



Connection Broker

Where Virtual Desktops Meet Real Business

Leostream™ Agent Administrator's Guide

Version 4.2
April 27, 2009

Contacting Leostream

Leostream Corporation
411 Waverley Oaks Rd.
Suite 316
Waltham, MA 02452
USA

<http://www.leostream.com>

Telephone: +1 781 890 2019

Fax: +1 781 688 9338

To submit an enhancement request, email [@leostream.com](mailto:leostream.com).

To request product information or inquire about our future direction, email [@leostream.com](mailto:leostream.com).

Copyright

© Copyright 2009 by Leostream Corporation

This software program and documentation are copyrighted by Leostream. The software described in this document is provided under a license agreement and may be used or copied only under the terms of this agreement. No part of this manual may be copied or reproduced in any form without prior written consent from Leostream.

Trademarks

The following are trademarks of Leostream Corporation.

Leostream™

The Leostream graphical logo™

The absence of a product name or logo from this list does not constitute a waiver of the trademark or other intellectual property rights concerning that product, name, or logo by Leostream.

Sun, Sun Microsystems, Sun Ray, and Java are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries. Linux is the registered trademark of Linus Torvalds in the U.S. and other countries. UNIX is a registered trademark of The Open Group. Other brand and product names are trademarks or registered trademarks of their respective holders. Leostream claims no right to use of these marks.

Patents

Leostream products are patent pending.

Contents

CONTENTS	3
OVERVIEW	4
WHY DO I NEED THE LEOSTREAM AGENT?	4
<i>Providing USB Passthrough Support</i>	4
<i>Working with Hypervisors</i>	5
WHAT'S NEW IN THIS RELEASE.....	5
INSTALLATION.....	5
MULTIPLE DISPLAY SUPPORT	6
SUPPORTING SINGLE SIGN-ON FOR TERADICI® PC-OVER-IP™	7
USING SSL	7
INCOMING SSL COMMUNICATION	7
OUTGOING SSL COMMUNICATIONS	8
WORKING WITH MICROSOFT® WINDOWS® FIREWALLS	9
LEOSTREAM AGENT USER INTERFACE	10
OPENING THE LEOSTREAM AGENT USER INTERFACE	10
STATUS TAB	10
OPTIONS TAB	10
<i>Enabling SSL</i>	11
<i>Configuring the Connection Broker Address</i>	11
<i>Logging</i>	12
VIRTUAL MACHINES TAB	13
ABOUT TAB	14

Overview

The Leostream Agent provides the Connection Broker with insight into the connection status of remote users to their desktops. Although installing the Leostream Agent is optional, it is an essential part of the Connection Broker product. In addition, the agent is required to use the Leostream USB redirection and multi-monitor support.

The Leostream Agent supports Microsoft® Windows NT® operating systems after, but not including, Windows NT 4.0.

Supported operating systems include:

- Windows® 2000
- Windows XP
- Windows Server® 2003
- Windows Vista®
- Windows Server 2008



Leostream does not currently provide a Linux® version of the Leostream Agent. If you are managing Linux machines, do not install the Leostream Agent.

Why Do I Need the Leostream Agent?

The Connection Broker requires the Leostream Agent in order to perform certain policy logic on your desktops, including distinguishing between disconnect and logoffs, enforcing USB redirection settings, and enabling extended multi-monitor support.

When installed on a desktop, the Leostream Agent communicates with the Connection Broker to provide information about the following:

- When a user logs in
- When a user disconnects
- When a user logs off
- Information about the processes running on the desktop
- USB device passthrough
- Application and dialog placement for split-monitors support

Leostream recommends that you install the Leostream Agent on every virtual and physical machine managed by your Connection Broker. If you are using VMware Workstation or Server, install the Leostream Agent on the physical host machine, as well, in order to control the power state of the virtual machines.

If you are using blades that support the Teradici™ PC-over-IP® (PCoIP) technology, you must install the single sign-on feature in the Leostream Agent, in order to perform single sign-on (see [Single Sign-On](#)).

