

ThinkVantage

Power Manager Deployment Guide

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Note: Before using this information and the product it supports, read the general information in Appendix B “Notices” on page 31.

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Preface

This guide is intended for IT administrators, or those who are responsible for deploying the Power Manager program (hereafter refer to as Power Manager) to computers in their organization. The purpose of this guide is to provide the information required for installing Power Manager on one or more computers, and the information about the common administration tasks associated with managing Active Directory®. Implementing and enforcing a power management strategy on the computers throughout the entire organization can provide substantial savings.

ThinkVantage® Technologies are developed for IT professionals, addressing the unique challenges they may encounter. This deployment guide will provide instructions and solutions for working with Power Manager. If you have suggestions or comments, communicate with your Lenovo® authorized representative. To learn more about the technologies that can help you lower the total cost of ownership and to check for periodic updates to this guide, go to the following Web site:
<http://www.lenovo.com/thinkvantage>

Chapter 1. Overview

Power Manager helps users adjust power settings to give the best balance between system performance and power saving through slider control or power plans.

Power Manager provides a variety of power saving features through two essential modes, Basic and Advanced. Basic mode is set as default when users open Power Manager for the first time. Users can specify the level of power saving by simply using the slider, without power plans. Advanced mode enables users to configure power plans and the full range of functions in Power Manager to meet specific power saving needs. Power Manager enables users to schedule power actions by creating power agendas to meet the specific needs.

Power management on a computer can save energy and money. When the IT administrator enforces power management strategy on computers throughout the entire organization, the savings can be far more substantial. Power Manager is configured by default to use its energy efficiency features. Power Manager also gives the IT administrator numerous options for tailoring power management settings to optimize energy efficiency throughout their organizations.

Note: Power Manager has two different versions. One is for Windows XP operating systems and the other is for Windows Vista and Windows 7 operating systems. In the Windows Vista and Windows 7 version, the term "power plan" is used. In the Windows XP version, the term "power scheme" is used. In this document, no distinction will be made and the term "power plan" will be used to cover both.

Features

Power Manager includes the following functions:

- **Balance the performance and power saving of the computer**

Power Manager provides the slider to help users quickly and easily set the level of power to be used. Users can control the Central Processing Unit (CPU) speed and the brightness of the computer display by moving the slider. Moving the slider to the left, toward **High performance**, increases the CPU speed and the brightness of the computer display but uses more energy. Moving the slider to the right, toward **High energy savings**, saves the energy while limiting the CPU speed and the brightness of the computer display.

When users move the slider to the leftmost position, the power saving settings in the Maximum Performance power plan are applied. When users move the slider to the rightmost position, the power saving settings in the Maximum Energy Saving power plan are applied.

- **View, create, delete, and switch power plans**

A power plan is a collection of hardware and system settings that manages how the computer is used and conserves power. Power Manager power plans provide many more power saving features than Windows® power plans. On the **Power Plan** tab, the user can view specific settings in any of the predefined power plans: Power Source Optimized, Timers off (Presentation), Maximum Performance, Video Playback, Maximum Energy Saving, and ThinkCentre Default. These predefined power plans are designed to meet the needs of most people. If a predefined power plan does not meet some users' needs, the Power Manager wizard helps these users create their own custom power plans. Users can delete custom power plans but cannot delete predefined power plans. Users can easily switch to another power plan by clicking the **Power Manager** icon in the notification area and then selecting from the power plan list.

- **Remotely configure Power Manager and deploy power plan**

Power Manager enables an IT administrator to configure Power Manager and deploy a power plan by Active Directory. The IT administrator can select an active power plan for client computers, and inhibit the users' ability to switch among power plans, select a specific power plan, or create a power plan. For

example, the IT administrator can disable the Maximum Performance power plan and users cannot select it. Also, the IT administrator can configure Global Power Settings.

- **Remotely configure Power Manager to deploy power agendas**

Power Manager enables an IT administrator to configure Power Manager and deploy a power agenda by Active Directory. The IT administrator can update the power agenda settings of client computers remotely and the users of client computers can have those power agendas work automatically without configuring power agendas by themselves. If permitted, users can configure individual power agendas, or create scheduled or immediate actions including:

- Shut down
- Hibernate
- Sleep
- Switch to a power plan
- Set monitor brightness

The power agendas are displayed on the **Power Agendas** tab after they have been created by users. Users can select one or more created power agendas for use to meet their specific needs. Also, users can edit or delete one or more power agendas.

Note: If users update the power agenda settings on client computers, the previous settings will be permanently overwritten.

Chapter 2. Installation

The following instructions provide installation procedures for Power Manager.

