
# Connection Broker

## Where Virtual Desktops Meet Real Business

# Connection Broker Virtual Appliance Administrator's Guide

Version 6.x
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## Patents

Leostream products are patent pending.

# Contents

# Chapter 1: Overview

## What is a Virtual Appliance?

A virtual appliance is a virtual machine image that contains both the application, and the underlying operating system. A virtual appliance is not a virtual machine, but a software stack that runs within a virtual machine to comprise a complete application.

You can think of a virtual appliance like you would a physical appliance, such as an SSL VPN. To install a typical physical appliance, you plug in the box and configure the application. Similarly, for a virtual appliance, you *plug* it into your virtualization layer, and configure the application using, typically, a Web interface.

The Leostream™ Connection Broker is a virtual appliance that runs inside a virtual machine powered by a VMware®, Citrix®, or Microsoft® virtualization layer. The Connection Broker virtual appliance consists of the following components:

- CentOS Linux® 5.3
- Apache 1.3.41 Web Server
- OpenSSL version 0.9.8k

## Why Use a Virtual Appliance?

A virtual appliance simplifies and economizes the installation and maintenance of an application. A typical software installation requires you to assemble the compatible hardware and supporting software (such as operating system, etc.) necessary for the software to run. A virtual appliance, however, contains all the pieces necessary to run the virtual machine and application, eliminating the procurement and licensing costs associated with typical software installations.

In addition, by running in a virtual machine, the virtual appliance is easily backed up and replicated using standard techniques provided by the virtualization layer.

In particular, the Leostream Connection Broker virtual appliance benefits from:

- Easy installation – simply import the virtual machine
- No additional license requirements – The Connection Broker runs on a Linux operating system

## Virtual Resource Requirements

The Connection Broker requires virtual resources equivalent to the following hardware:

- 1500 MHz or faster Intel® Pentium® IV processor (or equivalent)
- 1.0 Gbytes memory
- 8 Gbytes of hard drive space
- Bridged Ethernet adapter, ideally with Internet connectivity

## Installation

The Connection Broker runs as a virtual appliance within the following virtualization platforms:

- VMware Server version 2.0.x
- VMware ESX and ESXi 3.5
- VMware vSphere 4
- Citrix XenServer™ 5.x
- Microsoft Hyper-V™ Server 2008
- Microsoft Windows Server® 2008 R2 Hyper-V

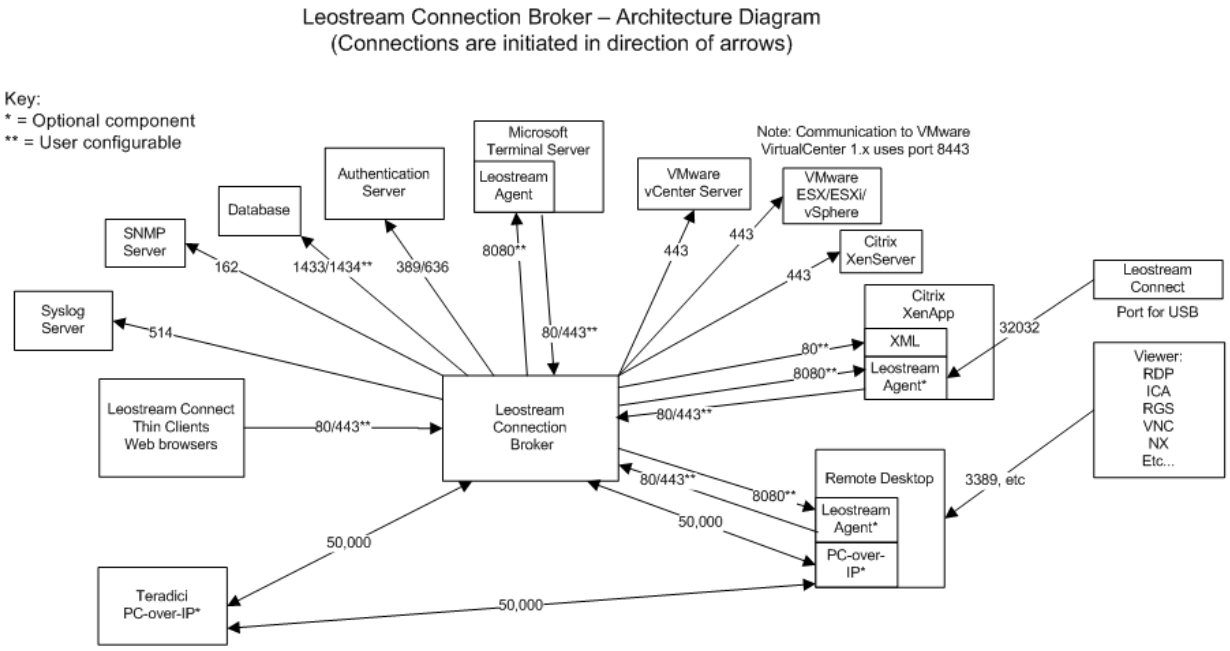
See the Installation Guide for complete instructions on downloading and installing the Connection Broker.

