# COBALT Migration Utility

*User Manual*



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# Overview of the Cobalt Migration Utility

## Introduction

Migration is the transfer of configured data from one server appliance to another. This operation is performed by executing commands on a source machine to produce intermediate files. These files are then transferred to a target machine where the files are expanded and loaded. You can move different levels of configuration data with the Cobalt Migration Utility (CMU):

- all virtual sites
- a single virtual site



***Note:*** Migrating a virtual site automatically moves all of the corresponding users as well.

# Full Virtual Site and User Migration

A Full Virtual Site and User Migration consists of migrating all of the virtual sites and users from one server appliance (source) to another appliance (target) that you have already configured. The target appliance must be located on the network and be fully configured. There may or may not be any virtual sites or users on the target appliance, but there is always a base virtual site.

For this example, the target appliance is clean base setup; a clean base setup assumes that you have configured the target appliance with an IP address, gateway and netmask through the LCD console or the serial console port. You must also complete the initial Setup Wizard screens on the target appliance which configures such things as a Domain Name System (DNS) server and the administrator password.

To perform a Full Virtual Site and User Migration, perform the following steps:



***Note:*** The items shown in **bold typeface** are commands to be executed by the person performing the migration. The items shown in `courier font` are directory paths.

1. <*on source appliance*> Suspend all virtual sites through the browser-based user interface (UI). This disables user access and services. Refer to the user manual for details on how to suspend a virtual site.



***Note:*** Suspending virtual sites is not supported on the RaQ2.

2. <*on source appliance*> Telnet in as admin and **su-** to root.
3. <*on source appliance*> Edit `/etc/crontab` in your preferred editor and insert a # in front of the following line:

   *For the RaQ 2:*

   0,15,30,45 * * * * root /usr/local/sbin/monitor

   *For the RaQ 3 and RaQ 4:*

   0,15,30,45 * * * * root /usr/local/sbin/swatch >>/var/cobalt/adm.log 2>&1

   This prevents Active Monitor from restarting stopped services.
4. <*on source appliance*> Kill the sendmail process. Execute **kill `head -1 /var/run/sendmail.pid`**.
5. <*on source appliance*> Execute **/usr/sbin/cmuExport**. This is the main export script and it outputs a directory with the fully qualified domain name of the main site under `/home/cmu`.
6. <*on target appliance*> Set up the target appliance so that it can communicate with the source appliance.
7. <*on source appliance*> FTP to the target appliance and transfer the contents of the directory created in Step 5 from the source appliance into a temporary directory on the target appliance.

8. <*on target appliance*> Telnet in as admin and **su-** to root.
9. <*on target appliance*> Execute **/usr/sbin/cmuImport -d <dirname>**, where <dirname> is the temporary directory to which you transferred the contents in Step 7. This is the main import script and transfers all virtual sites and users to the target appliance.
10. <*on source appliance*> Edit `/etc/crontab` in your preferred editor and remove the # added in Step 3 in front of the following line:

    *For the RaQ 2:*

    0,15,30,45 * * * * root /usr/local/sbin/monitor

    *For the RaQ 3 and RaQ 4:*

    0,15,30,45 * * * * root /usr/local/sbin/swatch >>/var/cobalt/adm.log 2>&1
11. <*on source appliance*> To restart sendmail, execute the following command:

    *For the RaQ 2:*

    **/usr/local/sbin/monitor**

    *For the RaQ 3 and RaQ 4:*

    **/usr/local/sbin/swatch**

# Selective Virtual Site Migration

A Selective Virtual Site Migration consists of migrating a single virtual site and its associated users from one server appliance (source) to another appliance (target) that you have already configured. The target appliance must be located on the network and be fully configured. There may or may not be any virtual sites or users on the target appliance.

1. <*on source appliance*> Execute steps 1 - 4 from the “Full Virtual Site and User Migration” on page 2.
2. <*on source appliance*> Execute **/usr/sbin/cmuExport -n <fqdn>**, where <fqdn> is the fully qualified domain name of the single virtual site you wish to move.
3. Execute steps 6 - 11 from “Full Virtual Site and User Migration” on page 2 to the appropriate target appliance.

# Server Replacement

A Server Replacement consists of replacing an existing RaQ server with a new one. This implies that the new appliance has the same IP address as the original appliance and that the original appliance is removed from the network. There are no changes to the network.



***Note:*** The items shown in **bold typeface** are commands to be executed by the person performing the migration. The items shown in `courier font` are directory paths.

1. <*on new appliance*> Set up the new appliance on the network and configure the base system. This appliance should have a different IP address than the original appliance at this time but must be accessible by the original appliance.
2. <*on original appliance*> Suspend all virtual sites through the browser-based user interface (UI). This disables user access and services. Refer to the user manual for details on how to suspend a virtual site.



***Note:*** Suspending virtual sites is not supported on the RaQ2.

3. <*on original appliance*> Telnet in as admin and **su-** to root.
4. <*on original appliance*> Edit `/etc/crontab` in your preferred editor and insert a # in front of the following line:

   *For the RaQ 2:*

   0,15,30,45 * * * * root /usr/local/sbin/monitor

   *For the RaQ 3 and RaQ 4:*

   0,15,30,45 * * * * root /usr/local/sbin/swatch >>/var/cobalt/adm.log 2>&1

   This prevents Active Monitor from restarting stopped services.
5. <*on original appliance*> Kill the sendmail process. Execute **kill `head -1 /var/run/sendmail.pid`**.
6. <*on original appliance*> Execute **/usr/sbin/cmuExport**. This is the main export script and it outputs a directory with the fully qualified domain name of the main site under `/home/cmu`.
7. <*on original appliance*> FTP to the new appliance and transfer the contents of the directory created in Step 6 into a temporary directory on the new appliance.
8. Make note of the network settings of the original appliance and then remove the original appliance from the network.
9. <*on new appliance*> Reset the network settings of the new appliance to those of the original appliance. By assigning to the new appliance the same network settings as the original appliance, you do not have to change or adjust the IP addresses of the virtual sites that you are going to migrate.
10. <*on new appliance*> Telnet in as admin and **su-** to root.
11. <*on new appliance*> Execute **/usr/sbin/cmuImport -d <dirname>**, where <dirname> is the temporary directory to which you transferred the contents in Step 7. This is the main import script and transfers all virtual sites and users to the target appliance.