.Net Framework dependency

Power Manager requires the Microsoft® .NET Framework 3.0 or later. You need to install the .NET Framework before installing Power Manager. You can download a compatible version of the .NET Framework from the following Microsoft Web site:

<http://msdn.microsoft.com/en-us/netframework/default.aspx>

Installing Power Manager without user's interaction

To install Power Manager without user's interaction, do the following:

1. Start the Microsoft Windows XP, Windows Vista®, or Windows 7 operating system, and then log in with administrative privileges.
2. Extract the Power Manager software package to the hard disk drive, for example:
C:\Drivers\Vista\PWRMGRV
3. Depending on the operating system, do one of the following:
 - For Windows XP operating systems Click **Start → Run**, and then type cmd in the **Open** box to open the Command Prompt window.
 - For Windows Vista and Windows 7 operating systems Click **Start**, type cmd in the **Start Search** box, and then select **run as administrator** to open the Command Prompt window.
4. Use the following command lines to install Power Manager.
 - a. To install interactively, type:
<path>\setup.exe
 - b. To install silently with a default path for the installation log, type:
<path>\setup.exe -S -SMS

Note: Power Manager has two different versions. One is for Windows XP operating systems and the other is for Windows Vista and Windows 7 operating systems. When you install Power Manager on your computer, match the Power Manager version with your operating system. Power Manager designed specifically for Windows Vista and Windows 7 operating systems might not function correctly on Windows XP operating systems, and vice versa.

Considerations for installing Power Manager

Various functions in Power Manager have dependency on hardware and drivers. When a function is not supported on a client computer, the function is hidden in Power Manager. Installing the latest version of the video driver (Intel®/AMD®/NVIDIA) is strongly recommended to support the brightness control functions.

Note: To use the monitor configuration functions of Power Manager for desktop computers, the monitor needs to support the Display Data Channel/Command Interface (DDC/CI).

Chapter 3. Working with Active Directory and ADM files

Active Directory provides a mechanism that enables administrators to manage computers, groups, end users, domains, security policies, and any type of user-defined objects. The mechanisms that Active Directory uses to accomplish this are known as Group Policy and Administrative Template files (ADM). With Group Policy and ADM files, IT administrators define settings that can be applied to computers or users in the domain.

Lenovo provides Power Manager ADM files for Windows XP, Windows Vista, and Windows 7 client computers, with four categories of policy settings: General setting, Power Plan (Scheme) Deployments, Global Power Setting, and Power Agenda Deployments.

Adding Administrative Templates

Designed to save you time and effort, Lenovo provides the Administrative Template files, "DPWMGPO.ADM" for Windows XP operating systems, and "DPMVGPO.ADM" for Windows Vista and Windows 7 operating systems, which can be used with Group Policy to set the configuration policies for Power Manager. These ADM files can be downloaded from the Lenovo Support Web site at:

<http://www.lenovo.com/support/site.wss/document.do?Indocid=TVAN-ADMIN#pmat>

To add the Power Manager Administrative Template (ADM file) to the Group Policy Editor, do the following:

1. On the computer running Active Directory, click **Start → Run**, and type `gpedit.msc`. The Group Policy Editor window opens.
2. Under **Computer Configuration**, right-click **Administrative Templates**.
3. Click **Add/Remove Templates**, and the Add/Remove Templates window opens.
4. Click **Add**, and then select the DPWMGPO.ADM file.
5. Click **Add**, and then select the DPMVGPO.ADM file.
6. Click **Close** on the **Add/Remove Templates** dialog box.
7. Check that the ADM files have been added to the Group Policy Editor by doing the following:
 - For Windows XP operating systems
 - a. Under **Computer Configuration**, expand **Administrative Templates**. A new item named **Lenovo ThinkVantage Components** is present.
 - b. Expand **Lenovo ThinkVantage Components**, a sub-item named **Power Manager** is present.
 - For Windows Vista and Windows 7 operating systems
 - a. Under **Computer Configuration**, expand **Classic Administrative Templates** and navigate to **Administrative Templates**. A new item named **Lenovo ThinkVantage Components** is present.
 - b. Expand **Lenovo ThinkVantage Components**, a sub-item named **Desktop Power Manager for Vista and Windows7** is present.

Notes:

1. The policy settings in the **Power Manager** configuration item are for Windows XP client computers, and these policy settings do not affect Windows Vista and Windows 7 client computers.
2. The policy settings in the **Desktop Power Manager for Vista and Windows7** configuration item are for Windows Vista and Windows 7 client computers, and these policy settings do not affect Windows XP client computers.

General setting

General setting policies enable IT administrators to configure general settings such as selecting an active power plan.

To configure General setting policies, do the following:

- For Windows XP client computers Under **Computer Configuration**, click **Administrative Templates** → **Lenovo ThinkVantage Components** → **Power Manager** → **General setting**.
- For Windows Vista and Windows 7 client computers Under **Computer Configuration**, click **Classic Administrative Templates** → **Administrative Templates** → **Lenovo ThinkVantage Components** → **Desktop Power Manager for Vista and Windows7** → **General setting**.

This table provides detailed information about each policy setting.

Table 1. General setting

Policy settings	Description
Do not allow client to switch power plan	<p>Specifies whether to allow switching power plans on client computers.</p> <p>If this policy setting is enabled and users change the power plan, Power Manager will automatically change the current power plan back to the original power plan.</p> <p>Note: This policy does not inhibit users from modifying the power saving settings in the active power plan. When this policy is enabled, users can move the slider in Basic mode on Windows Vista or Windows 7 operating systems to modify the power saving settings in the active power plan. However, if the original power plan is set to Maximum Performance or Maximum Energy Saving, users cannot use the slider to modify the power saving settings in the power plan.</p>
Do not allow client to create new power plan	<p>Specifies whether to allow creating a new power plan in Power Manager on client computers.</p> <p>If you enable this policy setting, the New button for creating power plans in Power Manager main user interface is unavailable, though users can create a power plan outside Power Manager. For example, users can create a power plan using the Power Options tool in Control Panel.</p>
Do not allow client to select specific power plan	<p>Specifies whether to allow selecting specific power plans owned by Power Manager on client computers.</p> <p>If you enable this policy setting, you must input the power plan name. When a plan name is selected and this name is not allowed, the current power plan is switched to another predefined power plan.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Power Manager searches available power plans in the following order: <ol style="list-style-type: none"> a. Power Manager looks for the Power Source Optimized power plan.

