

Dell Precision Optimizer Owner's Manual



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Notes



NOTE: A NOTE indicates important information that helps you make better use of your computer.

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Dell Precision Optimizer

Dell Precision Optimizer contains a powerful engine that allows you to dynamically configure your system settings to optimize the performance of your system. It also keeps you informed of any available software updates and applies them when configured to do so. Further, it contains a tracking subsystem that can gather extensive data about your system and help identify potential problems.

Dell Precision Optimizer consists of the following components:

- Profiles and Policies
- System Maintenance
- Track and Analyze

Each of the components is available as a separate tab on the application's home page. This page is displayed when you launch the application by double-clicking the following icon on the desktop.



On Windows 7, the application may also be launched from **Start > Program Files > Dell Inc > Dell Precision Optimizer**. This window depicts the current and past recorded [Resource Utilization](#) values of your system. This window displays the active and inactive [Profiles](#) and the available system [updates](#).

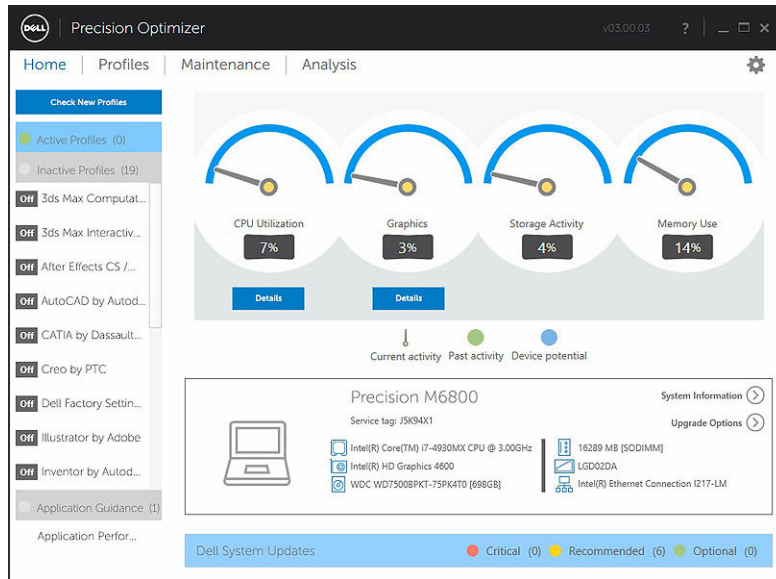


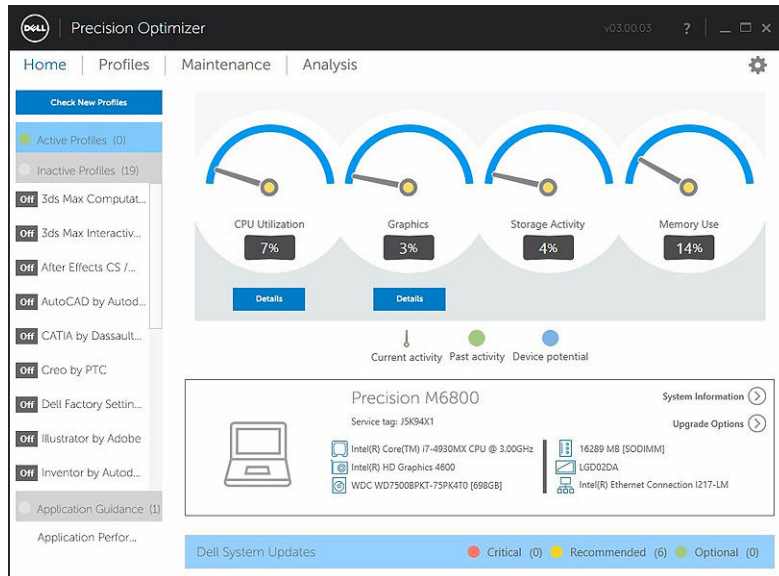
Table 1. Icons on the upper right corner of all windows

Option	Function
	Minimizes the application.
	Closes the application.

