

Achieving Optimal Performance with Cadence Virtuoso

OpenText Exceed onDemand
Managed Application Access Solutions for Enterprise

OpenText Connectivity Solutions Group
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Abstract

Cadence Virtuoso is one of most popular applications used by engineers in the semiconductor industry for completing various tasks related to a chip design project. This document provide instructions on how to better optimize Exceed onDemand to maximize the performance benefit.

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Introduction

This document will show you the optimal Exceed onDemand configuration to be used when running Cadence Virtuoso 6.1.x. While the default settings are fine for most applications, after working closely with Cadence we have some suggested changes that will provide the best performance and user experience over a Wide Area Network or the Internet.

There are many configuration options in Xconfig and in addition to showing what the settings should be; there is also an explanation of why these settings are used.

Exceed onDemand Configuration

There are two different ways to configure an Exceed onDemand profile. The first is through the Exceed Connection Server Manager. This utility is usually run by administrators who want to create a global profile for the users. The second way is with the Exceed onDemand client. This method allows regular users to both access global profiles created by the Exceed onDemand administrator and create their own configuration profiles.

Access a profile using Exceed Connection Server Manager

Launch the Exceed Connection Server Manager and connect to a Server. Expand the Global Folders tree and then select Xconfig. You can then copy one of the existing profiles to be used as the template for Cadence configuration.

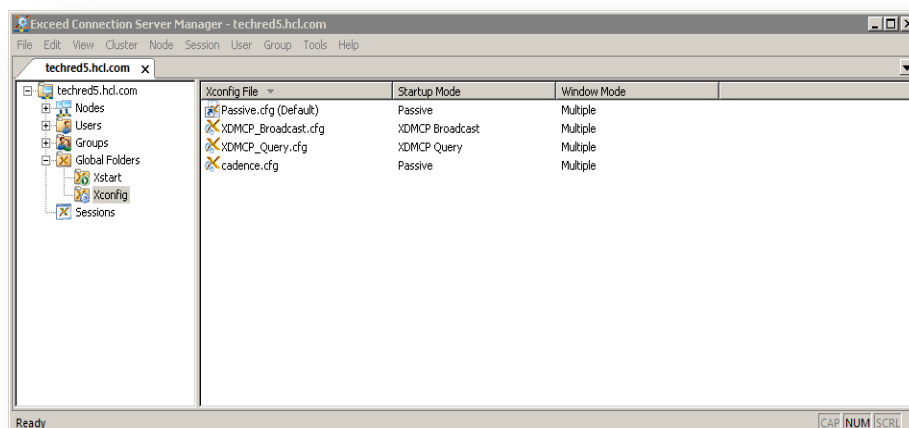


Figure 1 Connect to the Server and expand Global Folders

Right-click on the profile and choose Modify and you will then be taken to the Xconfig Manager.

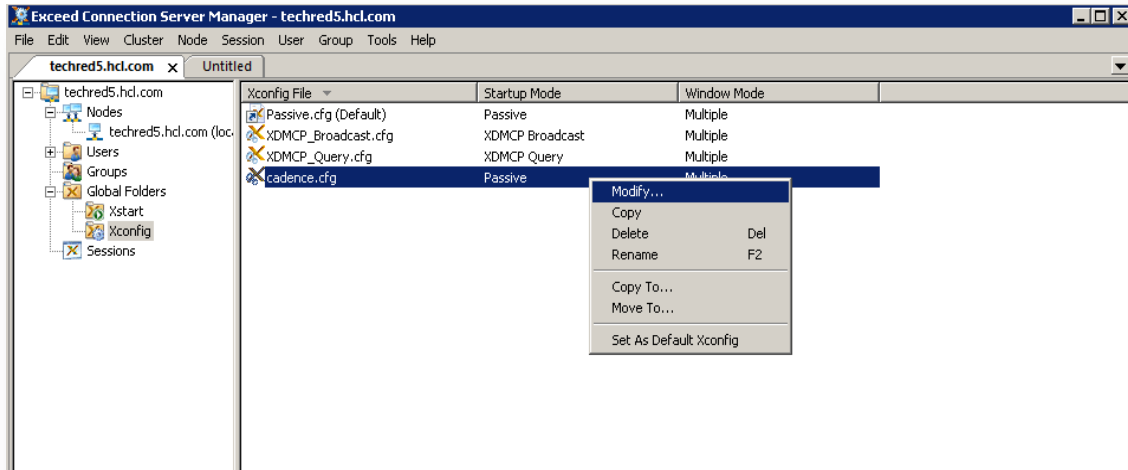


Figure 2 Modify the profile

Once settings are configured properly you may then save the changes. As this is a global profile, regular users will not be able to make any changes and will see it as a read-only profile

Access a profile using Exceed onDemand Client

Using the Exceed onDemand Client to login to the Exceed Connection Server and then select the Xconfig Manager. In this case, the user will be able to see global profiles but will not be able to change them. If they want to create their own, they will follow the same steps listed previously. Copy an existing profile and then modify it.