# Connections to External Systems

The Connection Broker communicates with a number of external systems, such as:

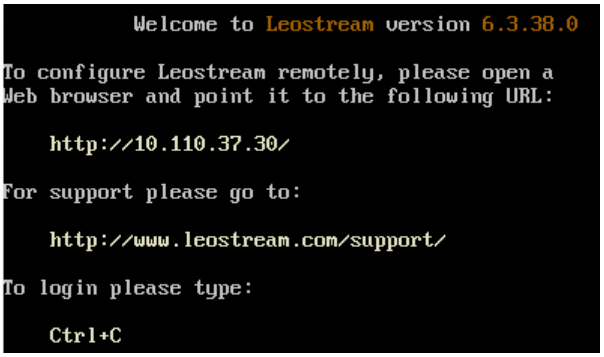
- Authentication servers, such as Microsoft Active Directory servers
- Virtualization layers, such as those provided by VMware, Citrix, and Microsoft
- Databases
- and more…

The following figure provides a schematic of ports the Connection Broker uses to communicate with various systems.




# The Connection Broker Welcome Page

After you install and start your Connection Broker virtual machine, the Connection Broker displays the **Welcome Page** in the virtual machine's console, as shown in the following figure.



The **Welcome page** displays the IP address to use when accessing the Connection Broker Web interface. Enter this URL into your Web browser to configure your Connection Broker. If the console cannot obtain an IP address from DHCP, you can manually configure the network using the Administration Menu (see Network Options).

 When using your Connection Broker in a production environment, Leostream recommends using a static IP address.

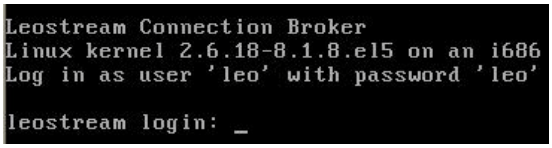
# Chapter 2: Using the Administration Menu

The Connection Broker Administration Menu provides various options for configuring your Connection Broker virtual appliance. This chapter describes the Administration Menu found in Connection Broker version 6.x. Previous versions of the Connection Broker Administration Menu contain similar features, however the menu labels may vary.

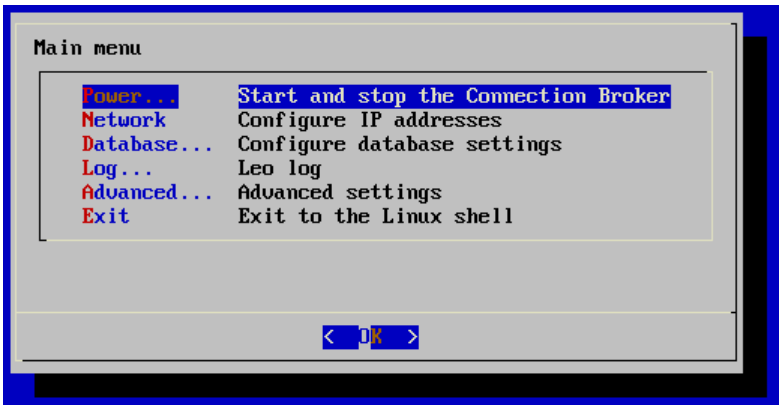
## Opening the Administration Menu

To access the Administration Menu from the **Welcome page** in the virtual machine console:

1. Type Ctrl-C to go to the Leostream administrator login page, shown in the following figure.




2. Enter the username and password for the administrator account. The default username is **leo**, and password is **leo**. The **Main menu** of the Leostream Administration Menu, shown in the following figure, opens.




 If you are running Connection Broker 6.x in a VMware virtualization layer, do not use Alt-F2 or Alt-F1 to switch between console screens.

## Returning to the Connection Broker Welcome Page

To return to the Connection Broke **Welcome page**, first ensure that you are currently at the **Main menu** level of the Administration Menu.

