# Content

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction ...........................................................................................................</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Schematic overview .................................................................................................</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Installation Instructions .........................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>3.1</td>
<td>Introduction .............................................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>3.2</td>
<td>Customizing the netpres.ini file ............................................................................</td>
<td>8</td>
</tr>
<tr>
<td>3.3</td>
<td>Impose Screen Saver Settings using group policies ..................................................</td>
<td>8</td>
</tr>
<tr>
<td>3.4</td>
<td>Load options ..........................................................................................................</td>
<td>8</td>
</tr>
<tr>
<td>3.5</td>
<td>Uninstall .................................................................................................................</td>
<td>10</td>
</tr>
<tr>
<td>3.6</td>
<td>System changes after Player/Screensaver installation ..............................................</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Capita Selecta ............................................................................................................</td>
<td>12</td>
</tr>
<tr>
<td>4.1</td>
<td>Network load ............................................................................................................</td>
<td>12</td>
</tr>
<tr>
<td>4.2</td>
<td>Personal Content .....................................................................................................</td>
<td>12</td>
</tr>
<tr>
<td>4.3</td>
<td>Link with content management systems ..................................................................</td>
<td>12</td>
</tr>
<tr>
<td>4.4</td>
<td>Publication of channels .........................................................................................</td>
<td>13</td>
</tr>
<tr>
<td>4.5</td>
<td>Locked desktops .......................................................................................................</td>
<td>13</td>
</tr>
<tr>
<td>4.6</td>
<td>Screensaver on systems where no-one has been logged on ......................................</td>
<td>13</td>
</tr>
<tr>
<td>4.7</td>
<td>ScreenSaverGracePeriod .........................................................................................</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Configurable Options (Netpres.ini) ..........................................................................</td>
<td>14</td>
</tr>
<tr>
<td>5.1</td>
<td>Introduction .............................................................................................................</td>
<td>14</td>
</tr>
<tr>
<td>5.2</td>
<td>Guidelines .................................................................................................................</td>
<td>14</td>
</tr>
<tr>
<td>5.3</td>
<td>Detailed description of every keyword ...................................................................</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>Study ...........................................................................................................................</td>
<td>20</td>
</tr>
<tr>
<td>6.1</td>
<td>Introduction .............................................................................................................</td>
<td>20</td>
</tr>
<tr>
<td>6.2</td>
<td>How did we measure the network load .....................................................................</td>
<td>20</td>
</tr>
<tr>
<td>6.3</td>
<td>Conclusion ...............................................................................................................</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>Recommendations for Terminal Server based systems .............................................</td>
<td>22</td>
</tr>
<tr>
<td>8.1</td>
<td>Personalize the store ...............................................................................................</td>
<td>22</td>
</tr>
<tr>
<td>8.2</td>
<td>Handle personalised Windows directories ..................................................................</td>
<td>22</td>
</tr>
<tr>
<td>8.3</td>
<td>Increase slide times ...............................................................................................</td>
<td>22</td>
</tr>
<tr>
<td>8.4</td>
<td>Reduce number of templates ..................................................................................</td>
<td>22</td>
</tr>
<tr>
<td>8.5</td>
<td>Optimize image sizes .............................................................................................</td>
<td>22</td>
</tr>
<tr>
<td>8.6</td>
<td>Avoid CPU intensive effects ....................................................................................</td>
<td>23</td>
</tr>
<tr>
<td>8.7</td>
<td>Lowering the priority .............................................................................................</td>
<td>23</td>
</tr>
</tbody>
</table>
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1 Introduction
This manual is written to aid the system administrator who has been assigned to deploy Netpresenter in an organization.

The Netpresenter client software principally consists of a Screensaver and a Desktop (Pop-up) Player. Both play back the presentation. Server side applications are the Netpresenter Message Server and Media Server that will be used by your communications department to create the presentation(s).
2 Schematic overview
The scheme below shows how Netpresenter could fit into the infrastructure of a large company with several locations geographically spread.

This picture indicates how publications are produced using the Netpresenter Message Server and published on the server. Optionally the Netpresenter Media Server application can be used to renew information automatically.

The Netpresenter Message Server allows authorized users to manage the content of the channel(s). They can use any browser with access to the application web site/virtual directory and do not need to have any software installed locally. The Netpresenter Player/Screensaver on client PCs approach the publications via HTTP, FTP or UNC links.
3 Installation Instructions

3.1 Introduction

This paper briefly describes how Netpresenter can be installed throughout a company.