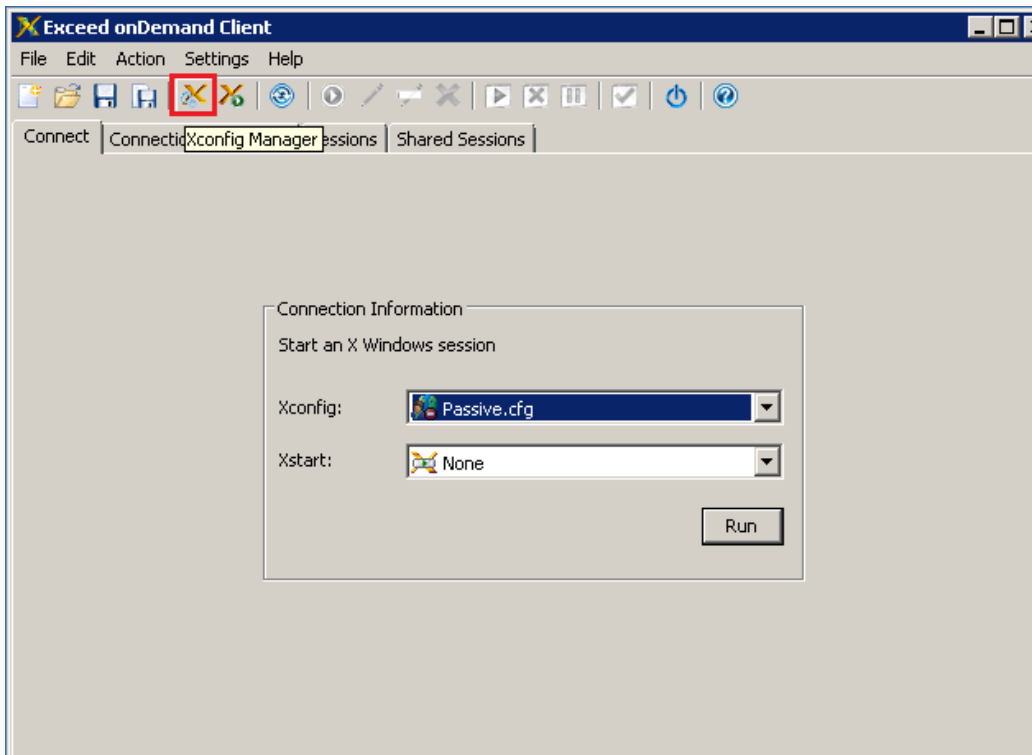


Figure 3 Choose Xconfig Manager to edit the profile

Improving Performance

Performance adjustments are made and contained in the respective configuration (.cfg) file and are edited through the Xconfig Manager. Exceed onDemand ships with Xconfig profiles with default settings. These settings will deliver good performance for a broad range of X window applications. However, in order to get the most out of Exceed onDemand and Cadence Virtuoso, a small level of fine tuning is required.

All of the performance enhancing options are located under the Performance tab. Three areas are of special interest to Cadence users – Drawing, Image Quality, and Shadow Window. Use the Xconfig Manager to open a Xconfig profile, then go to the Performance tab.

Drawing

There are several options in the Drawing section. Change the settings to the following values.

Setting	Value	Explanation
Exact Zero Width Lines	Disabled	Most applications do not use this option. When redrawing two lines or segments together, it has to be drawn exactly within one pixel at the end of the line.
Draft mode	Enabled	This option improves performance, but results in a slightly but generally unnoticeable reduction in drawing accuracy.
Batch Requests	Enabled	When doing repeated drawings, we batch the requests and send several commands at once.
Limit Window Exposures	Disabled	Performance improved when running over a fast connection.
Backing Store	Always	When a window is created, it will always create a backing store. This can reduce network traffic and improve windows refresh speed.
Save Unders	Disabled	Improves Windows drawing speed and memory usage.

