



LotServer™ Windows Deployment Manual

Maximizing Network Performance,
Responsiveness and Availability

1. Introduction

LotServer is a ZetaTCP™ powered software product that can be installed on origin web/application servers or cache servers to accelerate content delivery to end users, requiring no software or plugins on client side. It supports all mainstream Linux and Windows server distributions. LotServer is even more effective for delivering content to users that are widely distributed across the Internet. Users that are accessing content across long network distance, multiple carrier networks or from wireless devices can see dramatic improvement in their user experience which increases the usability of the service. Also improved is the stability of the network connections, lowering network access failures by a large margin.

LotServer is used in some of the largest networks in the world to increase stability and enhance the user experience.

2. How Does It Work

LotServer is a software module which implements the latest generation of Zeta-TCP Learning Based algorithms, running in the kernel of the Operating System. Zeta-TCP improves upon traditional TCP in the following ways:

2.1 Intelligent Congestion Window and Recovery algorithms

Traditional TCP's congestion avoidance algorithms, such as the most commonly used NewReno and its later variations, are largely based upon the overly simplified assumption that all loss is an indication of network congestion. This assumption is misplaced in today's networks, especially for wireless networks where loss and varying latency are very commonplace. Other more modern TCP algorithms like TCP Vegas, base their congestion predication solely on end-to-end latency, which is over simplified and often wrong. Sometimes this oversimplified approach can cause over aggressive re-transmits which actually makes thw situation worse and fails to effectively back off when the congestion happens for real.

Zeta-TCP introduces a number of intelligent algorithms to measure the level or likelihood of the network congestion based on both latency and the loss rate. This is a more accurate way to determine whether the congestion is really happening and apply different recovery algorithms under different situations to maximize the end-to-end throughput.

2.2 Better and more accurate loss-detection algorithm

Zeta-TCP has its own unique, simple but comprehensive packet-loss detection algorithm.. Traditional TCP frequently makes mistakes in detecting packet loss. In complex packet-loss scenarios, traditional TCP tends to either identify reordered packets as lost, triggering a resend and in turn occupying extra bandwidth, or waits a relatively long time for more feedback from the peer to confirm a lost packet, leaving bandwidth idle. Zeta-TCP's loss detection overcomes these issues by tracking the loss probability for each packet, ensuring the shortest response time and best bandwidth utilization.

In addition to the major enhancements above, Zeta-TCP has a number of other improvements over traditional TCP. Tested and tuned by years of large-scale field deployment, the asymmetric TCP acceleration of Zeta-TCP is now a proven technology.

3. Installation

3.1 Obtaining LotServer Installer

Sign onto the LotServer software download site and select “LotServer Windows”. There you can download the installer. The address of the software download site is:
<http://download.appexnetworks.com>

3.2 Installation Notes

- 1) LotServer Windows supports Windows XP and later versions of Windows.
- 2) During the installation process, the LotServer installer needs to connect back to the web distribution server to authenticate your account, locating the most up-to-date software package and licensing it. Therefore the server that you install LotServer onto must have internet access at the time of installation.
- 3) Certain security or antivirus software could affect the installation of LotServer, causing failures and abnormalities. So it is suggested that you turn off your security or antivirus software temporarily before the installation, then turn it back on after successful installation and after the system has been restarted.
- 4) To obtain an installation account, you can either sign up at AppEx Networks’ software download site, or directly contact AppEx’s customer support.