Table 1. General setting (continued)

Policy settings	Description
	<p>b. If the first search fails or it is not allowed, Power Manager looks for the Maximum Energy Saving power plan.</p> <p>2. Only power plans visible in Power Manager can be specified, and Windows default power plans cannot be specified.</p>
<p>Select an Active Power Plan</p>	<p>Specifies the name of the power plan owned by Power Manager to make it active on client computers.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The specified power plan name should exist on client computers. 2. If you enable this policy setting, you must input the power plan name. <p>Power Manager applies the power plan specified in this policy during startup. Even when the active power plan is specified by this policy, the user is able to change to another power plan and make it active after Power Manager startup.</p>

Power Plan (Scheme) Deployments

The policy settings in the **Power Plan Deployments** configuration item enables the IT administrator to create custom power plans and deploy those power plans. The IT administrator needs to configure every policy in this configuration item. Policy settings in the **Power Plan Deployments** configuration item cannot be used to edit existing power plans on client computers. Once a power plan is deployed, the IT administrator cannot edit the power plan from the server side. To deploy a new power plan, the IT administrator needs to configure a power plan with a different power plan name.

Note: All policy settings in DC mode do not take effect on desktop computers.

To configure Power Plan (Scheme) Deployments policies, do the following:

- For Windows XP client computers Under **Computer Configuration**, click **Administrative Templates** → **Lenovo ThinkVantage Components** → **Power Manager** → **Power Plan (Scheme) Deployments**.
- For Windows Vista and Windows 7 client computers Under **Computer Configuration**, click **Classic Administrative Templates** → **Administrative Templates** → **Lenovo ThinkVantage Components** → **Desktop Power Manager for Vista and Windows7** → **Power Plan (Scheme) Deployments**.

This table provides detailed information about each policy. In this table, (AC) means the policy setting for client computers with ac power adapter plugged, and (DC) means the policy setting for client computers on battery power.

Table 2. Power Plan (Scheme) Deployments

Policy settings	Description
Plan Name	<p>Specifies the name of the power plan to deploy to client computers.</p> <p>If you enable this policy setting, you must input the power plan name. A limit of the power plan name is 32 single-byte characters. If the power plan name is double-byte, limit the power plan name to 16 characters.</p> <p>Note: Once a power plan is deployed, you cannot edit the power plan from the server side. When you change a power plan name, the power plan is deployed as a new power plan to client computers.</p>
Maximum CPU Speed (AC)	<p>Specifies the maximum speed of the CPU.</p> <p>Possible maximum speeds include:</p> <ul style="list-style-type: none"> • Highest • Adaptive • Low • Lowest
Maximum CPU Speed (DC)	<p>Specifies the maximum speed of the CPU.</p> <p>Possible maximum speeds include:</p> <ul style="list-style-type: none"> • Highest • Adaptive • Low • Lowest
CPU Deeper Sleep (AC)	<p>Specifies whether to enable the CPU to enter the deeper sleep state. If you enable this policy setting, the CPU will go into the deeper sleep state.</p>
CPU Deeper Sleep (DC)	<p>Specifies whether to enable the CPU to enter the deeper sleep state. If you enable this policy setting, the CPU will go into the deeper sleep state.</p>
Display Brightness 16 (AC)	<p>Specifies the brightness level of client computer displays with 16 brightness steps. If a brightness level is high, the computer display gets bright.</p>
Display Brightness 16 (DC)	<p>Specifies the brightness level of client computer display with 16 brightness steps. If a brightness level is high, the computer display gets bright.</p>
Automatic optical drive power off (AC)	<p>Specifies whether to automatically turn off the optical drive when the following conditions are met:</p> <ul style="list-style-type: none"> • System has started but no CD or DVD has been inserted within 10 minutes. • The CD or DVD has been removed and has not replaced within 10 minutes.

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
Automatic optical drive power off (DC)	<p>Specifies whether to automatically turn off the optical drive when the following conditions are met:</p> <ul style="list-style-type: none"> • System has started but no CD or DVD has been inserted within 10 minutes. • The CD or DVD has been removed and has not replaced within 10 minutes.
Monitor off Timer (AC)	<p>Specifies the period of inactivity before the Windows operating system turns off the computer display.</p> <p>For Windows XP operating systems, possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours • 5 hours <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
Monitor off Timer (DC)	<p>Specifies the period of inactivity before the Windows operating system turns off the computer display.</p> <p>For Windows XP operating systems, possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
	<ul style="list-style-type: none"> • 2 hours • 3 hours • 4 hours • 5 hours <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
HDD off Timer (AC)	<p>Specifies the period of inactivity before the Windows operating system turns off the hard disk drive.</p> <p>For Windows XP operating systems, possible time periods include:</p> <ul style="list-style-type: none"> • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours • 5 hours <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
HDD off Timer (DC)	<p>Specifies the period of inactivity before the Windows operating system turns off the hard disk drive.</p> <p>For Windows XP operating systems, possible time periods include:</p> <ul style="list-style-type: none"> • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
	<ul style="list-style-type: none"> • 5 hours <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
Standby Timer (AC)	<p>Specifies the period of inactivity before the Windows operating system enters sleep mode.</p> <p>Possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours • 5 hours <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
Standby Timer (DC)	<p>Specifies the period of inactivity before the Windows operating system enters sleep mode.</p> <p>Possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours • 5 hours