Table 2. Icons on the menu bar on all screens

Option	Function
	Brings up this help document.
	Brings up a drop down menu with two options: About and a Feedback Form.

Resource Utilization



The home page shown above displays the utilizations of the following resources:

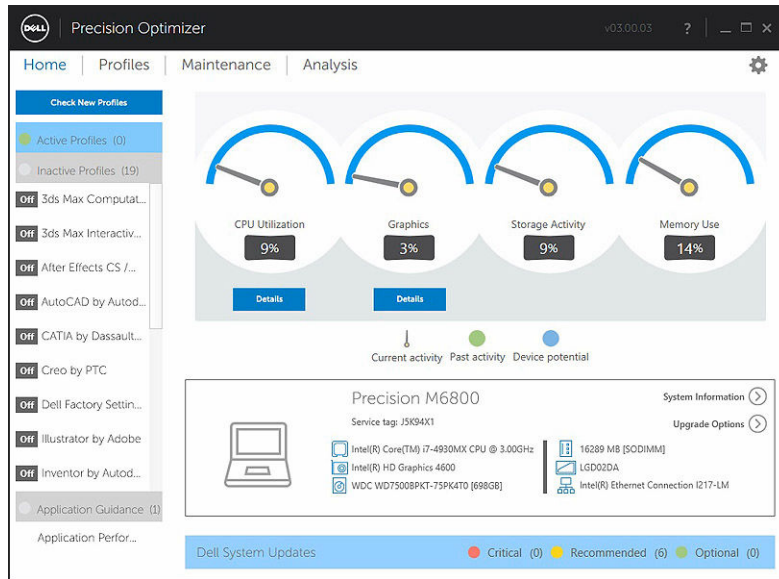
- CPU
- Graphics
- Storage
- Memory

The needle of the speedometers shows the current utilization of CPU, Graphics, Memory and Storage. This data is refreshed every 2 seconds. If [Dell System Analysis](#) is enabled on the system, you may also see a green portion in the speedometer arc. The green portion (if present) represents the previous utilization average read from the last Dell Smart Tracking report. E.g. if the Average Memory Utilization (previously recorded) was 38%, then the green bar will go from 0-38% in the first speedometer dial.



Profiles

The left side of the home page displays the currently active and inactive profiles for select applications. A **profile** is a collection of system settings that are grouped together to optimize the Dell Precision workstation's performance for your application. You can activate or de-activate a profile (see below). Multiple profiles may be active at the same time. Even after you exit the Dell Precision Optimizer UI the selected profile(s) remain active.



Dell Precision Optimizer has several application specific profiles to help improve the user experience. These profiles are disabled by default. You may have to enable the profile for your given application (if available in Dell Precision Optimizer) to see its benefits.

New application profiles will be made available via Optimizer system updates available in the System Maintenance module or "Check New Profiles".

Check New Profiles

When this button is clicked, the application checks if there are any new profiles that are available on the server. New profiles are downloaded, obsolete profiles may be deleted and some profiles may get updated from the server. This feature functions when the machine is connected to the internet.

Active Profiles

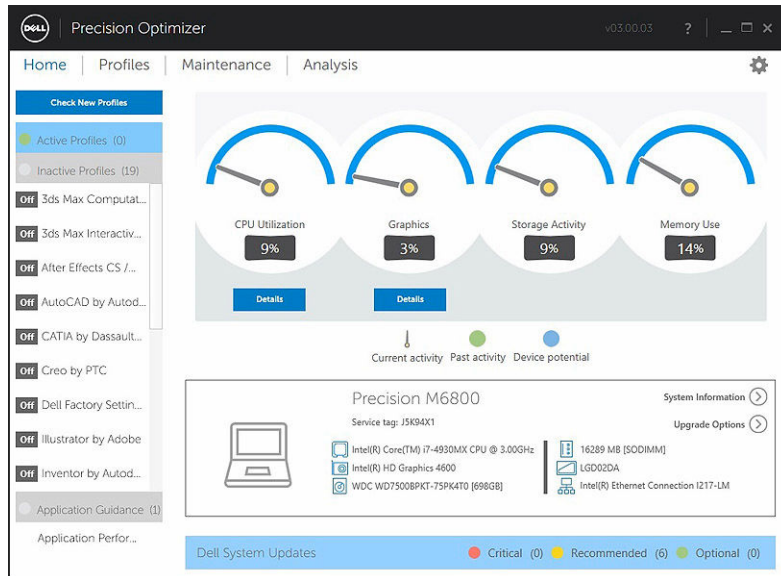
This section lists the profiles that are currently active on your system. A profile is considered active if it is enabled and its policies are started every time the system starts. The user can click on any of these profiles to navigate to the [Profiles and Policies](#) page and see the details of the selected profile. Users will also be able to disable an active profile or enable an inactive profile.