Installation of Netpresenter boils down to the following tasks:

- Installing the Netpresenter Message Server (and Media Server)
- Configuring the Netpresenter Message Server (and Media Server)
- Creating control channels and determining the correct channel paths
- Installing the Netpresenter Player/Screensaver

The Netpresenter Message Server has the following system requirements:

- Windows Server (2003-2008-2012) with IIS
- CPU: Intel Xeon E5 or better
- RAM: minimum 4 GB
- HD: minimum 20 GB free disk space
- A fast network connection
- Microsoft SQL Server (2005 or higher) or MySQL 5.1 or higher
- Microsoft .NET Framework 3.5
- Microsoft Visual C++ 2010
- Message Server web interface: Minimum Internet Explorer 8 or a similar browser

The Netpresenter Media Server has the following system requirements:

- CPU: Intel Xeon E5 or better
- RAM: minimum 4 GB
- HD: minimum 20 GB free disk space
- A fast network connection
- Microsoft .NET Framework 2.0

The Netpresenter Player/Screensaver has the following system requirements:

**Minimal system requirements (no multimedia)**

- Windows 2000, XP, Embedded, Vista, 7, 8
- Intel Pentium II or AMD Athlon (or similar)
- 128 MB RAM
- 10 Mbps NIC
- 20 MB free HD space (depends on the size of the presentation)
- Integrated Video Card
Recommended system requirements

- Windows 2000, XP, Vista, 7, 8
- Intel Pentium 4 or AMD Athlon XP (or similar)
- 256 MB RAM
- 10/100 Mbps NIC
- 250 MB free HD space (depends on the size of the presentation)
- 32 MB Video Card

High-end system requirements (Flash, Ticker, HD movies)

- Windows XP, Vista, 7, 8
- Intel Core Duo (or similar)
- 1 GB RAM
- 100/1000 Mbps NIC
- 1 GB free HD space (depends on the size of the presentation)
- Video card with hardware H.264 decoding
- Flash Player 10 or higher
3.2 Customizing the netpres.ini file

All Netpresenter client settings are stored in a single ini-file called netpres.ini which is located in the Windows directory.

To change the optimized netpres.ini settings in the package there are two options:

1. Open the package using Orca or some other tool able to display and modify the installer tables and edit the IniFile table directly.
2. Use a transform file (.mst)

Chapter 5 describes all the settings stored in the netpres.ini file.

3.3 Impose Screen Saver Settings using group policies

On installations with a Windows 2000 (or newer) domain, one may enforce screensaver settings from a central location via group policies as well. This will supersede any settings made by the installation package on each PC locally).

Using group policy settings to impose screensaver settings is best in an environment with roaming profiles, since in such an environment the installation package can only change the current user’s screensaver settings.

Tip: For testing use “gpupdate.exe /force” on a client to force reloading group policy settings. When not using this it may take hours before the changes have replicated to the clients.

3.4 Load options

In general, around 1000 PCs can connect to one central server with an update interval of 60 seconds. If you have more than 1000 PCs there are 3 possible solutions:

1. Raise the interval time to an acceptable interval time
2. Use multiple servers
3. Set up a load balanced server infrastructure

3.4.1 Raising the interval time

This needs little explanation. For example, when you have between 3000 and 4000 PCs you’ll have to set the update interval of the clients at a value between 3 and 4 minutes. Netpresenter support can advise you on this, because the used figures can vary if, for example, the network or server is already heavily loaded.
3.4.2 Using multiple servers

To bring the update interval down for a large number of clients, you could distribute the Player load across a number of other (web) servers. To do this, you will have to replicate the channels to multiple servers. This can be done using the Netpresenter Replication Server, or any other replication tool you have in place. Please keep in mind that the extra servers also need to have IIS (or another web server) if the clients will connect to them using HTTP.

Another point for attention is that every group of Players needs to be “looking” at the correct server. This can be done by using different installation packages for every group of clients or by using a startup script. This script can also be used to target information to certain groups. Please contact Netpresenter support for more information on these scripts.

Note: you can also use this method to limit WAN traffic between 2 locations.
3.4.3 Load balancing

When using multiple servers in a load balanced setup the channels also need to be copied to the web servers because they will handle the Players requests. Instead of making the published folder accessible on the central Message Server, the content of the folder is copied to the web servers and the clients get the content from them.

Again there are various solutions to copy files to multiple servers but if you do not have a specific program to do this you could use the Netpresenter Replication server or a simple tool called Robocopy.