1. In the **Main menu**, select **Exit**
2. Hit **<Enter>**. The Linux shell opens.
3. In the Linux shell, type `exit` at the prompt
4. Hit **<Enter>**. The Leostream **Welcome page** opens.

At this point, if you are running the Connection Broker in a VMware virtualization layer and the Leostream administrator login page opened instead of the **Welcome page**, you may have hit Alt-F2 to switch consoles. Try the following procedure to return to the **Welcome page**.

1. At the Leostream administrator login page, hit Alt-F1. The Linux shell should appear.
2. In the Linux shell, type `exit` at the leostream prompt
3. Hit **<Enter>**. The Leostream **Welcome page** should open.

# Main Menu Options

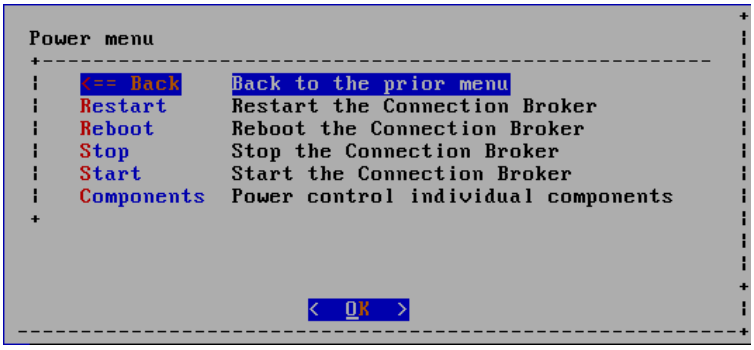
The following table describes the options available in the **Main menu**.

| Menu Name | Description | Purpose |
|---|---|---|
| **Power** | Start and stop the Connection Broker | Opens the **Power menu**, which contains options for starting, stopping, or restarting the Connection Broker as a whole, or individual components |
| **Network** | Configure IP addresses | Opens a dialog for configuring the Connection Broker IP address (either statically or via DHCP) and DNS server. |
| **Database** | Configure database settings | Opens the **Database menu**, which contains options for purging the internal database |
| **Log** | Leo log | Opens the **Log menu**, which contains options for viewing or clearing various Connection Broker logs. |
| **Advanced** | Advanced settings | Opens the **Advanced settings** menu, which contains options for enabling and disabling SSH and debug mode. |
| **Exit** | Exit to the Linux shell | Returns to the Linux shell |

In all sub-menus, the **<== Back** option returns you to the parent menu.

# Power Options

Selecting **Power** from the **Main menu** opens the **Power menu**, shown in the following figure.



The following table describes the options available in the **Power menu**.

| Menu Name | Description | Purpose |
|---|---|---|
| **Restart** | Restart the Connection Broker application | Restarts the Connection Broker application and all its components. When selected, a sub-menu prompts you to confirm or cancel the restart. |
| **Reboot** | Reboot the Connection Broker virtual appliance | Power cycles the entire Connection Broker virtual appliance. |
| **Stop** | Stop the Connection Broker | Stops the Connection Broker. When selected, a sub-menu prompts you to confirm or cancel the stop. |
| **Start** | Start the Connection Broker | Starts the Connection Broker. When selected, a sub-menu prompts you to confirm or cancel the start. |
| **Components** | Power control individual components | Start, stop, or restart individual components of the Connection Broker. Opens the **Component power menu** for selecting which components to control. See the following table for a description of available components. |

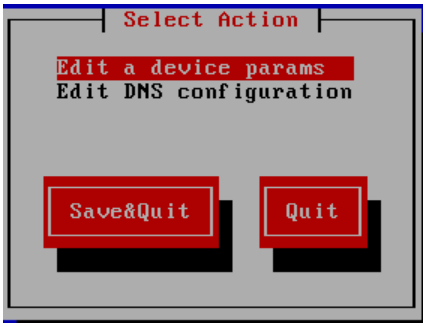
The following table lists the different components that can be restarted.

| Component Name | Description |
|---|---|
| **Httpd** | Web server |
| **Db** | Internal database server |
| **Queue** | Work queue |
| **Vcenter** | VirtualCenter agent |
| **Network** | Network |

Selecting any of these components opens a submenu with options to **Restart**, **Stop**, or **Start** the component.