If you do not install the Leostream Agent, you cannot perform any of the following actions:

- Use single sign-on with blades that support the PCoIP technology.
- Distinguish between user log-out or disconnect. This restriction limits your control over virtual machine assignment.
- Use USB passthrough, except with remote viewer protocols that provide their own USB passthrough solution.
- Provide split-monitor support for clients connected to multiple monitors.

Providing USB Passthrough Support

The Leostream Agent is required if you plan to connect to the remote desktop using Leostream Connect and the Leostream USB passthrough feature. Ensure that you install the USB over IP component during the Leostream Agent installation.



Do not install the Leostream Agent's USB component if you have another USB over IP solution installed on the desktop, for example, the HP® RGS solution. If two USB solutions are installed side-by-side, you may not be able to predict which solution is managing the USB devices. In addition, in some cases, the Leostream Agent will not start if a conflicting USB solution is installed.

Working with Hypervisors

The Connection Broker natively manages virtual machines in VMware ESX/ESXi and Citrix XenServer. To manage virtual machines on any other hypervisor, for example Microsoft Hyper-V, install the Leostream Agent on the VMs. The Connection Broker manages these virtual machines using the **Uncategorized** center. See the "Uncategorized Desktops" section of the [Connection Broker Administrator's Guide](#) for more information.



You cannot power control virtual machines registered from other hypervisors.

What's New in this Release

Version 4.2.x is the current version of the Leostream Agent.

- New multiple display support provides true multi-monitor support for clients connected to any number of monitors. Applications position and maximize intelligently. Works in conjunction with Connection Broker monitor layout groups.
- Updated version of OpenSSL to v0.9.8k. The Leostream Agent can now use SSL to communicate with the Connection Broker.
- Enhanced single sign-on.
- Leostream Agent start menu name has changed. Upgrading to 2.3 replaces the **Leostream Agent** menu with a general **Leostream** menu.
- Enhanced discovery of Connection Broker address to include **DNS Suffix Search List**, if one is configured.
- USB drivers are now signed, enabling automatic updates of the Leostream Connect client from the Connection Broker when the drivers are installed

Installation

See the [Leostream Installation Guide](#) for details on installing the Leostream Agent.

Multiple Display Support

Leostream Agent 4.2 enables multiple display support when used with Connection Broker 6.0 monitor layouts. See the [Connection Broker Administrator's Guide](#) for a description of monitor layouts.

Multiple display support is available for clients that are attached to multiple monitors with the following characteristics.

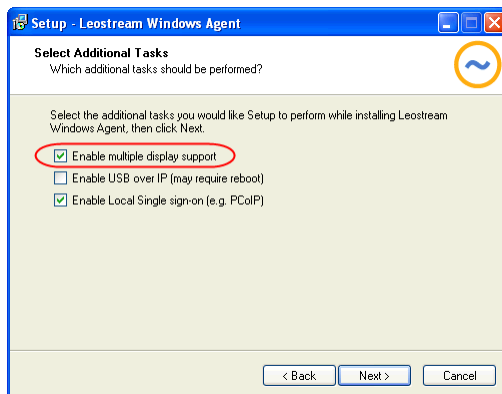
- All monitors are arranged horizontally.
- The primary monitor is the left-most monitor.
- All monitors in the layout have the same resolution.
- There are between 2 and 16 monitors.

If a client adheres to these requirements and is part of a monitor layout group, and the remote desktop is running Leostream Agent 4.2, your end user experiences true multi-monitor behavior when they log into their remote session. The remote session can be invoked with any remote viewer protocol, including RDP, ICA, HP RGS, etc.

The Leostream multiple display support allows end users to do the following:

- Split or span remote desktop connections over multiple monitors.
- Restrict the taskbar to the primary monitor
- Center the Windows login and logout dialogs, along with most message boxes, in the middle of the primary monitor.
- Maximize application windows intuitively. For example, if the user places the majority of an application window within one monitor, maximizing the windows fills that monitor. If, on the other hand, the window is resized to cover a large percentage of two monitors, maximizing the windows fills both monitors.
- Position and resize application windows dragged between monitors, based on the size of the new monitor
- Return to single monitor mode if the extra monitors are disconnected from the client

To enable the multiple display support, install the Leostream Agent with the **Enable multiple display support** component, as shown in the following figure.



