration** prompt, select the image to restore, select **OK**, and press ENTER.

18. At the **BIOS settings have been recorded on your image. Do you want them to be restored?** prompt, select **Yes**, select **OK**, and press ENTER.

19. Read and understand the warning that displays. The existing partition and all data on it will be overwritten.

20. At the prompt, type **YES**, and press Enter.

21. PING may detect that there will be extra space on your drive after restoring the image. If the **We can extend partitions for you** prompt displays, select **No** and press ENTER.

    The **Restore partition from image file** screen displays the progress of the restore process. Allow 15 to 20 minutes for the restoration to complete.

22. After restoration completes, PING gets a shell, as you selected in step 8. To remove the PING CD, do the following:

    a. At the **PING login** prompt, type **root**, and press ENTER.

    b. To eject the CD drive, type **eject**.

    c. Remove the PING CD.

23. Shut down the hardware appliance normally. Do not just power off the appliance. For example, at the **PING login** prompt, run the shutdown command:

    `/sbin/shutdown -h now -t 30`

    If prompted, enter the operating system password.

24. Press the power button to restart the hardware appliance.

25. Verify that the restore completed as you expected.

Back Up to a USB Drive

RSA recommends using PING after you initially deploy the hardware appliance. A successful backup is required in the event that the hardware appliance needs to be restored. Reverting a hardware appliance back to the original settings requires a backup of the entire appliance, not just the database.

Note: PING does not encrypt the backup image. RSA recommends that you save the backup file in a protected location.

Before You Begin

- To download PING, go to **http://ping.windowsdream.com/**.

- Burn the PING ISO image onto a CD.

- Attach a monitor and a keyboard to the appliance.

Procedure

1. Attach a USB drive to the appliance.

2. Create a directory on the USB drive to store the appliance backup image. The directory that you create must contain a subdirectory called **Create_New_Image**.

3. Insert the PING CD into the CD drive.

4. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.

5. Press and hold the F11 function key until the boot menu displays.

6. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

7. Select the SATA CD-ROM. The PING CD boots.

8. When the >> prompt displays, press ENTER.

9. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

   a. Type **x** to go to the PING shell.

   b. Log on as the root user. No password is necessary.

   c. Do the following to provide the network settings:

      - To configure the appliance IP address and the network mask, type the following and press ENTER:

        `ifconfig eth0 <appliance ip> netmask <network mask> up`

        where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

- To configure the default gateway, type the following and press ENTER:

  `route add default gateway <default gateway> eth0`

  where *<default gateway>* is the default gateway IP address.

  d. To return to the PING user interface, type the following and press ENTER:

  `/etc/rc.d/rc.ping`

10. At the **Welcome to PING** prompt, press ENTER.

11. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

12. At the **Where do you want to save/restore your images to/from**, prompt, select **Local disk/partition**, select **OK**, and press ENTER.

13. At the **Choose the partitions to back up** prompt, use the spacebar to select **sda1**, **sda2**, **sda3**, **sda4**, and **sda5**.

14. At the **Choose the partition where the images are stored** prompt, select **sdb1**, select **OK**, and press ENTER.

15. At the **Enter a root directory containing your data** prompt, enter the directory to store the backup image, select OK, and press ENTER.

16. At the **Actions and Available images for restoration** prompt, select **Create_New_Image**, select **OK**, and press ENTER.

17. At the **Enter the name of the new image** prompt, enter the name of the new image (for example, 30410_appliance), select **OK**, and press ENTER.

18. When asked if you want to store details about each recorded file, select **No**, select **OK**, and press ENTER.

19. Select **gzip** to compress the backup image.

Note: Only **gzip** is supported. Do not select the other options.

If the standing image has been selected it will back up in about 45 minutes and will use approximately 8 GB of disk space on the hard drive for a new install. The space used can vary depending on how much data is on the hard drive. Archive logs can be several GB and will increase both the time and space used.

20. Select **OK**, and press ENTER.

21. At the **Do you want partclone, zsplit or tar+gzip to be used instead of partimage?** prompt, select **Partimage**, select **OK**, and press ENTER.

22. At the **Most filesystems can be reduced before being stored** prompt, select **No**, select **OK**, and press ENTER.

   The Save Partition to Image File screen displays the progress of the backup.

23. After the backup process completes, PING gets a shell, as you selected in step 11. To take a backup of the logical volume using PING, do the following:

    a. At the PING login prompt, type **root**, and press ENTER.

    b. Create a backup of the files located in the mapper directory, which is located at the partition entered in step 14, which is **sdb1**. Type the following, and press ENTER:

        mkdir /mnt/smbfs/PartImage/mapper_backup

    c. Change the directory to the share location used by PING for this type of backup. Type the following, and press ENTER:

        cd /mnt/smbfs/PartImage/sdb1/mapper

24. Move the following files to the mapper_backup location created in the previous step:

    • systemVG-LVRoot.000

    • systemVG-LVRoot.001

    • systemVG-LVRoot.002

    • systemVG-LVRoot.003

    Run the following command to move the required files

        mv systemVG-LVRoot.00* ../mapper_backup

    Note: After you execute the move command, only three files should be present in the mapper location: **systemVG-LVRoot.first_sectors**, **systemVG-LVSwap**, and **systemVG-LVSwap.first_sectors**.