# Network Options

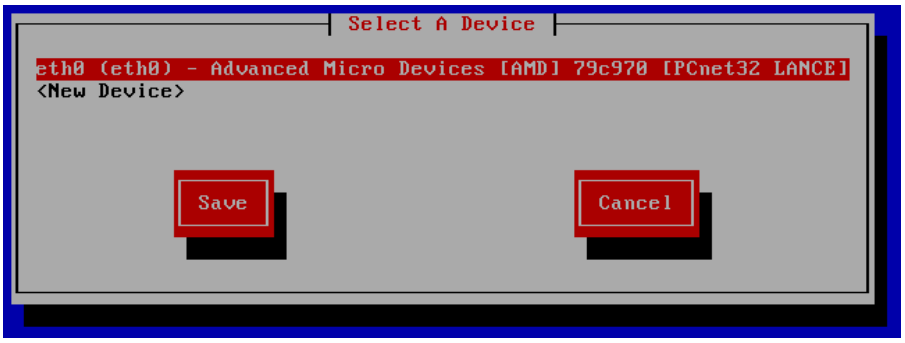
Selecting **Network** from the **Main menu** opens the following menu.



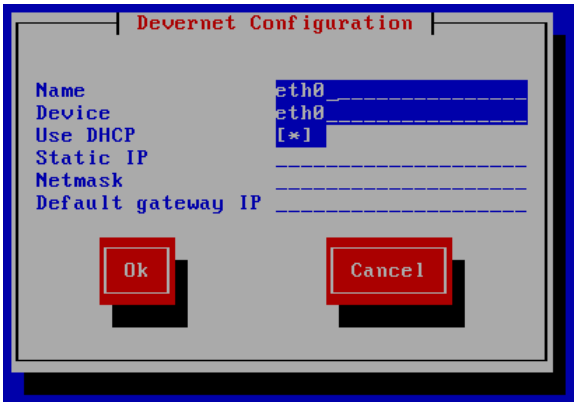
## Setting the Connection Broker IP Address

To configure the Connection Broker IP address:

1. Select **Edit a device params** from the **Network** menu and hit **<Enter>**. The **Select a Device** menu, shown in the following figure, opens.




2. Select **eth0 (eth0)** and hit **<Enter>.** The **Devernet Configuration** menu, shown in the following figure opens.




3. Scroll down to the **Use DHCP** option and hit the spacebar to deselect this option.
4. Enter in the network information for your Connection Broker in the **Static IP**, **Netmask**, and **Default gateway IP** edit fields.
5. Select **Ok** to accept the changes and return to the **Select a Device** menu.
6. Select **Save** to return to the **Select Action** menu.
7. Select **Save&Quit**.

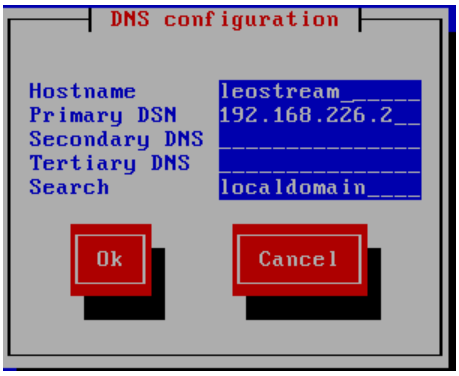
When prompted to restart the Connection Broker, select **OK**. This prompt is a reminder to restart your Connection Broker. You must manually restart your Connection Broker (see Power Options).

If your Connection Broker uses a second NIC, it does not appear in the **Select a Device** menu. You must configure the second NIC using the Connection Broker Web interface. You cannot currently specify a gateway for the second NIC.

### Specifying Your DNS

To enter information about your DNS:

1. Select **Edit DNS configuration** from the **Network** menu and hit **<Enter>**. The **DNS configuration** menu, shown in the following figure, opens.

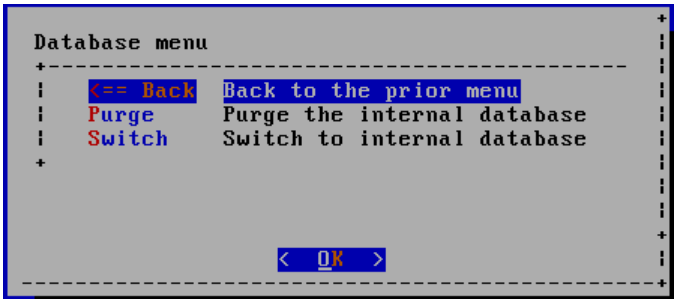



2. Enter your domain name in the **Hostname** edit field.
3. Enter the IP address of your primary DNS in the **Primary DNS** field.
4. If applicable, enter the IP addresses of your secondary and tertiary DNS in the **Secondary DNS** and **Tertiary DNS** edit fields, respectively.
5. Enter the DNS search path in the **Search** edit field.
6. Select **Ok** to accept the changes and return to the **Select a Device** menu.
7. Select **Save** to return to the **Select Action** menu.
8. Select **Save&Quit**.