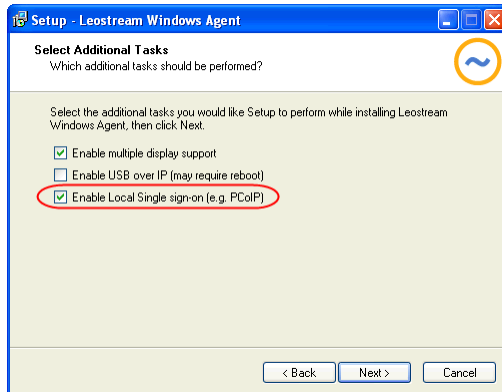
If you want to correctly position Windows login and logout dialogs, you must also install the **Local Single sign-on** component, as shown in the previous figure.

See the Leostream [Multiple Display Support](#) document for more information on configuring monitor layout groups and using the Leostream multiple display support feature.

Supporting Single Sign-On for Teradici® PC-over-IP™

Leostream Connect and the Leostream Agent natively support single sign-on by passing the user's credentials to the remote viewer protocol. For remote viewers that sign on directly to the machine's console, for example, in clients that support the Teradici™ PC-over-IP® (PCoIP) technology, you must install the Leostream Agent single sign-on feature.

To install the Leostream Agent single sign-on feature, select the **Enable Local Single sign-on (e.g. PCoIP)** component during the Leostream Agent installation, as shown in the following figure.



With the single sign-on feature installed, the Leostream Agent performs GINA chaining, passing the user's credentials on to the standard `winlogin` GINA. The Leostream Agent does not support any other customized GINA.



If you are using any other single sign-on solution, for example, the HP® RGS GINA, do not install the Leostream single sign-on feature.

The Leostream Agent does not support single sign-on for PCoIP devices running a Microsoft® Vista® operating system.

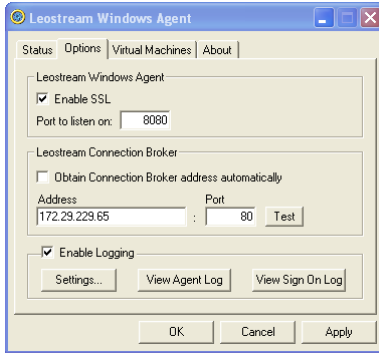
Using SSL

The Leostream Agent can communicate using SSL connections.

Incoming SSL Communication

To enable SSL communication from the Connection Broker to the Leostream Agent:

1. Open the Leostream Agent Control Panel dialog.
2. Go to the **Options** tab
3. Select the **Enable SSL** option
4. Enter a value for the **Port to listen on** edit field, as shown in the following figure.



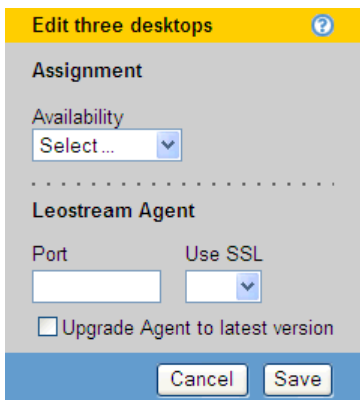
When the **Enable SSL** flag is set, the Leostream Agent expects all incoming commands on the incoming port to be in SSL. The Agent ignores incoming commands that are not in SSL.

Outgoing SSL Communications

The **Enable SSL** flag in the **Options** tab does not apply to communications going from the Leostream Agent back to the Connection Broker. The Leostream Agent attempts to pass SSL communications to the Connection Broker on the port specified in the Connection Broker. If this port does not accept SSL communications, the Agent switches to using non-SSL communications.

To configure SSL for communication from the Leostream Agent to the Connection Broker:

1. In the Connection Broker, go to the > **Resources** > **Desktops** page.
2. In the **Bulk Actions** column, check the box for each desktop to configure SSL communications from.
3. Select the **Edit** action from the drop-down menu at the top of the column. The **Bulk Edit Desktop** page opens, shown in the following figure.