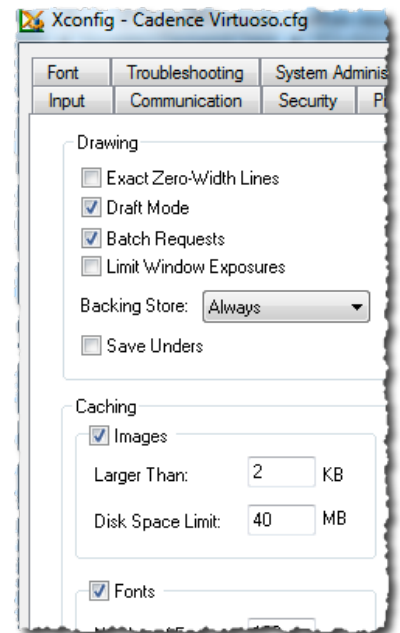
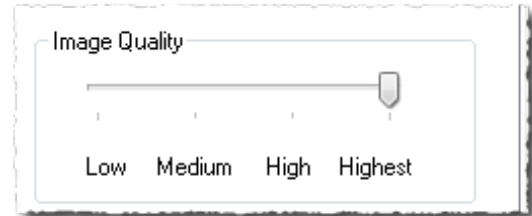


Image Quality

Ensure the Image Quality Slider is set to Highest. This is the default setting for Exceed onDemand 8 but will need to be adjusted for Exceed onDemand 7.

When set to highest this ensures that Exceed onDemand uses lossless (zlib) compression algorithm to compress images. The other settings use lossy (JPEG) compression. In some cases, using lossy (JPEG) compression will yield better performance because the algorithm can better reduce the size of complex and colorful images . However, in the case of displaying

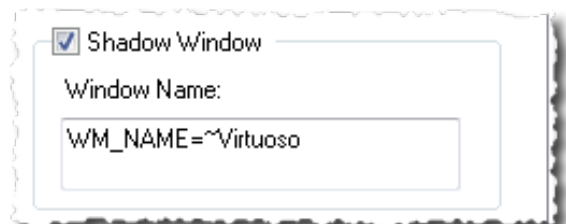
Cadence Virtuoso, where the screen is mostly composed of lines of few colors, zlib compression algorithm can actually do a better job in keeping the down the amount of graphic data transfer. In addition, lossless compression also maintain the highest level of the image quality and drawing accuracy as well as reducing screen refreshes.



Shadow Window

Enable the Shadow Window checkbox and in the Window Name section enter WM_NAME=~Virtuoso

Shadow Window creates a buffer on the Exceed Connection Server machine, allowing drawing requests to be handled by the Exceed onDemand Proxy instead of the Client. Applications such as Cadence will benefit tremendously by this feature because of the extensive drawing requests that it makes, which impose heavy bandwidth demands and impede performance. When used properly, bandwidth consumption and performance can be greatly improved.



Conclusion

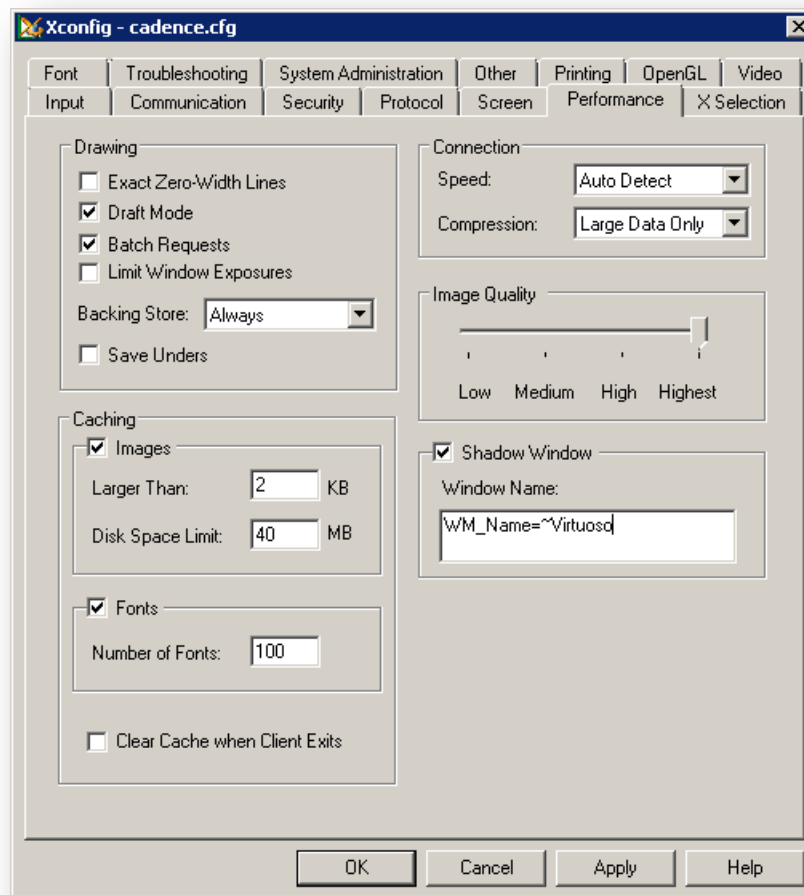


Figure 4 These are optimal settings when running Cadence

While the default performance settings are suitable for most applications and offer speedy response and accurate display, the nature of Cadence is different and it demands special attention. This document has explained how to configure Exceed onDemand in order to derive the maximum benefit when using it with Cadence Virtuoso.

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