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
	<p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
<p>Hibernation Timer (AC)</p>	<p>Specifies the period of inactivity before the Windows operating system enters hibernation mode.</p> <p>Possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours • 3 hours • 4 hours • 5 hours • 6 hours <p>Note: The period should be longer than the period of inactivity specified in the Standby Timer setting on Windows XP client computers.</p> <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
<p>Hibernation Timer (DC)</p>	<p>Specifies the period of inactivity before the Windows operating system enters hibernation mode.</p> <p>Possible time periods include:</p> <ul style="list-style-type: none"> • 1 minute • 2 minutes • 3 minutes • 5 minutes • 10 minutes • 15 minutes • 20 minutes • 25 minutes • 30 minutes • 45 minutes • 1 hour • 2 hours

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
	<ul style="list-style-type: none"> • 3 hours • 4 hours • 5 hours • 6 hours <p>Note: The period should be longer than the period of inactivity specified in the Standby Timer setting on Windows XP client computers.</p> <p>For Windows Vista and Windows 7 operating systems, you can specify the value in seconds.</p>
Allow Hybrid Sleep (AC)	<p>Enables Hybrid Sleep.</p> <p>If you enable this policy setting and select On, a file called hiberfile.sys is generated to store the contents of RAM (Random Access Memory) when the system enters sleep (standby) mode.</p> <p>This setting is not supported on Windows XP client computers.</p>
Allow Hybrid Sleep (DC)	<p>Enables Hybrid Sleep.</p> <p>If you enable this policy setting and select On, a file called hiberfile.sys is generated to store the contents of RAM when the system enters sleep (standby) mode.</p> <p>This setting is not supported on Windows XP client computers.</p>
Wireless Power Saving Mode (AC)	<p>Specifies the performance of wireless adapters.</p> <p>Possible performances include:</p> <ul style="list-style-type: none"> • Maximum Performance • Low Power Saving • Medium Power Saving • Maximum Power Saving <p>This setting is not supported on Windows XP client computers.</p>
Wireless Power Saving Mode (DC)	<p>Specifies the performance of wireless adapters.</p> <p>Possible performances include:</p> <ul style="list-style-type: none"> • Maximum Performance • Low Power Saving • Medium Power Saving • Maximum Power Saving <p>This setting is not supported on Windows XP client computers.</p>

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
PCI Link State Power Management (AC)	<p>Specifies the active state when the PCI link is idle.</p> <p>Possible states include:</p> <ul style="list-style-type: none"> • Off • Moderate power savings • Maximum power savings <p>This setting is not supported on Windows XP client computers.</p>
PCI Link State Power Management (DC)	<p>Specifies the active state when the PCI link is idle.</p> <p>Possible states include:</p> <ul style="list-style-type: none"> • Off • Moderate power savings • Maximum power savings <p>This setting is not supported on Windows XP client computers.</p>
Multimedia settings (AC)	<p>Specifies the action that the Windows operating system allows when media files can be played.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Allow the computer to sleep • Prevent idling to sleep • Allow the computer to enter away mode <p>This setting is not supported on Windows XP client computers.</p>
Multimedia settings (DC)	<p>Specifies the action that the Windows operating system allows when media files can be played.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Allow the computer to sleep • Prevent idling to sleep • Allow the computer to enter away mode <p>This setting is not supported on Windows XP client computers.</p>

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
Adaptive Display (AC)	<p>Manages how the Windows operating system controls the setting that specifies how long a computer must be inactive before the Windows operating system turns off the computer display.</p> <p>If this policy is enabled and users select On from the pull-down menu, the Windows operating system will automatically adjust the setting based on what users do with their keyboard or mouse to keep the computer display on.</p> <p>This setting is not supported on Windows XP client computers.</p>
Adaptive Display (DC)	<p>Manages how the Windows operating system controls the setting that specifies how long a computer must be inactive before the Windows operating system turns off the computer display.</p> <p>If this policy is enabled and users select On from the pull-down menu, the Windows operating system will automatically adjust the setting based on what users do with their keyboard or mouse to keep the computer display on.</p> <p>This setting is not supported on Windows XP client computers.</p>
Search and indexing (AC)	<p>Specifies the search speed and performance of indexing.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Power Saver • Balanced • High Performance <p>This setting is not supported on Windows XP client computers.</p>
Search and indexing (DC)	<p>Specifies the search speed and performance of indexing.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Power Saver • Balanced • High Performance <p>This setting is not supported on Windows XP client computers.</p>
USB selective suspend (AC)	<p>Specifies whether or not the computer can suspend an individual port.</p> <p>If you enable this policy setting and select Enabled, the computer can suspend an individual port.</p> <p>This setting is not supported on Windows XP client computers.</p>