3.5 Uninstall

The Netpresenter software can be uninstalled from a machine by selecting “remove” via Add/Remove Software in the Control Panel.

For a silent uninstall of the Netpresenter Player/Screensaver call:

`msiexec.exe /uninstall /q Netpresenter.msi`
3.6 System changes after Player/Screensaver installation

During the installation, the screensaver is copied in the Windows directory and the other files will be stored in the <Program Files>/Netpresenter directory. Shortcuts to the applications will be added to the start menu and the current screensaver will be set to the Netpresenter Screensaver (if allowed by your policy settings). The complete installation is about 3 MB large. No DLLs will be copied to the local system.

After a complete installation the following files will have been copied:

In the installation directory:

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetPlay.exe</td>
<td>The player</td>
</tr>
<tr>
<td>NetPlay.hlp</td>
<td>The player’s help file.</td>
</tr>
<tr>
<td>NetProp.exe</td>
<td>Separate application for maintaining the .ini settings of the Netpresenter applications.</td>
</tr>
<tr>
<td>NpAgent.exe</td>
<td>Background process necessary to display hyperlinks on the default desktop.</td>
</tr>
</tbody>
</table>

In the windows directory:

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netpresenter.scr</td>
<td>The screen saver</td>
</tr>
<tr>
<td>Netpres.ini</td>
<td>Netpresenter configuration file</td>
</tr>
</tbody>
</table>

In the installation directory are also the following directories:

<table>
<thead>
<tr>
<th>Directory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store</td>
<td>With a default installation the presentations are cached here. By central caching on the PC multiple caching when more people using the same PC is prevented.</td>
</tr>
</tbody>
</table>

The following registry settings will also be changed or added:

All users under HKEY_USERS, including the default user:

<table>
<thead>
<tr>
<th>Registry Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.\Control Panel\desktop\SCRNSAVE.exe =Netpresenter.scr</td>
<td>This key defines which Screen Saver is configured. For compatibility with older Windows versions, the filename will be stored in 8+3 file format (Netpre~1.scr).</td>
</tr>
<tr>
<td>.\Control Panel\desktop\ScreenSaveActive =1</td>
<td>This setting activates the Screen Saver.</td>
</tr>
</tbody>
</table>

The following links (shortcuts) are added to the Start menu:

**Startup** (Note: the actual name is language and O.S. dependent):
- Links to NetPlay.exe
- Links to NpAgent.exe

**Netpresenter**:
- NetPlay.exe
- NetProp.exe

The .chn extension will also be associated with the Netpresenter player.
4 Capita Selecta
In this chapter we attempt to highlight some questions that may rise.

4.1 Network load
Presentations are published on file servers or intranet/internet servers. The Netpresenter Players (Player and Screensaver) access these presentations through means of file sharing (UNC), HTTP or FTP. Because of scalability of the network HTTP or FTP are preferred.

The Netpresenter Players cache the presentations on the local hard drive of the user. A presentation consists of one or more script files (.chn files) and the image and media files, which are being used by the presentation.

At configurable time-intervals Netpresenter will compare the timestamps of the locally cached channel files with the timestamp of the original on the server. As soon as changes are detected, the locally cached file will be renewed. Media files that are referred to by the channel will (optionally) be monitored as well.

Because of smart caching and the relatively small size of a channel file, network load is extremely low. A typical presentation (10 slides, 300kB including jpeg bitmap files), of which the textual contents changes daily, the network load is only a few Kbytes per client per day. Typically less than the network load caused by downloading one HTML page.

4.2 Personal Content
Larger companies often use different channels for each target group. There is often also a corporate channel published to everyone. This can be implemented by grouping the corporate channel and target group specific channels to one control channel. Such a control channel is pretty simple and can be crafted manually.

Below an example of such a channel in the Netpresenter script language:

```
CHNL 1002
SLIDE "Corporate channel"
BEGIN
  SUBCHANNEL "http://www.company.com/channels/corporate.chn"
  ID 1
END
SLIDE "Local channel"
BEGIN
  SUBCHANNEL "http://www.local.company.com/channels/local.chn"
  ID 2
END
```

Please contact Netpresenter support for a manual on the Netpresenter script language.

4.3 Link with content management systems
To automatically update publications one can consider a link with a content management system. Netpresenter prefers integration to existing systems using the RSS or XML standard format. This will allow the Netpresenter Media Server to pick up the content and transform it into a Netpresenter Player compatible format (channel, image, etc).
4.4 Publication of channels
See the Netpresenter Message Server manual for more information about creating and publishing channels.