25. At the PING command prompt, run the following command:

        "partimage -f3 -z1 -b -c -d -M -V630 -o save
        /dev/mapper/systemVG-LVRoot
        /mnt/smbfs/PartImage/<backup_location_entered_in
        _step_13>/mapper/ systemVG-LVRoot.gz

26. After successfully executing the command, rename the newly created *gz files. Run the following command for each of the gz files:

        "mv systemVG-LVRoot.gz.000 systemVG-LVRoot.000"

        "mv systemVG-LVRoot.gz.001 systemVG-LVRoot.001"

        "mv systemVG-LVRoot.gz.002 systemVG-LVRoot.002"

        "mv systemVG-LVRoot.gz.003 systemVG-LVRoot.003"

    Note: Make sure that **gz** is removed from each of the file names.

27. After the backup completes, PING gets a shell, as you selected in step 11. To remove the PING CD, do the following:

    a. At the **PING login** prompt, type **root**, and press ENTER.

    b. To eject the CD drive, type **eject**.

    c. Remove the PING CD.

28. Shut down the hardware appliance normally. Do not just power off the appliance. For example, at the **PING login** prompt, run the shutdown command:

    `/sbin/shutdown -h now -t 30`

    If prompted, enter the operating system password.

29. Remove the USB drive from the USB port.

30. Press the power button to restart the hardware appliance.

Restore from a USB Drive

The following procedures restore the original settings for the hardware appliance.

Follow these procedures in order:

1. Clear Information About Existing Partitions
2. Restore the Hardware Appliance

Clear Information About Existing Partitions

Before you restore the hardware appliance, you must use PING to clear information about existing partitions from the master boot record (MBR).

This procedure removes all data from the appliance.

Before You Begin

Save any log files to a location that is not on the hardware appliance.

Procedure

1. Attach the USB drive with the version 7.1 image to the appliance.
2. Insert the PING CD into the CD drive.
3. Reboot the appliance. In the Operations Console, click **Maintenance > Reboot Appliance**.
4. Press and hold the F11 function key until the boot menu displays.
5. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.
6. Select the SATA CD-ROM. The PING CD boots.
7. When the >> prompt displays, type **x** and press ENTER. PING gets a shell.
8. At the **PING login** prompt, type **root** and press ENTER. No password is needed.
9. In the PING shell command prompt, type the following:

   ```
   dd if=/dev/zero of=/dev/sda bs=512 count=1
   ```

   and press ENTER. The MBR is cleared.

Next Step

Restore the Hardware Appliance

Restore the Hardware Appliance

Use the following procedure to restore the hardware appliance.

Before You Begin

Clear Information About Existing Partitions

Procedure

1. Reboot the appliance with PING. In the PING shell command prompt, type **reboot** and press ENTER.

2. Press and hold the F11 function key until the boot menu displays.

3. If prompted to enter a password, enter the BIOS password. For example, **rsabios**.

4. Select the SATA CD-ROM. The PING CD boots.

5. When the >> prompt displays, press ENTER.

6. If you do not have a Dynamic Host Configuration Protocol (DHCP) server, do the following to manually configure the network settings:

    a. Type **x** to go to the PING shell.

    b. Log on as the root user. No password is necessary.

    c. Do the following to provide the network settings:

    *   To configure the appliance IP address and the network mask, type the following and press ENTER:

        `ifconfig eth0 <appliance ip> netmask <network mask> up`

        where *<appliance ip>* is the IP address of the appliance and *<network mask>* is your network mask.

    *   To configure the default gateway, type the following and press ENTER:

        `route add default gateway <default gateway> eth0`

        where *<default gateway>* is the default gateway IP address.

    d. To return to the PING user interface, type the following and press ENTER:

        `/etc/rc.d/rc.ping`

7. At the **Welcome to PING** prompt, press ENTER.

8. At the **When the job is completed, do you want to...** prompt, select **Get a shell (root)**, select **OK**, and press ENTER.

9. At the **Where do you want to save/restore your images to/from** prompt, select **Local disk/partition**, select **OK**, and press ENTER.

10. At the **Choose partitions to back up** prompt, use the spacebar to select **### CHOOSE THIS if you want a RESTORATION###**, select **OK**, and press ENTER.

11. At the **Choose the partition where the images are stored** prompt, select **sdb1**, select **OK**, and press ENTER.

12. At the **Enter a root directory containing your data** prompt, enter the directory that contains the backup image, select **OK**, and press ENTER.

13. At the **Actions and Available images for restoration** prompt, select the image you want to restore, select **OK**, and press ENTER.

14. At the **BIOS settings have been recorded on your image. Do you want them to be restored?** prompt, select **Yes**, and press ENTER.

15. Read and understand the warning that displays. The existing partition and all data on it will be overwritten.

16. At the prompt, type **YES**, and press ENTER.

17. PING may detect that there will be extra space on your drive after restoring the image. If the **We can extend partitions for you** prompt displays, select **No** and press ENTER.

    The **Restore partition from image file** screen displays the progress of the restore process. Allow 15 to 20 minutes for the restoration to complete.

18. After the restoration completes, PING gets a shell, as you selected in step 8. To remove the PING CD, do the following:

    a. At the **PING login** prompt, type **root**, and press ENTER.

    b. To eject the CD drive, type **eject**.

    c. Remove the PING CD.

19. Shut down the hardware appliance normally. Do not just power off the appliance. For example, at the **PING login** prompt, run the shutdown command:

    `/sbin/shutdown -h now -t 30`

    If prompted, enter the operating system password.

20. Remove the USB drive from the USB port.

21. Press the power button to restart the hardware appliance.

22. Verify that the restore completed as you expected.

Support and Service

You can access community and support information on RSA Link at **https://community.rsa.com**. RSA Link contains a knowledgebase that answers common questions and provides solutions to known problems, product documentation, community discussions, and case management.

The RSA Ready Partner Program website at **www.rsaready.com** provides information about third-party hardware and software products that have been certified to work with RSA products. The website includes Implementation Guides with step-by-step instructions and other information on how RSA products work with third-party products.