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
USB selective suspend (DC)	<p>Specifies whether or not the computer can suspend an individual port.</p> <p>If you enable this policy setting and select Enabled, the computer can suspend an individual port.</p> <p>This setting is not supported on Windows XP client computers.</p>
Power button (AC)	<p>Specifies the action that the Windows operating system takes when a user presses the power button on the computer.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Do nothing • Sleep • Hibernate • Shut down <p>This setting is not supported on Windows XP client computers.</p>
Power button (DC)	<p>Specifies the action that the Windows operating system takes when a user presses the power button on the computer.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Do nothing • Sleep • Hibernate • Shut down <p>This setting is not supported on Windows XP client computers.</p>
Start menu power button (AC)	<p>Specifies the action that the Windows operating system takes when a user selects the power button from the Start menu.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Sleep • Hibernate • Shut down <p>This setting is only supported on Windows Vista client computers.</p>
Start menu power button (DC)	<p>Specifies the action that the Windows operating system takes when a user selects the power button from the Start menu.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Sleep • Hibernate

Table 2. Power Plan (Scheme) Deployments (continued)

Policy settings	Description
	<ul style="list-style-type: none"> Shut down <p>This setting is only supported on Windows Vista client computers.</p>

Global Power Setting

Global Power Setting policies enable you to configure global power settings.

To configure Global Power Setting policies, do the following:

- For Windows XP client computers Under **Computer Configuration**, click **Administrative Templates** → **Lenovo ThinkVantage Components** → **Power Manager** → **Global Power Setting**.
- For Windows Vista and Windows 7 client computers Under **Computer Configuration**, click **Classic Administrative Templates** → **Administrative Templates** → **Lenovo ThinkVantage Components** → **Desktop Power Manager for Vista and Windows7** → **Global Power Setting**.

This table provides detailed information about each policy.

Table 3. Global Power Setting

Policy settings	Description
Require password on standby resume	<p>Specifies whether or not the user is prompted for a password when the system resumes from sleep.</p> <p>If you enable this policy setting, the user is prompted for a password when the system resumes from sleep.</p> <p>This setting is supported only for the administrator account. For Windows Vista and Windows 7 operating systems, this setting takes effect only when the User Account Control (UAC) feature is disabled.</p>
Enable Hibernation	<p>Specifies whether to enable the computer to enter hibernation mode.</p> <p>This setting is only supported on Windows XP client computers.</p>
Always On USB	<p>Specifies whether USB power is supplied when a computer is in standby mode, in hibernation mode, or turned off.</p>
Apply Video playback power plan automatically	<p>Specifies whether to automatically change the power plan when WinDVD is playing Blu-ray. If you enable this policy setting, power plans will be changed to Video Playback when WinDVD is playing Blu-ray.</p>

Table 3. Global Power Setting (continued)

Policy settings	Description
Dynamic Brightness Control	<p>Specifies whether to automatically decrease the brightness of the computer display when the computer is in the following situations:</p> <ul style="list-style-type: none"> • When you turn on or shut down the computer. • When you log off the system. • When you switch users. • When you lock the screen. • When the screen saver is running. <p>If this policy is enabled, the brightness of the computer display will automatically decrease when in the situation that you selected.</p> <p>If this policy is disabled or not configured, users can see and change this setting.</p>
Dynamic Power Management Control	<p>Specifies whether to automatically shorten the time that the Windows operating system turns off the hard disk drive and computer display when the computer is in the following situations:</p> <ul style="list-style-type: none"> • When you lock the screen. • When the screen saver is running. <p>If this policy is enabled, the HDD off Timer and Monitor off Timer values will automatically decrease when the computer is in the situation that you selected.</p> <p>If this policy is disabled or not configured, users can see and change this setting.</p> <p>Note: To deploy Dynamic Power Management Control settings to non-administrator user on Windows XP system, refer to Appendix A “Configurations for deploying Dynamic Power Management settings to Windows XP client computers” on page 29.</p>
CD-ROM speed	<p>Specifies the speed of the CD-ROM drive.</p> <p>Possible speeds include:</p> <ul style="list-style-type: none"> • High performance • Normal • Silent

Table 3. Global Power Setting (continued)

Policy settings	Description
Power Management CPU	<p>Specifies the action that the Windows operating system takes when there is no system activity for a specified interval.</p> <p>If you select Automatic, then when there is no system activity for a specified interval, the power saving function will be enabled and the microprocessor clock will be automatically stopped. If you select Disabled, the battery life will be shorter.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Automatic • Disabled
Power Management PCI bus	<p>Specifies the action that the Windows operating system takes when there is no system activity for a specified interval. If you select Automatic, the PCI bus will be stopped if there is no activity. If you select Disabled, the battery life will be shorter.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Automatic • Disabled
Power button	<p>Specifies the action that the Windows operating system takes when a user presses the power button on the computer.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Do nothing • Sleep • Hibernate • Shut down
Start menu power button	<p>Specifies the action that the Windows operating system takes when a user selects the power button from the Start menu.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Sleep • Hibernate • Shut down <p>This setting is only supported on Windows Vista client computers.</p>

Power Agenda

This section provides you with the information about configuring the Power Agenda deployment settings and customizing the ADM file.

Power Agenda policy settings

Power Agenda policies enable you to configure Power Agenda deployment settings.