4.5 Locked desktops
For security reasons, screensavers on Windows systems are displayed on the so called screensaver desktop. Regular applications display on what is named the default desktop.

Optionally one must first enter a username/password combination before switching from the screensaver desktop to the default desktop.

One of the strong points of the Netpresenter Screensaver is that it supports hyperlinks to pages or documents anywhere on the Intranet or Internet.

When the hyperlink is requested, the Netpresenter Screensaver will not start any applications (browsers, text processors, etc.) on the screensaver desktop, since this would break the security. Instead, NPAgent.exe, a background process, will display the requested hyperlink on the default desktop. If password protection is set, the user has to unlock his workstation first.

4.6 Screensaver on systems where no-one has been logged on
On systems, where the Screensaver is started when no-one has been logged on yet, the screensaver will run under the SYSTEM account. Processes started by this account generally cannot access files on a file server via file sharing.

If this is the method used to access channels, these will not be updated on computer systems where no one has yet logged in. This problem does not occur if channels are accessed via HTTP (default) or FTP.

Note: due to tightened security in Windows Vista and Windows 7, it is no longer possible to show videos

4.7 ScreenSaverGracePeriod
The ScreenSaverGracePeriod registry setting is available in Windows 2000 and higher, under HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon.

The ScreenSaverGracePeriod entry specifies when password protection of a screen saver becomes effective. This entry specifies the delay between the appearance of a password-protected screen saver and the enforcement of the password requirement.

Password protection of a screensaver is not effective immediately. By default, a brief period elapses within which the user can use the mouse or the keyboard to stop the screen saver without entering the password. This delay is designed to minimize the disruption that results when the screen saver starts while the user is working.

You can add this entry to the registry to adjust the length of the delay. To make password protection effective immediately, set the value of this entry to 0x0.

This entry does not exist in the registry by default. You can add it by using the registry editor, Regedit.exe.
5 Configurable Options (Netpres.ini)

5.1 Introduction
Preferably use NetProp.exe or the Desktop Player (right mouse-click on the Netpresenter icon in taskbar notification area) to edit the configuration information stored in Netpres.ini.

For historical reasons, some of the keys may seem to be in an inappropriate or incorrect section. These discrepancies are maintained in order to minimize problems for existing installations.

5.2 Guidelines
The default settings are useful for demonstration purposes, but less useful for a company-wide installation.

- If you do not want each user to be able to change the properties themselves, set AdPropTabs=None in the [General] section.
- You may also want to make the configuration file read-only. If this is the case the current window size and position of the player will no longer be saved when shutting down, so make sure the .ini file contains reasonable values.
- Multiple users on the same computer: if some users subscribe to other channels as others: If you would prevent them from seeing reminiscent of each other’s channels it may be wise to either clear the store before logging in or before logging out or give each user his own store directory.
- Emergency pop-up: when Netpresenter will be used to popup important messages, you may want to deny a user the right to exit the application. Set PlayerMayExit=0 in the [Player] section.

5.3 Detailed description of every keyword
Unless noted otherwise, these options are most comfortably set by the Netpresenter property dialog.

5.3.1 [General]

- Name=[Name of Netpresenter User]
  This information is printed in the Netpresenter About dialog.

- Organization=[Name of Organization]
  This information is printed in the Netpresenter About dialog.

- Serial=[The serial number assigned to the user]
  The serial number is important in a Netpresenter installation because the Netpresenter executables recognize valid serial numbers and enable more features when a valid number is available.

- Path=[Path to the folder where Netpresenter is located]
  This is the folder where most of the Netpresenter programs and files are located.

- Schedule=[A schedule for downloading updated channels]
  A list of 24 numbers that store packed information about when to download new information from a remote site. It is used to schedule. If this value is undefined, the players assume that you want to want to download new information at any time of day. If you want to set this value directly in netpres.ini, it is best to create a schedule in the properties dialog and then copy it for later use.