When prompted to restart the Connection Broker, select **OK**. This is only a reminder to restart your Connection Broker. You must manually restart your Connection Broker (see Power Options).

## Database Options

Selecting **Database** from the **Main menu** opens the **Database menu**, shown in the following figure.

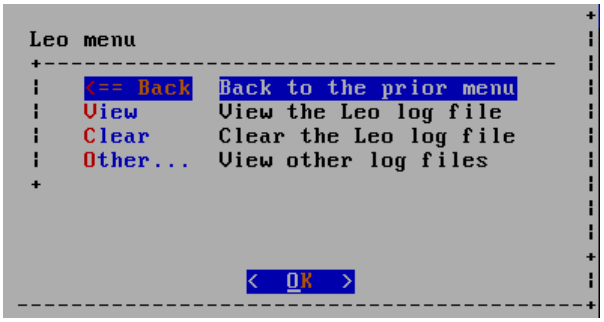


The following table describes the options available in the **Database menu**.

| Menu Name | Description | Purpose |
|---|---|---|
| **Purge** | Purge the internal database | Clears all data from the internal database. This option does not apply if your Connection Broker is attached to a Microsoft SQL Server 2005 database. When selected, a sub-menu prompts you to confirm or cancel the purge. |
| **Switch** | Switch to internal database | Switches the Connection Broker from storing information a Microsoft SQL Server 2005 database to storing in an internal database. This option does not appear if your Connection Broker is already pointing to an internal database. When selected, a sub-menu prompts you to confirm or cancel the switch. |

# Log Options

Selecting **Log** from the **Main menu** opens the **Leo menu**, shown in the following figure.

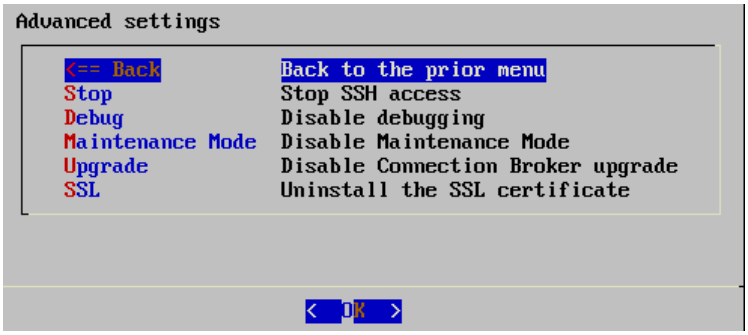



The following table describes the options available in the **Log menu**.

| Menu Name | Description | Purpose |
|---|---|---|
| **View** | View the Leo log file | Displays the Leo log file in the console window. Press the space bar to scroll through the log. Press **<Enter>** to close the Leo log file and return to the **Log** menu. |
| **Clear** | Clear the Leo log file | Erases all entries in the Leo log file. When selected, a sub-menu prompts you to confirm or cancel the operation. |
| **Other** | View other log files | Opens a sub-menu listing other available logs. Select a log from the list to open that log file in the console. Press the space bar to scroll through the log. Press **<Enter>** to close the Leo log file and return to the **Log** menu. |

# Advanced Settings

Selecting **Advanced** from the **Main menu** opens the **Advanced settings**, shown in the following figure.




The following table describes the options available in the **Advanced settings menu**.

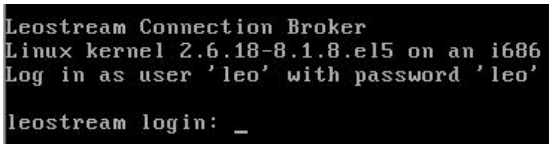
| Menu Name | Description | Purpose |
|---|---|---|
| **Start**<br>**Stop** | Start SSH access<br>Stop SSH access | Starts or stops SSH access to your Connection Broker. When selected, a sub-menu prompts you to confirm or cancel the operation. |
| **Debug** | Enable debugging<br>Disable debugging | Enables or disables debug-mode for your Connection Broker. Debug mode stores additional logs sometimes required by Leostream support. |
| **Maintenance Mode** | Disable maintenance mode<br>Enable maintenance mode | Enables or disables maintenance mode, which is used when upgrading Connection Brokers in a cluster. Please, contact support@leostream.com for instructions on using this option. |
| **Upgrade** | Disable Connection Broker upgrade<br>Enable Connection Broker upgrade | Toggles the availability of the **Check for updates** option on the **> System > Maintenance** page. Disable Connection Broker upgrades after moving your Connection Broker into production. |
| **SSL** | Uninstall the SSL certificate | Removes the SSL certificate from your Connection Broker, and restarts the Web service. **Note:** Selecting this option immediately removes the certificate without prompting for confirmation. This option appears only after you install an SSL certificate into your Connection Broker. |