Inactive Profiles

A profile that is not active is called an inactive profile. These profiles are disabled by the user.

NOTE: The software may come with special profiles that can be activated when no other profile is active. Once activated, such profiles will automatically be deactivated by the software once they have executed. "Dell Factory Settings" profile is such a profile that can be used to restore certain system parameters (that may be changed by Dell Precision Optimizer) back to their factory defaults.

System Updates

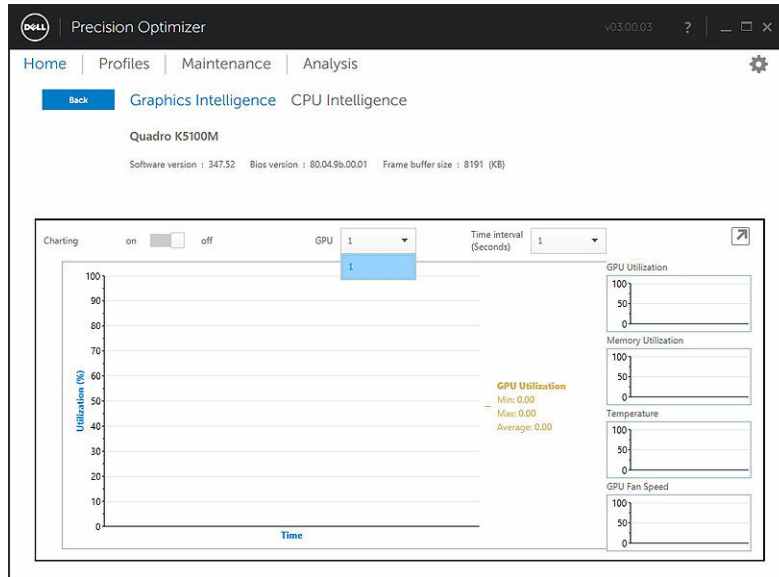


The bottom left side of the home page displays the number of software updates available. Dell System Updates are specific to Dell Precision Optimizer and your system's hardware and software configuration. Windows Updates are available within your operating system. The updates are grouped into three categories:

- *Critical*
- *Recommended*
- *Optional*

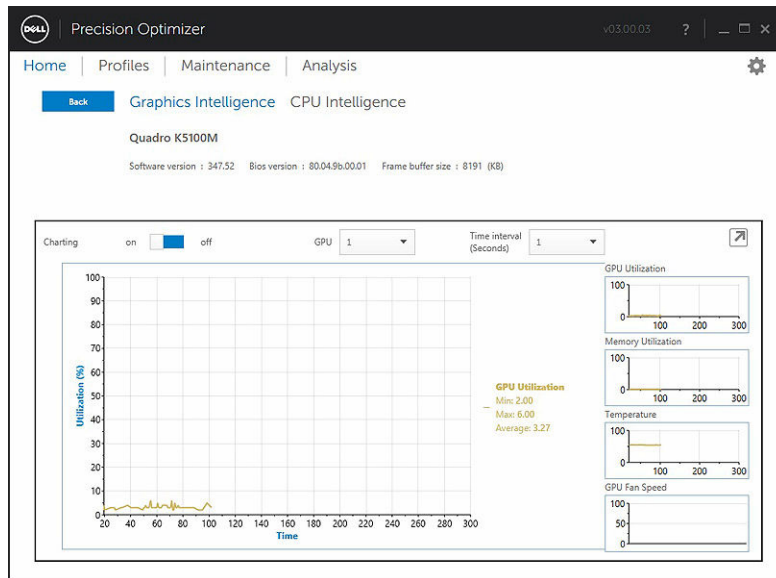
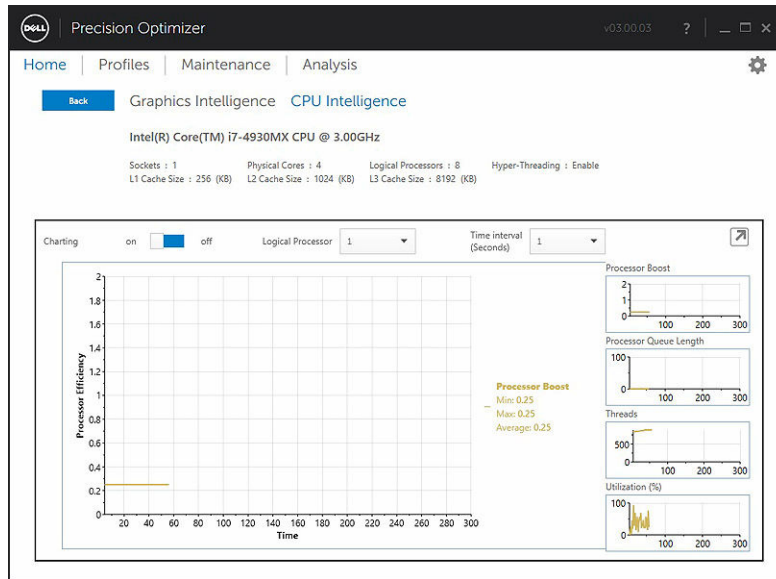
CPU & Graphics Intelligence

This page allows you to view the current processor and graphics sub-system utilizations. You can view the detail of your Processor and Graphics configurations.



To enable the collection and display of various processor or graphics data elements, please toggle the Charting button from Off to On.

Once charting is enabled for CPU data, the UI will start CPU data collection and display it for all logical processors in the system. Similarly, when you enable Charting for Graphics sub-system, the UI will start collection and display data for all GPUs found in the system.



NOTE: The Graphics data collection is supported for Nvidia and ATI graphics adapters which are running the latest drivers. Furthermore, if you have Switchable Graphics enabled in the system BIOS, then running a graphics application may not actually run your task on Nvidia/ATI controller. Therefore, you may not see any change in your GPU utilizations.

NOTE: The Graphics data only displays the name & driver information for the first active graphics adapter found in the system. If you have more than one graphics adapter (but different models), only the name/driver/version of the first one is displayed. However, the performance data (utilization, temperature etc.) for all active adapters is shown by the UI.

Detach

When this button is clicked, the widget that display the charts is undocked from the main UI and hides the main UI. This allows you to monitor the usage of your system while you run your task or workload. You can also resize the widget when it is undocked or move it around using the mouse left-click on the



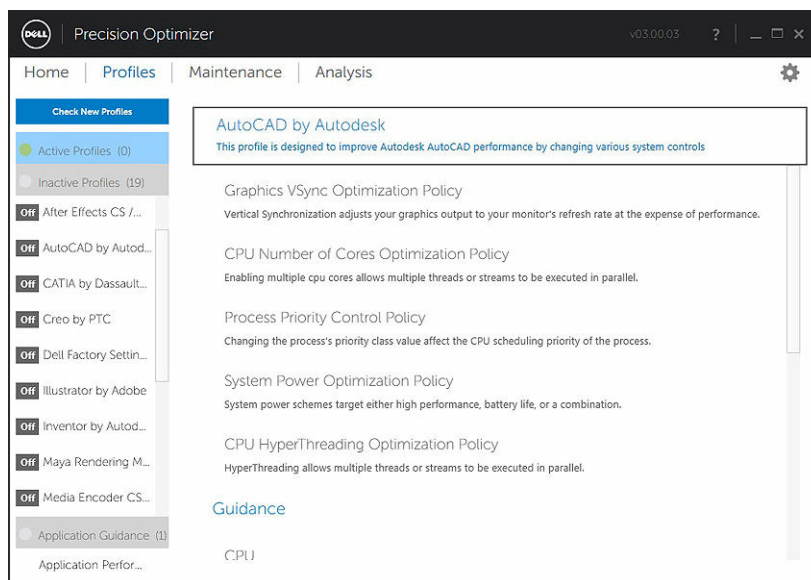
header bar.