# Mounted File System Migration



***Note:*** The Mounted File System Migration is only available on a RaQ 3-to-RaQ 4 migration.



***Note:*** The items shown in **bold typeface** are commands to be executed by the person performing the migration. The items shown in `courier font` are directory paths.

The best approach to migration is to use a mounted file system to transfer the data. This involves mounting a directory from the target appliance to the source appliance. On the source appliance, you then execute the export script to the mount directory.

The following scenario discusses a migration from a RaQ 3 appliance to a RaQ4 appliance. In this scenario, the target appliance (RaQ 4) has 100% more free disk space than is used on the source appliance (RaQ 3).

1. <*on target appliance*> Telnet in as admin and **su-** to root.
2. <*on target appliance*> Edit `/etc/exports` in your preferred editor and add the following line. Replace the sample IP address of 10.0.0.1 with the actual IP address of the source appliance.
   - /home/migrate/ 10.0.0.1(rw, no_root_squash)
3. <*on target appliance*> Execute **mkdir /home/migrate** .
4. <*on target appliance*> Execute **/etc/rc.d/init.d/portmap start .**
5. <*on target appliance*> Execute **/etc/rc.d/init.d/nfs start .**
6. <*on source appliance*> Telnet in as admin and **su-** to root.
7. <*on source appliance*> Execute **mkdir /mnt/migrate** .
8. <*on source appliance*> Execute **mount 10.0.0.1:/home/migrate /mnt/migrate** . Replace the sample IP address of 10.0.0.1 with the actual IP address of the target appliance.
9. <*on source appliance*> You can now access the target appliance directory `/home/migrate as /mnt/migrate` .
10. <*on source appliance*> Suspend all virtual sites through the browser-based UI. This disables user access and services. Refer to the user manual for details on how to suspend a virtual site.
11. <*on source appliance*> Telnet in as admin and **su-** to root.
12. <*on source appliance*> Edit `/etc/crontab` in your preferred editor and insert a # in front of the following line:

    0,15,30,45 * * * * root /usr/local/sbin/swatch >>/var/cobalt/adm.log 2>&1

    This prevents Active Monitor from restarting stopped services.
13. <*on source appliance*> Kill the sendmail process. Execute **kill `head -1 /var/run/sendmail.pid`**.
14. <*on source appliance*> Execute **/usr/sbin/cmuExport -d /mnt/migrate** .
15. <*on target appliance*> Execute **/usr/sbin/cmuImport -d /home/migrate**

16. To restore your appliances to their original states:
    a. <*on target appliance*>
        - Telnet in as admin and **su-** to root
        - Remove the line from `/etc/exports` that was added in Step 2.
        - Execute **/etc/rc.d/init.d/nfs stop**
        - Execute **/etc/rc.d/init.d/portmap stop**
    b. <*on source appliance*>
        - Telnet in as admin and **su-** to root
        - Ensure that no one is logged in to the appliance and that no programs are using files from `/mnt/migrate` .
        - Execute **umount /mnt/migrate**
        - Execute **rmdir /mnt/migrate**
17. <*on source appliance*> Edit `/etc/crontab` in your preferred editor and remove the # added in Step 12 in front of the following line:

    0,15,30,45 * * * * root /usr/local/sbin/swatch >>/var/cobalt/adm.log 2>&1
18. <*on source appliance*> To restart sendmail, execute **/usr/local/sbin/swatch** .

# Possible Conflicts

When the cmuImport script is executed, conflicts may arise. The settings imported from the source appliance may conflict with existing settings on the target appliance. For example, you may attempt to import a virtual site from a source appliance which has the same fully qualified domain name as an existing virtual site on the target appliance.

CMU handles conflicts according to the policy.xml file located in `/etc/cmu/conf`. When a conflict arises, the user is given several options, which can include *drop*, *quit*, *change* or *ignore*. On the terminal console, CMU prompts the user with the nature of the conflict and the available options to resolve it. The following actions occur when each option is selected.

- **Drop.** The conflicting setting or object and its children from the imported source appliance are not imported. Selecting this option may drop a Virtual Site and all its Users.
- **Quit**. CMU ends.
- **Change**. The user is allowed to enter an alternate value to substitute for the conflicting value from the source appliance.
- **Ignore**. The conflict is ignored and the setting is imported to the target appliance.

Upon completion, a log file is created. This file contains all of the changes (for example, the virtual sites or the users added) to the target appliance, including the outcome of any conflict resolution. The log file is plain text and by default is stored in `/home/cmu/cmuLog`.

# Limitations

The following functions are not supported in this release of CMU.

1. A bandwidth limit set on a virtual site is not migrated by any of the migration methods. You must manually reset the bandwidth limit on the new appliance for each virtual site.
2. The email spool for a user may not be migrated to the new appliance. However, a copy of the email spool is placed in the user's home directory.