# Chapter 3: Using Shell Accounts

The Connection Broker provides two default shell accounts, which you can use to execute commands in the Connection Broker console.

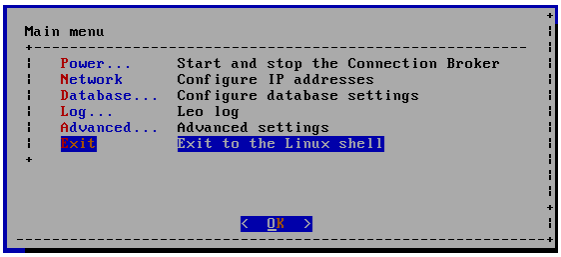
## Accessing the Linux Shell

1. Type Ctrl-C to go to the Leostream administrator login page, shown in the following figure.




2. Enter the username and password for the administrator account. The default username is **leo**, and password is **leo**. The **Main menu** of the Leostream Administration Menu opens.

3. Select **Exit**, as shown in the following figure.




4. Press `<Enter>` and you will exit to the Linux shell.

Alternatively, in step 2, enter the credentials for the root account, described in the following section. The root account logs directly into the Linux shell, bypassing the Leostream Administration Menu.

## Connection Broker Virtual Appliance Accounts

The Connection Broker virtual appliance has two default accounts: an administrator account and the root account. By default, the Connection Broker assigns the following user names and passwords to these accounts.

- administrator
  - User name: `leo`
  - Password: `leo`
- root
  - User name: `root`
  - Password: `leostream`

Leostream recommends that you change the passwords for these two accounts, as soon as you begin working with your Connection Broker.

To change the administrator account:

1. From the Connection Broker virtual machine console, press Ctrl-C.

2. Enter the username `leo` and password `leo`. The Leostream Connection Broker **Administration Menu** opens.

3. From the **Main menu**, select **Exit** to go to the Linux shell.

4. Use the `passwd` command to change the password.

To change the root account:

1. From the Connection Broker virtual machine console, press Ctrl-C.

2. Enter the username `root` and password `leostream`. Alternatively, use the `su root` command, if you are already logged into the Linux shell with the administrator account.

3. At the `#` prompt, use the `passwd` command to change the password.

# Resetting Passwords for Local Users

A *local user* is any user that is defined in the Connection Broker instead of being imported from an authentication server such as Microsoft Active Directory. You can use the Linux shell to reset the password of any local Connection Broker user, including the default Connection Broker Web interface administrator.

Please, contact support@leostream.com for instructions.

# Chapter 4: Creating Production Deployments

The Leostream Connection Broker is a production-class virtual appliance. To ensure a production-class deployment of your overall VDI, create systems that ensure the redundancy, resiliency, and scalability of your deployment, including:

- Create a Connection Broker cluster that contains sufficient Connection Brokers to handle user logins in the event that a server hosting one of the Connection Broker fails. For added resiliency, when building the Connection Broker cluster, ensure that you place individual Connection Brokers on different servers.
- Establish a schedule for backing up your Connection Broker database. Implement your site standard database backup procedure, to ensure that your data is protected.
- Create weekly snapshots of each Connection Broker virtual machine. By backing up the entire Connection Broker virtual machine, you do not need a separate backup procedure for the underlying Connection Broker operating system.
- Create monthly clones of each Connection Broker virtual machine. Leostream recommends storing these backups in an off-site location. Test your restore process to ensure that the media can be read, and that procedures are correctly documented.
- Use DNS to configure your Connection Broker IP addresses. Your DNS will round-robin between Connection Brokers during normal operation.
- Never perform a Connection Broker upgrade without first taking a snapshot of your existing Connection Broker virtual machine. Also, test upgrades in an isolated deployment, before rolling out to your production environment.