Attach

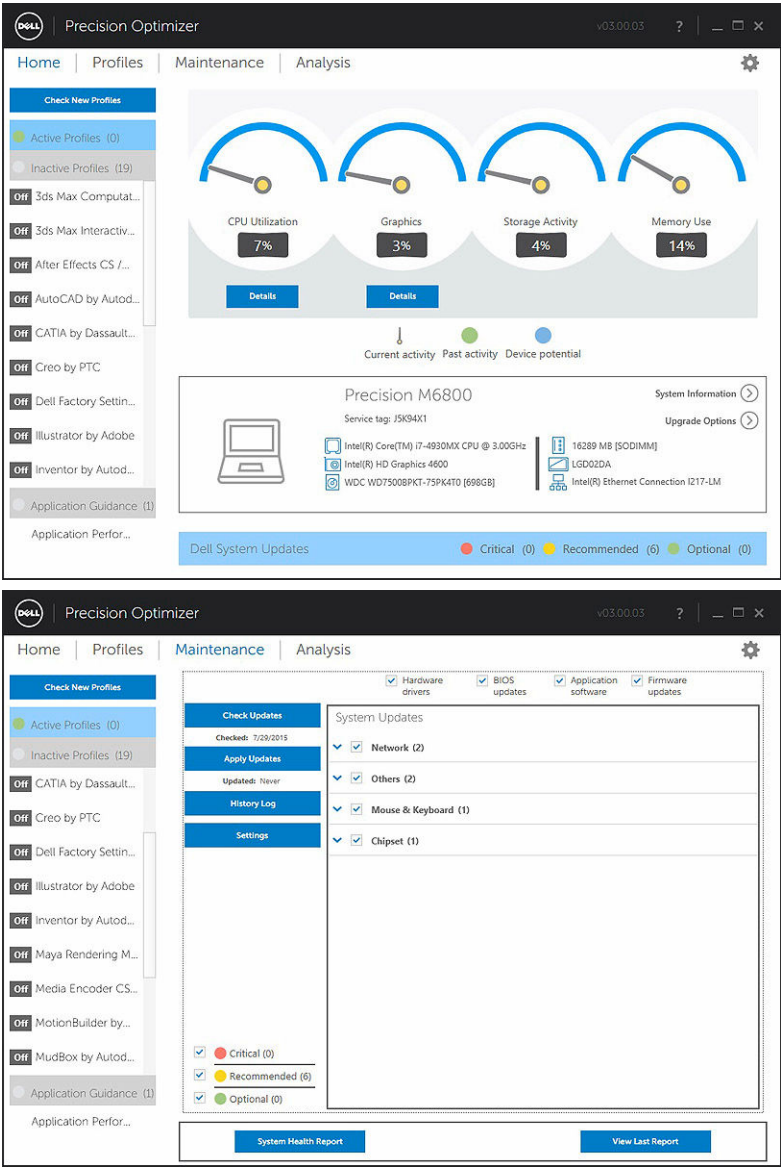
When this button is clicked, the widget is docked back to the main UI and also displays the main UI.

Profiles and Policies

This lists all the policies in a selected profile. The name of the selected profile appears in the blue bar on the screen. The names and descriptions of policies appear below the blue bar.



Maintenance



System Information

This page shows a summary of your system configuration. It also lists the available software updates for your system. The top banner displays the Dell Precision system make and model along with the Dell Service Tag. The following option appears on this banner:

Table 3. Option for System Information

Option	Function
	This icon will launch standard Windows utility that displays the detailed System Information

Dell System Updates are specific to Dell Precision Optimizer and your system's hardware and software configuration. Windows Updates are available within your operating system and not available through this module.