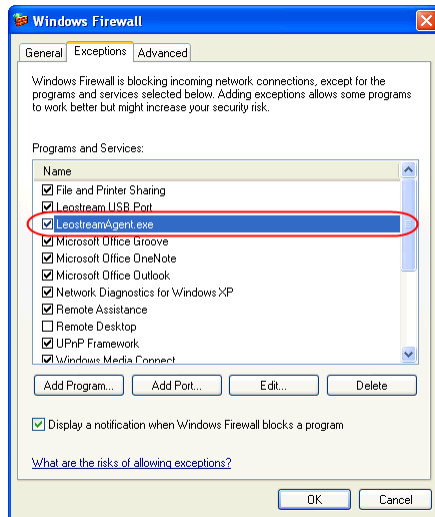


4. Enter the port number to use for communications from the Leostream Agent to the Connection Broker.
5. Select **Yes** from the **Use SSL** drop-down menu, to specify that communications must use SSL. In this case, the Leostream Agent no longer falls back to non-SSL communications if it is unable to communicate with the Connection Broker in SSL.

Working with Microsoft® Windows® Firewalls

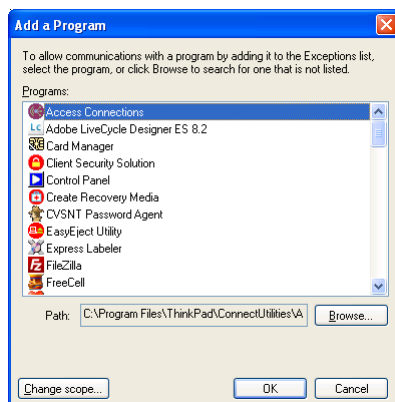
The Windows Firewall blocks incoming communication from the Connection Broker to the Leostream Agent. When the Connection Broker cannot communicate with the Leostream Agent, even though it is able to receive communications from the Leostream Agent, the Connection Broker marks the agent as **Unreachable**.

To avoid unreachable agents, when you install the Leostream Agent on a machine with an enabled Windows Firewall, the Leostream Agent automatically adds itself to the Windows Firewall exception list. When the Leostream Agent starts, it checks the **LeostreamAgent.exe** exception, as shown in the following figure.



When you stop the Leostream Agent, the agent automatically deselects its exception.

Leostream Agents prior to version 4.1.46 do not automatically create exceptions for Windows Firewalls. If you are running an older version of the Leostream Agent, you can manually create an exception by clicking the **Add Program** button on the **Exceptions** tab of the **Windows Firewall** Control Panel, shown in the previous figure. The following dialog opens.



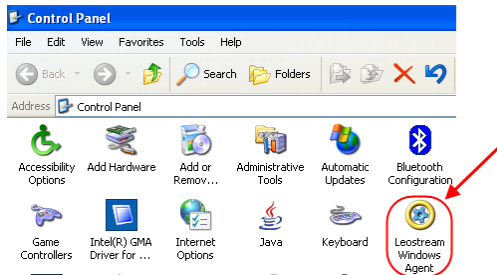
Click **Browse** to browse to the location of your LeostreamAgent.exe file. After you select the file, click **OK**.

Leostream Agent User Interface

Opening the Leostream Agent User Interface

To open the Leostream Agent user interface, double-click on the Leostream Agent icon in your machine's Control Panel.

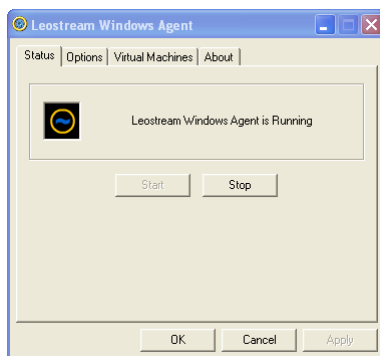
For a 32-bit system, you can find the Leostream Agent icon in the machine's Control Panel, as shown in the following figure:



For a 64-bit system, the Leostream Agent icon is located in the x86 Control Panel.

Status Tab

The **Status** tab, shown in the following figure, indicates if the Leostream Agent is running or stopped, and allows you to toggle between these two states.