To configure Power Agenda policies, do the following:

- For Windows XP client computers Under **User Configuration**, click **Administrative Templates → Lenovo ThinkVantage Components → Power Manager → Power Agenda Deployments**.
- For Windows Vista and Windows 7 client computers Under **User Configuration**, click **Classic Administrative Templates → Administrative Templates → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 → Power Agenda Deployments**.

The following table provides detailed information about each policy.

Table 4. Power Agenda Deployments

Policy settings	Description
New	<p>Specifies whether to allow users to create a new power agenda on the Power Agendas tab on client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you disable this policy setting, the New button is unavailable and users cannot create new power agendas.</p>
Edit	<p>Specifies whether to allow users to edit a power agenda on the Power Agendas tab on client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you disable this policy setting, the Edit button is unavailable and users cannot edit the selected power agendas.</p> <p>Note: To allow users of client computers to edit a power agenda, you should also enable the Configurable policy setting for this power agenda. See the Configurable policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p>

Table 4. Power Agenda Deployments (continued)

Policy settings	Description
Delete	<p>Specifies whether to allow users to delete a power agenda on the Power Agendas tab on client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>Note: To allow users of client computers to edit a power agenda, you should also enable the Configurable policy setting for this power agenda. See the Configurable policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p> <p>If you disable this policy setting, the Delete button is unavailable and users cannot delete the selected power agendas.</p>
PolicyStamp	<p>Specifies the policy stamp to indicate whether there is an updated deployment that needs to be deployed to client computers and overwrites the previous one.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting and the updated deployment is different from the previous one, the updated deployment will be deployed to client computers and overwrite the previous one.</p> <p>Note: You need to input a policy stamp for the deployment each time, and use a policy stamp different from the previous deployment. For example, you can input the current date and time as a policy stamp.</p> <p>If you disable or do not configure this policy setting, the updated deployment will not be deployed to client computers and will not overwrite the previous one.</p>

Table 4. Power Agenda Deployments (continued)

Policy settings	Description
Exceptions	<p>Specifies whether to allow users to define exceptions to power agendas on client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting or do not configure it, the Exceptions button will be available, and users can define exceptions to power agendas on client computers.</p> <p>If you disable this policy setting, the Exceptions button will not be available, and users cannot define exceptions to power agendas on client computers. Any previously defined or deployed power agenda exception will be ignored.</p>
ExceptionsList	<p>Specifies the applications as exceptions to power agendas on client computers. When the specified applications are running, power agendas like Shut down, Change sleep timer, or Change hibernate timer will not take effect.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting, you can add power agenda exceptions to the power agenda exception lists on client computers. Type only one application name in each text box.</p> <p>If you disable this policy setting or do not configure it, no power agenda exception can be deployed, and any previously deployed power agenda exception will be ignored.</p>

Notes: You can deploy power agenda exceptions by Active Directory. If you need to add more than 10 power agenda exceptions, you can manually modify the Administrative Template file named PWMGPO.ADM by doing the following:

1. Open the PWMGPO.ADM file using a text editor, such as Notepad.
2. Create a power agenda exception block in the ADM file by doing the following:
 - a. Search for CException1_PART="1:" and copy the entire block of CException1_PART="1:".
 - b. Paste it to the end of the CException10_PART="10:" block.
 - c. In the added block, rename CException1_PART="1:" as CException11_PART="11:", and CException1_VALUENAME="1" as CException11_VALUENAME="11".
 - d. Search for PART !!CException1_PART EDITTEXT and copy the entire block of PART !!CException1_PART EDITTEXT.
 - e. Paste it to the end of the PART !!CException10_PART EDITTEXT block.

- f. In the added block, rename PART !!CEXception1_PART EDITTEXT as PART !!CEXception11_PART EDITTEXT, and CEXception1_VALUENAME as CEXception11_VALUENAME.
3. (Optional) Referring to the example in step 2, create more power agenda exception blocks in an ordered sequence until you get the number of power agenda exceptions you need.
4. Save the PWMGPO.ADM file.
5. Add the PWMGPO.ADM file to Administrative Templates by doing the following:
 - a. On the computer running Active Directory, click **Start** → **Run**, and type gpedit.msc. The Group Policy Editor window opens.
 - b. Under **Computer Configuration**, right-click **Administrative Templates** and then select **Add/Remove Templates**. The Add/Remove Templates window opens.
 - c. Click **Add**, and then select the PWMGPO.ADM file.

Note: If the PWMGPO.ADM file has already existed in Administrative Templates, you can either delete it or replace it with the updated PWMGPO.ADM file.

 - d. Click **Close** to save your configuration and close the window.

To deploy a specific power agenda on client computers, you can configure the power agenda settings described in the following table. Each time you deploy a power agenda, you can specify a maximum of 10 power agendas by default.