- AdPropTabs=[None, Channel, Format, etc]
  This key determines what tabs of the “Netpresenter Properties” dialog will be visible to the end user. The key is affected by the checkbox titled “Display properties”. Unchecking this value corresponds to AdPropTabs=None in netpres.ini; which disables the possibility to view the dialog at all.
• To only display some tabs, concatenate there corresponding keywords to the value of AdPropTabs, the available keywords are:

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Corresponding tab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>Format</td>
</tr>
<tr>
<td>Channel</td>
<td>Channel</td>
</tr>
<tr>
<td>Schedule</td>
<td>Update Schedule</td>
</tr>
<tr>
<td>Options</td>
<td>Multimedia Options</td>
</tr>
<tr>
<td>Players</td>
<td>Desktop Player</td>
</tr>
<tr>
<td>Identity</td>
<td>Registration</td>
</tr>
<tr>
<td>Advanced</td>
<td>Advanced</td>
</tr>
<tr>
<td>About</td>
<td>About</td>
</tr>
<tr>
<td>Screensaver</td>
<td>Screen Saver</td>
</tr>
<tr>
<td>None</td>
<td>No Netpresenter properties will be displayed</td>
</tr>
</tbody>
</table>

• **AdRun**=[0 to disable; 1 to enable]
The players can launch executables. For security reasons, this feature is normally disabled. You can enable it by setting this value to 1.

• **TriggerSelfHealing**=[0,1]
When installing on a Windows PC with multiple user’s who login via a domain controller, each user’s screen saver settings are stored on the domain controller and cannot be updated from an installation procedure. By setting this option to 1, the Desktop Player will, upon start-up, check the current user’s screen saver setting and set it to the appropriate values.

• **WebServerScriptExpansion**=[0,1]
When set, one may pass parameters to web services. The data that will be output by the web server will be cached locally.

• **PassiveFtp**=[0,1]
When set, for ftp transfers the internet connection will be set to passive mode.

• **Path2FileContainingBranch**=
When someone clicks on a URL from a Netpresenter Screen Saver running under a Windows system, the branch will be stored in the directory indicated here. By using Path2FileContainingBranch one may set it to any file in any directory.

• **Locale**=English
This key determines how the characters in a channel will be displayed. A locale is a set of user preference information related to the user’s language, country/region, and cultural conventions. For Netpresenter players the locale indicates the codepage to be used for displaying a channel’s contents. I.e. ANSI codepage 1252 (ANSI Latin 1) will be used for English and most European languages.
5.3.2  [Screen Saver]

- **Channel**=[Location of source channel]
  This is a valid file path (URL or UNC) to a channel (.chn) file that the screensaver and player will display and monitor for updates.

- **LocalPath**=[Location of the folder for storing downloaded channels]
  By design, Netpresenter caches a channel and its associated files on a local hard drive. This is a file path to a location where current channel data is stored.

- **Updates**=[A bitwise addition of the following values]
  
<table>
<thead>
<tr>
<th>Hex</th>
<th>Decimal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x0001</td>
<td>1</td>
<td>Check for new information when the player starts</td>
</tr>
<tr>
<td>0x0002</td>
<td>2</td>
<td>Check for new information in time intervals</td>
</tr>
</tbody>
</table>

  This controls how the players look for new information. By adding the two flags together and setting **Updates**=3, you can tell a Netpresenter Player to look for new information when it first starts running and then after each time interval.

- **MinimizeOpenWindowsOnBranch**=[0,1]
  When set, this option causes all full-screen desktop applications except the browser to minimize after someone has clicked on a URL from the screensaver.

- **TimeFormat**=[A ‘C’ style string for formatting time]
  Netpresenter stores the style for formatting time in this string. It uses ‘C’ style conventions. For example: “%I:%M:%S %p”

- **Message**=[A short text message to print beneath the channel] – **Deprecated**!

- **Minutes**=[Number of minutes to wait before looking for new information] – **Deprecated**!

5.3.3  [Player]

- **PlayOptions**=[A bitwise addition of the following values]
  
<table>
<thead>
<tr>
<th>Hex</th>
<th>Decimal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x0001</td>
<td>1</td>
<td>Show the time at the bottom of the player display</td>
</tr>
<tr>
<td>0x0002</td>
<td>2</td>
<td>Don’t play any sound</td>
</tr>
<tr>
<td>0x0004</td>
<td>4</td>
<td>Don’t display any graphics on the slide</td>
</tr>
<tr>
<td>0x0008</td>
<td>8</td>
<td>Don’t scale the slide</td>
</tr>
<tr>
<td>0x0010</td>
<td>16</td>
<td>Don’t use transitions</td>
</tr>
<tr>
<td>0x0020</td>
<td>32</td>
<td>Don’t show the toolbar on the player</td>
</tr>
<tr>
<td>0x0040</td>
<td>64</td>
<td>Always show the player on top of other windows</td>
</tr>
<tr>
<td>0x0080</td>
<td>128</td>
<td>Don’t download any attachments with the channel</td>
</tr>
<tr>
<td>0x0100</td>
<td>256</td>
<td>Allow the player to popup for priority information (Note: Superseded by POPUP key in [Player] section)</td>
</tr>
<tr>
<td>0x0200</td>
<td>512</td>
<td>Don’t confirm that the user wants to exit</td>
</tr>
</tbody>
</table>

  This key, like many others, is currently only stored as a decimal value and not in hexadecimal. To set multiple values, simply add together the decimal values for each selected flag. For example, to disable transitions and the exit dialog, set **PlayOptions** to 528. This is the sum of 16 (Don’t use transitions) + 512 (Don’t confirm that the user wants to exit).