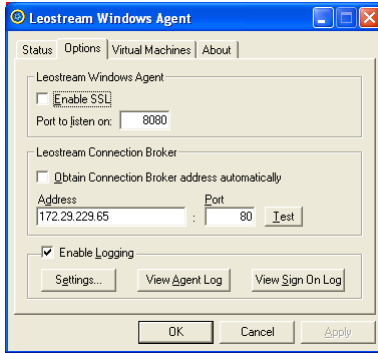


The Leostream Agent must be running in order for the Connection Broker to perform policy-based assignment control on this desktop. To toggle the running state of the Leostream Agent:

- Click **Stop** to stop the Leostream Agent. The Leostream Agent prompts you for a confirmation. When the Agent is stopped, the **Status** tab displays **Leostream Windows Agent is Not Running**.
- Click **Start** to start the Leostream Agent. When the Leostream Agent is running, the **Status** tab displays **Leostream Windows Agent is Running** and the Leostream icon rotates.

Options Tab

The **Options** tab, shown in the following figure, allows you to configure network and logging configurations.



Enabling SSL

The **Leostream Windows Agent** section allows you to enable the Leostream Agent to accept SSL communications. See [SSL](#) for more information.

Configuring the Connection Broker Address

The **Leostream Connection Broker** section allows you to specify the Connection Broker that communicates with this Leostream Agent.

By default, the **Obtain Connection Broker address automatically** checkbox is selected. With this box selected, the Leostream Agent looks for the following DNS SRV record.

```
_connection_broker
```

See the [Leostream Installation Guide](#) for instructions on setting up this DNS SRV record.

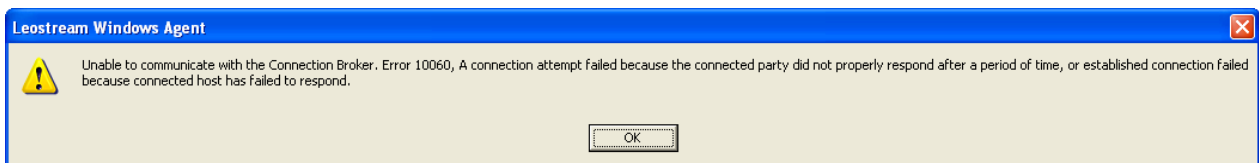
You can hard-code the Connection Broker address into the Leostream Agent, as follows:

1. Uncheck the **Obtain Connection Broker address automatically** checkbox.
2. Enter the Connection Broker IP address or fully qualified domain name into the **Address** edit field.
3. Enter the port to use for communications with this Connection Broker in the **Port** edit field.
4. Click **Apply**.

To test if the DNS SRV record or entered Connection Broker address is valid, click the **Test** button. If the Leostream Agent successfully communicates with the Connection Broker, the following dialog appears.



If the Agent cannot communicate with the broker, the following dialog appears.

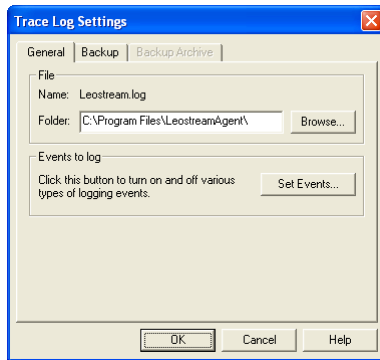


Logging

To enable Leostream Agent logging, select the **Enable Logging** checkbox. Ensure that you are maintaining logs before you contact Leostream Support with any issues that involve the Leostream Agent.

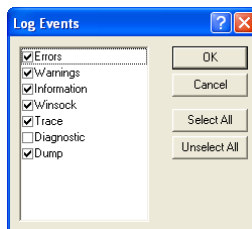
Configuring Logging Settings

You can control logging options using the **Trace Log Settings** dialog. To open this dialog, click the **Settings** button in the **Enable Logging** section. The following dialog opens.



By default, log files are stored in the Leostream Agent installation directory. To store the files in a new location, enter the full path name in the **Folder** edit field.