Table 5. User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1

Policy settings	Description
Run	<p>Specifies whether to run this power agenda.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable or do not configure this policy setting, the check box for this power agenda on the Power Agendas tab is selected, and this power agenda will run on client computers.</p> <p>If you disable this policy setting, the check box for this power agenda is cleared, and this power agenda will not run on client computers.</p>
Configurable	<p>Specifies whether users can edit or delete this power agenda on client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting, users can edit or delete the selected power agendas on client computers.</p> <p>Note: To allow users of client computers to edit or delete a power agenda, you should also enable the Edit or Delete policy setting for this power agenda. See the Edit</p>

Table 5. User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1 (continued)

Policy settings	Description
	<p>and Delete policy settings in Table 4 “Power Agenda Deployments” on page 20.</p> <p>If you disable or do not configure this policy setting, users are not able to edit or delete the selected power agendas on client computers.</p>
Name	<p>Specifies the name of the power agenda to deploy to client computers.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting, you can input a specific name or leave it blank for this power agenda.</p> <p>Note: The limit of the name is 32 single-byte characters. If the name is double-byte, the limit is 16 characters.</p> <p>If you disable or do not configure this policy setting, the name of this power agenda displayed on client computers will be the same as the description of Action below.</p>
Action	<p>Specifies the actions that this power agenda will run.</p> <p>The possible actions include:</p> <ul style="list-style-type: none"> • Change sleep timer • Change hibernate timer • Shut down • Switch to a power plan • Set monitor brightness <p>Note: This policy setting is mandatory. If you enable this policy setting, you should choose one action.</p> <p>If you disable or do not configure this policy setting, users cannot use this power agenda on client computers.</p>
Smart Shut Down	<p>Specify whether to turn the computer into hibernation mode if the shutdown process is blocked by some applications.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>Note: If not configured, the default setting is enabled.</p>

Table 5. User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1 (continued)

Policy settings	Description
Power Plan	<p>Specifies the name of the power plan that the power agenda will switch to.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you set the Action policy setting to Switch to a power plan, you should enable this policy setting and input a power plan name. See the Action policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p> <p>If the power plan name does not exist on client computers, the power agenda will not switch to this power plan.</p> <p>Note: The limit of the power plan name is 32 single-byte characters. If the power plan name is double-byte, the limit is 16 characters.</p> <p>If you disable or do not configure this policy setting, but set the Action policy setting to Switch to a power plan, users cannot use this power agenda on client computers. See the Action policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p>
Monitor Brightness	<p>Specifies the brightness level (from 0 to 100) for the client computer displays.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you set the Action policy setting to Set monitor brightness, you should enable this policy setting and input a brightness level. See the Action policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p> <p>If you disable or do not configure this policy setting, but set the Action policy setting to Set monitor brightness, users cannot use this power agenda on client computers. See the Action policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for</p>

Table 5. User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1 (continued)

Policy settings	Description
	<p>Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p> <p>Note: The range of the brightness level is from 0 to 100. If the brightness level is higher, the computer display gets brighter. This policy setting does not support monitors with a brightness level greater than 100.</p>
Frequency	<p>Specifies the frequency that the power agenda runs at.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>The frequencies include:</p> <ul style="list-style-type: none"> • Daily • Weekly <p>If you disable or do not configure this policy setting, users cannot use this power agenda on client computers.</p> <p>Note: This policy setting is mandatory. If you enable this policy setting, you should choose one frequency.</p>
Start Time	<p>Specifies the time when a power agenda takes effect.</p>
End Time	<p>Specifies the time when a power agenda exits.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting, it works only in the following two situations:</p> <ul style="list-style-type: none"> • Users select power agendas like Set Monitor Brightness or Switch to a Power Plan on client computers. • Users select power agendas like Change sleep timer or Change hibernate timer, and do not set the idle timer as Immediately (0) on client computers.

Table 5. User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1 (continued)

Policy settings	Description
Idle Timer	<p>Specifies the period of inactivity before power agendas like Change sleep timer and Change hibernate timer take effect.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>The value will be ignored if users select other power agendas on client computers .</p>
Days of week	<p>Specifies the days of week that the power agenda runs weekly.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you disable or do not configure this policy setting, but set the Frequency policy setting to Weekly, users cannot use this power agenda on client computers. See the Frequency policy setting in Table 5 “User Configuration → Administrative Template → Lenovo ThinkVantage Components → Desktop Power Manager for Vista and Windows7 (Power Manager) → Power Agenda Deployments → Power Agenda1” on page 23.</p> <p>Note: If you enable this policy setting, you should choose the days of a week.</p>
Notify	<p>Specifies whether or not to notify users before the power agenda runs.</p> <p>Possible values include:</p> <ul style="list-style-type: none"> • Not configured • Enabled • Disabled <p>If you enable this policy setting, you can select the notification time before the power agenda runs on client computers. The range of the notification time is from 1 to 60 minutes.</p> <p>Note: If you enable this policy setting, but clear the notification check box, users will not be notified before the power agenda runs on client computers.</p> <p>If you disable or do not configure this policy setting, users will not be notified before the power agenda runs on client computers.</p>

Customizing the ADM file

To deploy more than 10 power agendas to client computers at one time, you can manually modify the ADM file "DPWMGPO.ADM" for Windows XP operating systems or "DPMVGPO.ADM" for Windows Vista and Windows 7 operating systems by doing the following:

1. Open the DPWMGPO.ADM or DPMVGPO.ADM file by using a text editor, such as Notepad.
2. Create a power agenda block in the ADM file by doing the following:
 - a. Search for Power Agenda1 and copy the entire block of Power Agenda1.
 - b. Paste it to the end of the Power Agenda10 block.
 - c. Rename the added Power Agenda1 as Power Agenda11.
3. (Optional) Referring to the example in step 2, create more power agenda blocks until you get the number of agendas to your needs.