3.3 Installation Walk-Through

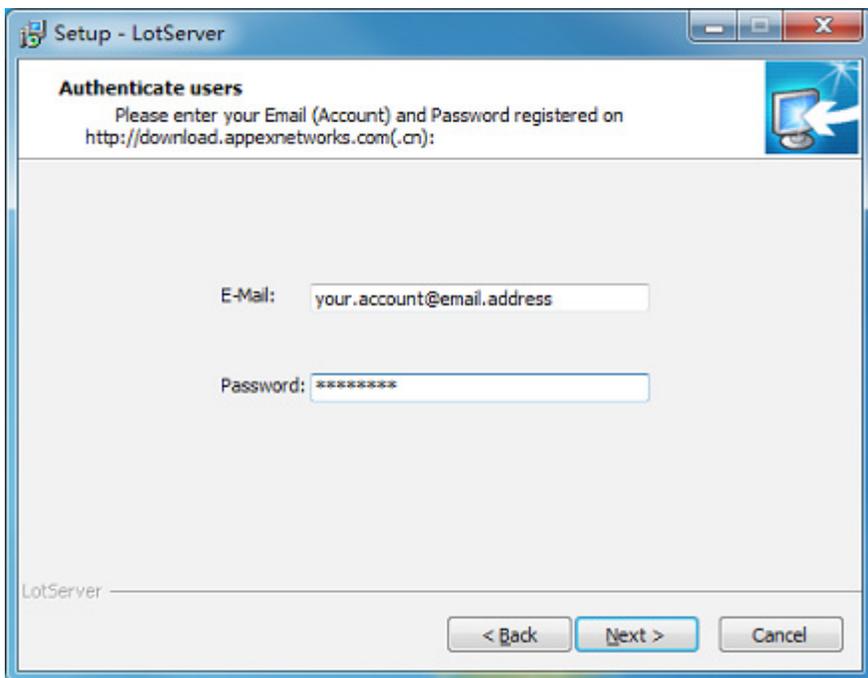


Double-click the downloaded LotServer installer file to launch the installer:

Click “**Next**” to continue.

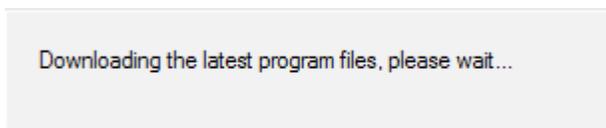


If you do not accept this license agreement, you must stop here and cancel the installation. Otherwise, click **“I accept the agreement”** and then **“Next”** to continue.

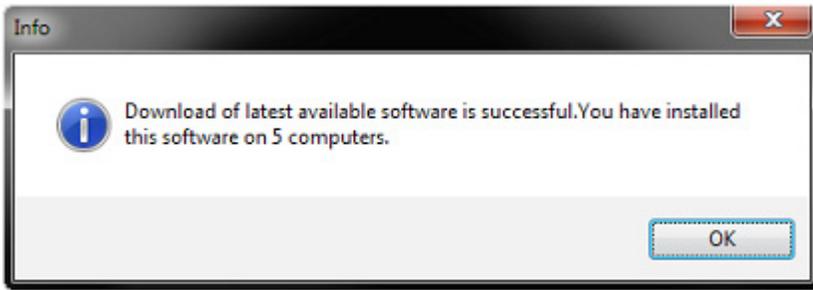


Please enter your registered account’s email address and the password that you use to sign onto AppEx’s software download site.

Click **“Next”**.



Once your account information has been authenticated, the installer will automatically download the latest LotServer package that has been licensed to your server.



Upon the successful completion of the download, the installer will prompt with the number of installations you already have.

Click "**OK**" and the licensed installation will start. You may experience interruptions in your network access during this process, which is normal.

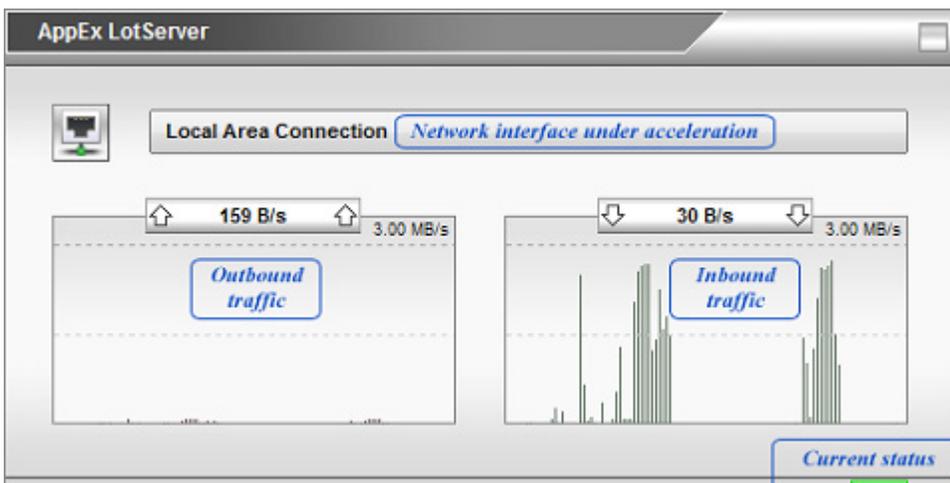


When the installation has completed successfully, click "**Finish**" to reboot the system.