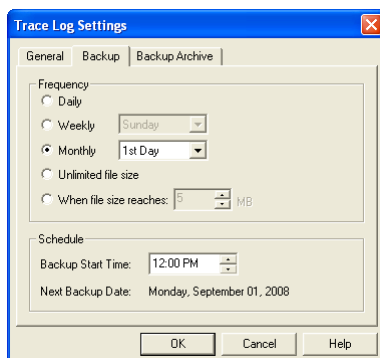
The information stored in the logs is determined by the selections in the **Log Events** dialog, shown in the following figure.



To open this dialog, click the **Set Events** button in the **General** tab of the **Trace Log Settings** dialog. To modify the list of events, select the desired checkboxes and click **OK**.

Backing up the Logs

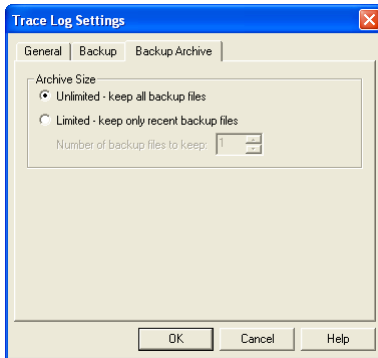
By default, the Leostream Agent maintains a single log file and continuously adds logs to that file. You can use the **Backup** tab, shown in the following figure, to break the log into multiple files, based on the date or file size.



To change the backup schedule:

1. Select an option from the **Frequency** section.
2. Select a **Backup Start Time** in the **Schedule** section. The **Next Backup Date** text updates.
3. Click **OK**.

If you select any backup frequency except **Unlimited file size**, the **Backup Archive** tab enables. Use this tab, shown in the following figure, to indicate how many backup files to retain.



- **Unlimited – keep all backup files:** Retains all backup files.
- **Limited – keep only recent backup files:** Deletes all but the last *n* backup files, where *n* is the number you enter in the **Number of backup files to keep** field.

Backup files are stored with `.bak` extensions.

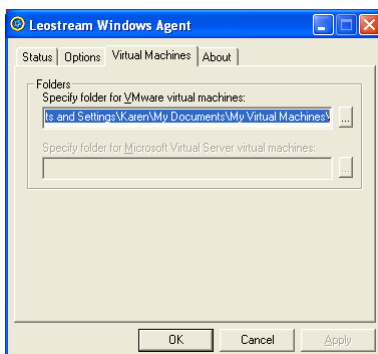
Viewing Logs

You can view the current Leostream Agent logs by clicking on one of the following two buttons.

- **View Agent Log:** Opens the file that contains the current log information, including information about general Leostream Agent operation.
- **View Sign-On Log:** Opens the file that contains the current sign-on information. This button only appears if you are using the Leostream Agent single-sign on component.

Virtual Machines Tab

The **Virtual Machines** tab, shown in the following figure, allows you to specify the path to your VMware and Microsoft Virtual Server virtual machines. These fields are enabled only if you have installed the respective product.



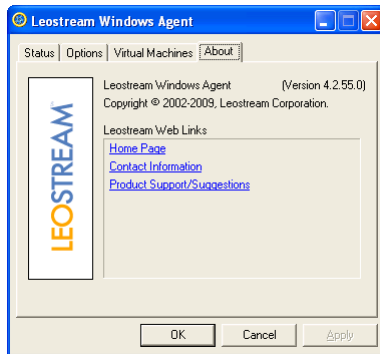
The Connection Broker can manage virtual machines in Microsoft Virtual Server, VMware GSX, VMware Server, or VMware Workstation, by importing these machines into a center. To manage these machines, enter the full path to the directory where the virtual machines for these servers reside.



Connection Broker versions 5.2 and higher do not support the **Virtual Machines** tab in the Leostream Agent. To manage virtual machines from one of the above virtualization platforms in these Connection Broker versions, install the Leostream Agent on each virtual machine. The virtual machines appear in the Connection Broker **Uncategorized** center.

About Tab

The **About** tab, shown in the following figure, provides information about your Leostream Agent installation.



Click on any of the provided links to navigate to the following pages of the Leostream Web site.

- Leostream Home Page
- Contact Information
- Product Support / Suggestions