- **Style**=[0 = floating window, 1 = fixed/borderless window, 2 = window covering entire screen]
- \( X = \) [Left edge of player window in logical units]
- \( Y = \) [Top edge of player window in logical units]
- \( W = \) [Width of player window in logical units]
- \( H = \) [Height of player window in logical units]

These values are reset each time the user moves the player window.

Note that in case of pop-ups because of channel updates, Netpresenter will increase the width to at least halve the screen width and increase the height to at least halve the screen height if necessary.

- \( \text{PlayerMayExit} = [0 \text{ to deny the user to close the player, } 1 \text{ to allow it}] \)
- \( \text{Popup} = [0 = \text{never}, 1 = \text{selective}, 2 = \text{every update}] \)
- \( \text{DoNotBranchWhenNotLoggedIn} = [0, 1] \)
  - When setting this option to 1, the Netpresenter Screnssaver will not execute any applications (browser or other) when a user who has not yet logged in, clicks on an object with a clickable branch attached.

- \( \text{MenuOptions} = \) [A bitwise addition of the following values]

<table>
<thead>
<tr>
<th>Hex</th>
<th>Decimal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x0001</td>
<td>1</td>
<td>Shows ‘Fixed Channels’</td>
</tr>
<tr>
<td>0x0002</td>
<td>2</td>
<td>Shows ‘Disable Screen Saver until next logon’</td>
</tr>
<tr>
<td>0x0004</td>
<td>4</td>
<td>Shows ‘Start Screen Saver now’</td>
</tr>
</tbody>
</table>

- \( \text{MenuTextDisableScreenSaver} = [\text{“Presentation Mode”}] \)
  - When present, this option sets the name being displayed in the context sensitive menu of the player for the “Disable Screen Saver” function to “Presentation Mode” (see MenuOptions=2).

- \( \text{OnSelectivePopupOnlyShowHighPrioritySlides} = [0, 1] \)
  - When a presentation contains any slide with its priority set to 10, the Player may popup immediately When setting OnSelectivePopupOnlyShowHighPrioritySlides=1, all the other slides will not be shown.

- \( \text{ConfigureChannelSwitcher} = [0, 1] \)
  - When set to 1 (this is the default), it is possible to use the branches for switching channels as well.

- \( \text{RetractPopupWhenAlertHasGone} = [0, 1] \)
  - When enabled, popups will be retracted when alert slides are being withdrawn from a channel.

- \( \text{PopupShouldBeFullScreen} = [0, 1] \)
  - On alerts, the Player will popup full screen.

- \( \text{EnableFlash} = [0, 1] \)
  - This key determines the support for flash .swf files in a channel.

- \( \text{EnableMinimumSize} = [0, 1] \)
  - This key defines whether the minimum size of the Player is allowed to be less than \( \frac{1}{4} \) of the screen when starting.
5.3.4  [SaverOptions]

- **SchedulingPriority**=[one of the following values]
  In Windows Terminal Server environments it may be advisable to lower the priority of the screen saver. By setting `SchedulingPriority=16384` in the [SaverOptions] section, the saver will yield faster to other processes.
  32 is the default value. Do not change it unless you experience that hundreds of screen savers running on one terminal server cause performance problems.

<table>
<thead>
<tr>
<th>Hex</th>
<th>Decimal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x0020</td>
<td>32</td>
<td>Normal</td>
</tr>
<tr>
<td>0x4000</td>
<td>16384</td>
<td>below normal</td>
</tr>
</tbody>
</table>

5.3.5  [CH_XX]

- **Display**=[The title to display in the Channel Selector]
- **Path**=[The path to the channel]

Up to 10 fixed channels may be added this way. The first channel omitted will indicate the end of the list, i.e. if the sections [CH_01], [CH_02] and [CH_04] are present, only the 1st 2 channels will be displayed.

5.3.6  [OptimizeScreenSaverEffectiveness]

To better guarantee that messages will be visible, Netpresenter offers the possibility to prevent monitor power down or system standby.