4. Using LotServer

After the successful installation and system reboot, LotServer should automatically start. Its icon will be displayed in the System Tray area, usually at the bottom-right corner of the screen, the right end of the Taskbar next to the clock.

4.1 Main Console



Left-click the LotServer tray icon  in the System Tray, the very simple main console GUI will be shown on the screen.

The main console displays the following information:

1) Current status of LotServer: **Green** indicates running. **Grey** indicates stopped. **Yellow** means the console is in the "read-only" mode, i.e., another user logon is in total control of LotServer.

- 2) The currently accelerated network interface.
- 3) The inbound and outbound traffic bandwidth and graph on the network interface shown.

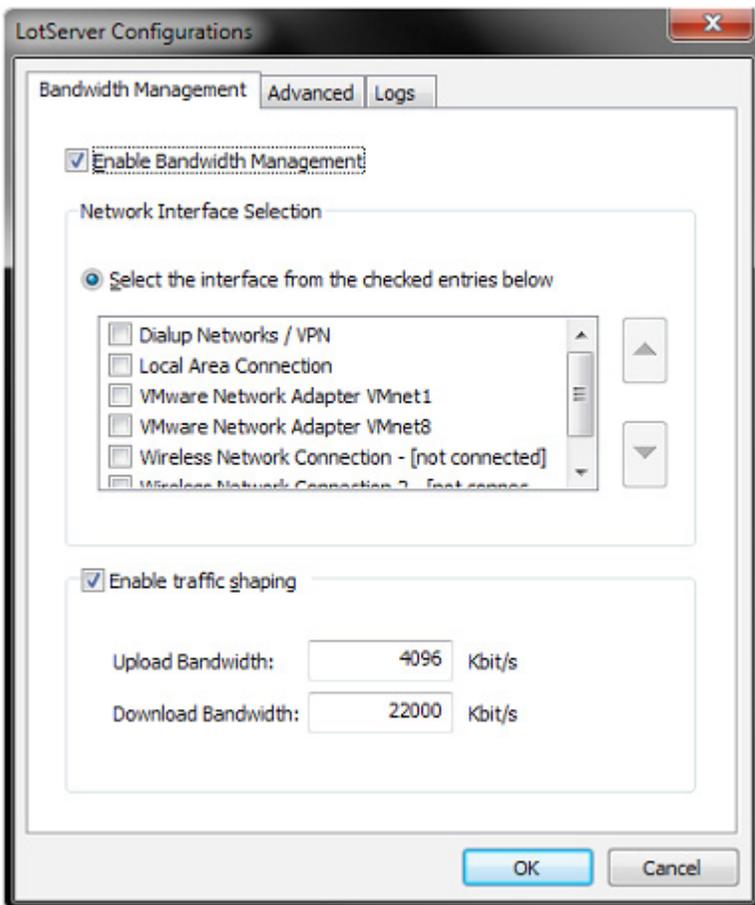
4.2 Configurations

The configuration dialog box can be called out via one of the following means:

- 1) Click  button on the main console. Or;
- 2) Right-click the LotServer tray icon , and select “Configurations”.

The configuration dialog box has three tabs: “Bandwidth Management”, “Advanced” and “Logs”. After you’ve made the desired choices, click the “OK” button to save the settings and dismiss the dialog box. Otherwise, “Cancel” to discard changes made in the GUI.