Note: Make sure that the created power agenda blocks are correctly located and named in an ordered sequence. That is, create Power Agenda12 after Power Agenda11, and so on.

4. Add the following lines to the Strings block by doing the following:
 - a. Search for Strings.
 - b. In the Strings block, do the following:
 - For Windows XP operating systems
 - 1) Under
CPowerAgenda10 ="Power Agenda10"
add
CPowerAgenda11 ="Power Agenda11"
CPowerAgenda12 ="Power Agenda12"
.....
 - 2) Under
KeyPath_PowerAgenda10 ="Software\Policies\Lenovo\DPWRMGR\PowerAgenda\PowerAgenda10"
add
KeyPath_PowerAgenda11 ="Software\Policies\Lenovo\DPWRMGR\PowerAgenda\PowerAgenda11"
KeyPath_PowerAgenda12 ="Software\Policies\Lenovo\DPWRMGR\PowerAgenda\PowerAgenda12"
.....
 - For Windows Vista and Windows 7 operating systems
 - 1) Under
CPowerAgenda10 ="Power Agenda10"
add
CPowerAgenda11 ="Power Agenda11"
CPowerAgenda12 ="Power Agenda12"
.....
 - 2) Under
KeyPath_PowerAgenda10 ="Software\Policies\Lenovo\DPWRMGRV\PowerAgenda\PowerAgenda10"
add
KeyPath_PowerAgenda11 ="Software\Policies\Lenovo\DPWRMGRV\PowerAgenda\PowerAgenda11"
KeyPath_PowerAgenda12 ="Software\Policies\Lenovo\DPWRMGRV\PowerAgenda\PowerAgenda12"
.....
5. Save the DPWMGPO.ADM or DPMVGPO.ADM file.
6. Add the updated DPWMGPO.ADM or DPMVGPO.ADM file to the Group Policy Editor. See "Adding Administrative Templates" on page 5 for reference.

Appendix A. Configurations for deploying Dynamic Power Management settings to Windows XP client computers

Non-administrator groups or users on Windows XP client computers have no permission to change the power settings. By design, this is a feature of the Windows XP operating system. To deploy Power Manager Dynamic Power Management Control settings successfully to Windows XP client computers for non-administrator groups or users, the IT administrator needs to configure the domain server by doing the following:

1. On a domain server, click **Start → Run**, and type `dsa.msc` in the **Open** box. The Active Directory Users and Computers window opens.
2. Right-click on a domain container and select **Properties**. The Properties window opens.
3. Click the **Group Policy** tab, and click the **New** button to create a new group policy object.
4. Rename the group policy object with `Power Configuration Policy` and press **Enter**.
5. Click **Edit**. The Group Policy Editor opens.
6. Set the security permission for the following key:
`MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Controls Folder\PowerCfg`
by doing the following:
 - a. Under **Computer Configuration**, click **Windows Settings → Security Settings**, right-click **Registry**, and select **Add Key**. The Select Registry Key window opens.
 - b. Type the following key in the **Selected key** box:
`MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Controls Folder\PowerCfg`
 - c. Click **OK**. The Database Security window opens.
 - d. On the **Security** tab, select the non-administrator group(s) or user(s) you want to give permission to, assign **Full Control** permission to the group(s) or user(s), and click **Apply**.
 - e. Click **Advanced**. The advanced window opens.
 - f. On the **Permissions** tab, select the group(s) or user(s). Then, select **Allow inheritable permissions from the parent to propagate to this object and all child objects. Include these with entries explicitly defined here**, and click **OK**. The Add Object window opens.
 - g. Select the **Propagate inheritable permissions to all subkeys** option, and click **OK**.
7. Set the security permission for the following key:
`USERS\DEFAULT\Control Panel\PowerCfg`
by doing the following:
 - a. Under **Computer Configuration**, click **Windows Settings → Security Settings**, right-click **Registry**, and select **Add Key**. The Select Registry Key window opens.
 - b. Type the following key in the **Selected key** box:
`USERS\DEFAULT\Control Panel\PowerCfg`
 - c. Click **OK**. The Database Security window opens.
 - d. On the **Security** tab, select the non-administrator group(s) or user(s) you want to give permission to, assign **Full Control** permission to the group(s) or user(s), and click **Apply**.
 - e. Click **Advanced**. The advanced window opens.
 - f. On the **Permissions** tab, select the group(s) or user(s). Then, select **Allow inheritable permissions from the parent to propagate to this object and all child objects. Include these with entries explicitly defined here**, and click **OK**. The Add Object window opens.
 - g. Select the **Propagate inheritable permissions to all subkeys** option, and click **OK**.

8. Check there are two group policy objects generated in the Active Directory Users and Computers window:

- MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Controls Folder\PowerCfg
- USERS\DEFAULT\Control Panel\PowerCfg

Notes:

1. Non-administrator groups or users on Windows XP client computers must have the write permission for the following registry subkeys:

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Controls Folder\PowerCfg
- HKEY_USERS\DEFAULT\Control Panel\PowerCfg

2. For further information on how to use the powercfg.exe utility for power schemes on the Windows XP operating system, refer to the following Web site:

<http://support.microsoft.com/default.aspx/kb/915160>

After completing the configuration, the non-administrator group or user in the Windows XP client computers can have the permission to apply the deployed Dynamic Power Management Control settings.

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