**Note:** when a system is running on batteries, Netpresenter will never interfere with a system’s power management.

The keys described below correspond to the dialog “optimize screen saver effectiveness” in the “Screen Saver” tab of the dialog titled “Netpresenter properties”.

- **ControlPowerManagement**=[0,1]
  If set to 1, Netpresenter will attempt to control a PC’s power management for example by denying monitor power down requests during working hours, so that presentations will remain visible.

- **PowerManagementMethod**=[0,1]
  If the value of PowerManagementMethod is set to 0, Netpresenter will always control PowerManagement. If it is set to 1, Netpresenter will only control it in the time denoted by `SecsPowerdownNotAllowedStartTime` and `SecsPowerdownNotAllowedStopTime`.

- **SecsPowerdownNotAllowedStartTime**=28800
  This value denotes the time (in seconds since the day started) that Netpresenter will control power management (if PowerManagementMethod=1). If `SecsPowerdownNotAllowedStartTime=28800` denotes a start time of 8:00h local time (8 * 60 * 60 = 28800).

- **SecsPowerdownNotAllowedStopTime**=64800
  With a value of 64800 ( = 18 * 60 * 60) Netpresenter will stop controlling PowerManagement at 18:00h (6 PM) This means that after 6 PM Screen Powerdown is allowed, the system may go into suspend etc.

- **DenyMonitorPowerdownRequest**=[0,1]
  When set to 1, Netpresenter may attempt to prevent the monitor from entering a power down state, but only if the following conditions are met:
  - The system must NOT be running on batteries
  - The option “ControlPowerManagement” must be set
- The current time must fall within the period that Netpresenter is allowed to interfere with power management

- **DenySuspendRequest**=[0,1]
  When set to 1, Netpresenter will attempt to prevent the system from going into suspend mode, but only if all other conditions are met (see DenyMonitorPowerdownRequest).

5.3.7 [Source]

- **Proxy**=
  This option should be left blank in most cases. Netpresenter will use the proxy settings used by Internet Explorer. Only in the case one would like to bypass the proxy settings set by your operating system it makes sense to change this version.
6 Study

6.1 Introduction

Most Network operators wonder about the (lack of) network load imposed by Netpresenter and prefer to see hard evidence instead of remarks like “designed for low bandwidth” or “typically less than 50 KB per PC/day”.

This document provides hard proof of the low bandwidth nature of the Netpresenter clients. It measures the Netpresenter network replication over HTTP, FTP and SMB (SMB is the protocol used to implement Windows file sharing over TCP/IP) and gives hard data which can easily be verified.

The Netpresenter thin client, low bandwidth players, feature an intelligent local cache which prevent unnecessary network traffic by discretely polling a server location. Only files which have changed are downloaded once in the local cache of the PC.

During normal operation, Netpresenter will retrieve a channel’s timestamp once every update interval. Only when a timestamp (read a file) has changed, a channel will be downloaded. Netpresenter usually only downloads the channel script file which is text based and typically 10-50 kByte large. Bitmap files that have not changed will not be downloaded again.

Netpresenter uses an elegant hypertext script language for its presentations; a presentation exists of a (script) channel file and other content (such as images and documents). This means that Netpresenter players only download what has changed, saving valuable network resources.

6.2 How did we measure the network load

We took a typical Netpresenter channel (script) which exists of 12 slides, 2 images.
To get enough samples we set the update interval very short (1 minute) and started the Netpresenter Player.

We started the network sniffer at significant moments in the program, i.e. just before requesting a timestamp, or just before starting a copy file operation. Excerpts of the original capture files can be delivered to you upon request.
6.3 Conclusion:
We added the byte count for all network packages involved and came up with the following totals:

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Update check</th>
<th>Download channel script</th>
<th>Extra per image file</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP</td>
<td>953 Bytes</td>
<td>10548 Bytes</td>
<td>953 Bytes</td>
</tr>
<tr>
<td>FTP</td>
<td>2207 Bytes</td>
<td>13712 Bytes</td>
<td>1315 Bytes</td>
</tr>
<tr>
<td>SMB</td>
<td>894 Bytes</td>
<td>58089 Bytes</td>
<td>848 Bytes</td>
</tr>
</tbody>
</table>

The Column “Update check” lists for each protocol how many bytes are transferred to request a file time. Whenever a 9300 byte channel file has changed, the number of bytes needed to download the file and to check the timestamp of each file referred to in the channel is listed in the “Download channel script” and “Extra per image file” columns.