4.2.1 Bandwidth Management Tab

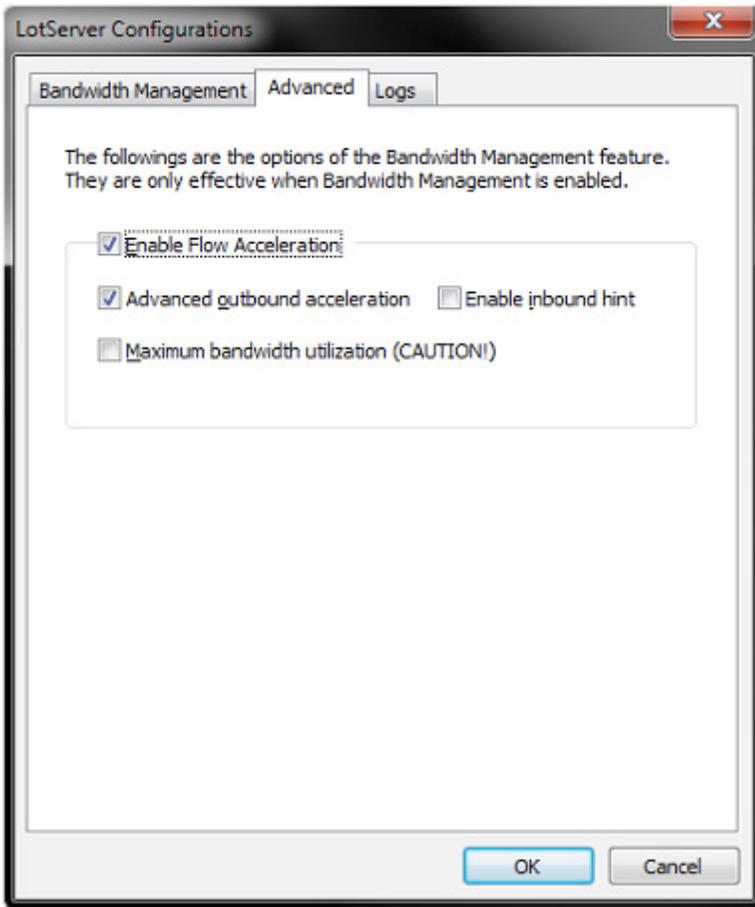


As shown in the left diagram:
Parameter descriptions:

- 1) **Enable Bandwidth Management:** Check to enable bandwidth management. Uncheck to disable. All the other configurations on this tab and the “Advanced” tab depend on this box being checked. When unchecked, the “Advanced” tab will be hidden.
- 2) **Network Interface Selection:** Select the network interface to be accelerated. LotServer currently is only capable of accelerating a single network interface. This configuration allows you to choose what interfaces you wish to accelerate and in which order should they be selected. LotServer will walk through the list from the top-down and use the first checked active network interface. When any interface switches between active and inactive, LotServer will automatically use the list to re-evaluate which one to accelerate.
- 3) **Enable Traffic Shaping:** Check to enable traffic shaping. Uncheck to disable. Traffic shaping grooms the inbound and outbound traffic to achieve the optimal network performance. Setting the bandwidth values properly helps achieving the best results.

4.2.2 Advanced Tab

As shown in the following diagram:



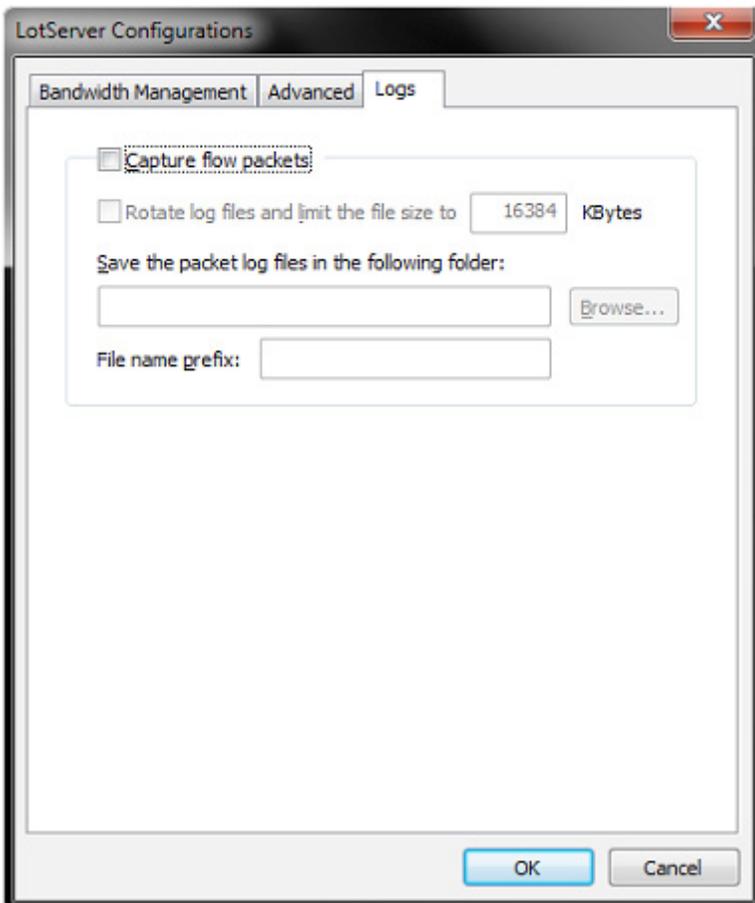
Parameter descriptions:

1) **Enable Flow Acceleration:** Check to enable Zeta-TCP acceleration. Uncheck to disable. All the other options on this tab depend on this box being checked.

2) **Advanced outbound acceleration:** Check to boost the performance in lossy networks. Most network environments will benefit from this option.

3) **Enable inbound hint:** Applicable to the inbound traffic under specific scenarios, esp. when the peer uses an old TCP stack. This may occupy a small fraction of the outbound bandwidth (less than 2%).

4) **Maximum bandwidth utilization:** This option is only applicable to the scenario where the server communicates with all of the peers via dedicated network paths where congestion is of little concern. If not sure, do not check this box.



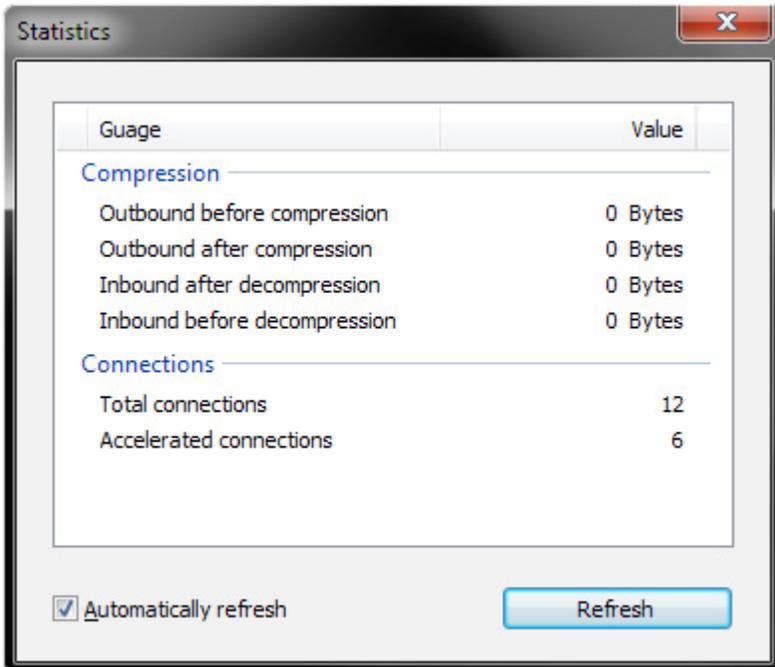
4.2.3 Logs Tab

As shown in the left diagram:

This tab is primarily used for capturing packets for diagnosis purposes. It is rarely enabled in daily operations. For details, please refer to "LotServer Windows Q&A".

4.3 Tray Icon Menu

When LotServer is running, its icon  will be displayed in the system tray which is typically at the bottom-right corner of the screen. Right-click this tray icon and a menu will pop up as shown in the diagram below:



Items in this menu:

- 1) **Open LotServer:** Open the main console of LotServer. This is the default selection.
- 2) **Show Statistics:** Display the traffic statistics dialog, as shown in the diagram left:
- 3) **Configurations:** Popup the LotServer configuration dialog box as explained in the previous sections.
- 4) **Auto Start at Logon:** Check to enable LotServer GUI to start at user logon. Uncheck to disable it.



5) **About:** Display LotServer versions and license information, as shown in the left:

6) **Quit:** Exit the LotServer GUI and dismiss the tray icon. Note that LotServer will still be running in the background, using the current configurations. This only exits the GUI of the main console and tray icon, etc.

5. Uninstallation

You can uninstall LotServer by either launching the uninstaller from its program menu, or clicking the relevant link in the Windows Control Panel. Restart your server after the uninstallation is completed.



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For a Free LotServer trial:
download.appexnetworks.com