Note that the exact results may vary depending on:
- the web server or FTP server
- Their configuration
- The Operating System used
- The packet size configured,
- The length of the URL’s used
- The size of multimedia files used
- The number of subdirectories etc.

In this test the operating system is the same for all protocols tested (W2K server) and all servers have kept their default configuration settings.
When a channel has changed, typically only textual information needs to be transferred, resulting in transfers which are typically 10 Kbytes in size, each time a channel changes (once a day?) for each client PC.

We had a hard time finding the Netpresenter update checks and downloads with our network sniffer since they were so small.

HTTP requests were extremely elegant. Less than 1KB per update check!

FTP, because of the authentication needed, for polling timestamps, generates only marginally more traffic than HTTP. An update check was limited to 2KB per update.

SMB (Windows file sharing over TCP/IP) causes somewhat more network traffic than HTTP. But traffic was still marginal. We confirmed this by starting a simple copy operation from the command line while a network sniffer was running.

Depending on the network protocol and its configuration, the Netpresenter application will need no more than 894 Bytes to be transferred over a network per client per update interval. In general this will barely be measurable.
8 Recommendations for Terminal Server based systems

Netpresenter also runs fine on terminal server systems like Windows 2000/2003 with Terminal Services or Citrix.

In case of “fat client” systems (regular PCs in hybrid mode), Netpresenter is often installed locally and no special precautions have to be taken.

In case of “thin client” systems (based on for example Java, Linux or Windows CE) Netpresenter should be installed on the server. Installation on the server might differ slightly from a regular Netpresenter setup. That is what this chapter is about.

8.1 Personalize the store

Each user should get his/her personal store directory. Often the store directory can be placed on the thin client’s storage (for example a RAM drive). Or use a store directory relative to the home directory. The store directory should not simply be put in the %temp% directory since the screensaver expands environment variables often different from the Player (due to the design of Windows). This affects the LocalPath key in the [Screen Saver] section of the netpres.ini file, for example:

```
[Screen Saver]
LocalPath=Z:\\NpStore
```

8.2 Handle personalised Windows directories

Both the Netpresenter Screensaver and the Netpresenter Player expect a configuration file (netpres.ini) in the Windows directory (“%systemroot%”). In some Terminal Server setups, users get a personalised Windows directory at for example “%userprofile%\windows” or “C:\Documents and Settings\<user name>\Windows”. The Terminal Server will copy netpres.ini to the personalised Windows directory the first time a user logs in. To keep the configuration files synchronised add the following line to the login script:

```
copy "%systemroot%\netpres.ini" "%userprofile%\windows\netpres.ini"
```

Please note that users should be granted read access to the netpres.ini file in the Windows directory. Also note that a personalised Windows directory is often not in effect for the screensaver. A screensaver’s Windows directory is often the actual Windows directory.

Alternatively the configuration file can be mapped to the registry. First add a key named “netpres.ini” to “HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\IniFileMapping”. By setting default value of this key to “USR:Netpresenter\ini”, references to the .ini file will be mapped to HKEY_CURRENT_USER\Software\Netpresenter\ini.

8.3 Increase slide times

The default slide time for a presentation is 20 seconds. Since each slide change causes transmission of a new screen image to the client PC you may want to increase the slide time to for example 30 seconds.

8.4 Reduce number of templates

Terminal Server optimizes the size of screen updates by only sending the difference between 2 subsequent screens. By reducing the number of used templates, the differences are kept to a minimum, thus allowing the Terminal Server to optimize its network usage.

8.5 Optimize image sizes

Match the size of the template background images you use to the screen resolution of your thin clients. Background images that are larger needlessly decrease the Terminal Server’s performance.
Also consider reducing the size of used images in the Netpresenter Message Server (under ‘Manage Sites’).

8.6 Avoid CPU intensive effects
Effects, like any animation, consume precious bandwidth, and are thus best avoided in Terminal Server environments.

It is also possible to configure the Player to ignore effects used in presentations. Uncheck the “Use visual transitions” checkbox in “Multimedia Options” tab of the player’s properties.

![Netpresenter properties](image)

8.7 Lowering the priority
Netpresenter does not load your system any more than any other application that changes the screen regularly (web browser, PowerPoint, etc.). To reduce CPU load even more, it is possible to lower the Screensaver’s priority by adding the following key to netpres.ini:

```
[SaverOptions]
SchedulingPriority=16384
```

Note: lowering the priority may affect the quality of the presentation.