Update Filters

All software updates are categorized based on three criteria:

- **Criticality** (Critical/Recommended/Optional)
- **Type** (Hardware Drivers/BIOS Updates/Application Software/Firmware Updates)
- **Device Category** (Audio/Mouse and Keyboard/Storage/Chipset/Network and Bluetooth/Video/All others)

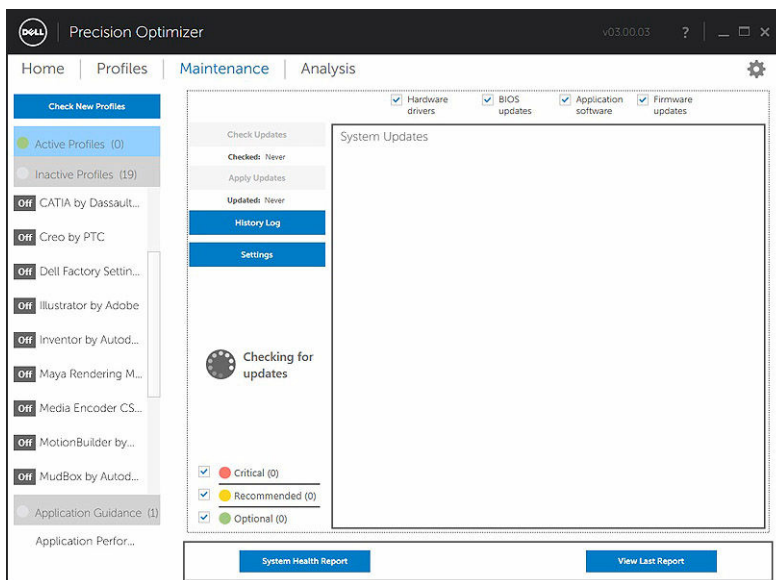
This page contains three sets of check boxes – one set for each of the above – allowing you to select/deselect updates based on their Criticality, Type and Device Category. Selected updates have a check mark before their names. It is not possible to select or deselect individual updates by name.

This page contains the following buttons:

Table 4. List of buttons and functions

Option	Function
Check Updates	Click this button to check for available updates. This operation may take a few minutes to complete. Once the operation completes, the list of all available updates is displayed in the right pane and all updates are selected by default. Individual updates are listed under their respective Device Categories and the appropriate criticality icon is also displayed before the name of the update.

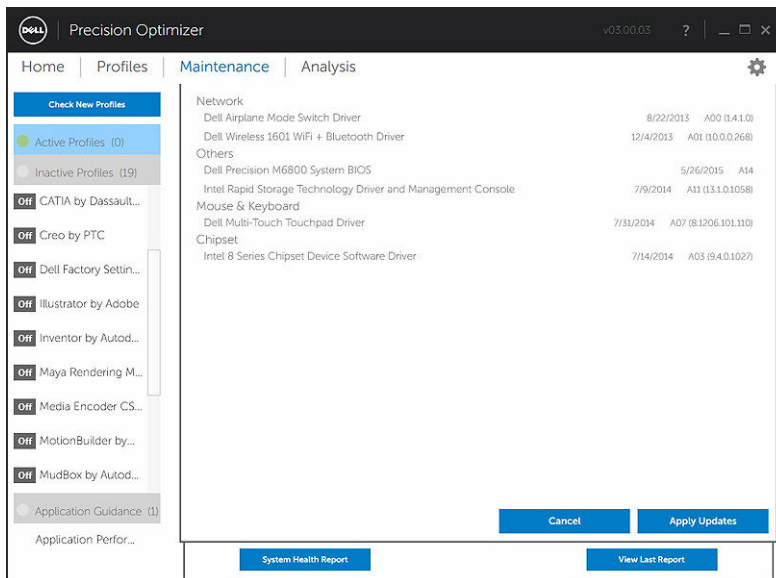
Option	Function
--------	----------



The date/time when the last check for updates was performed (either manually by the user or by Dell Precision Optimizer automatic updates) is displayed under this button.

Apply Updates

Clicking this button takes you to a confirmation page to Apply the Updates.



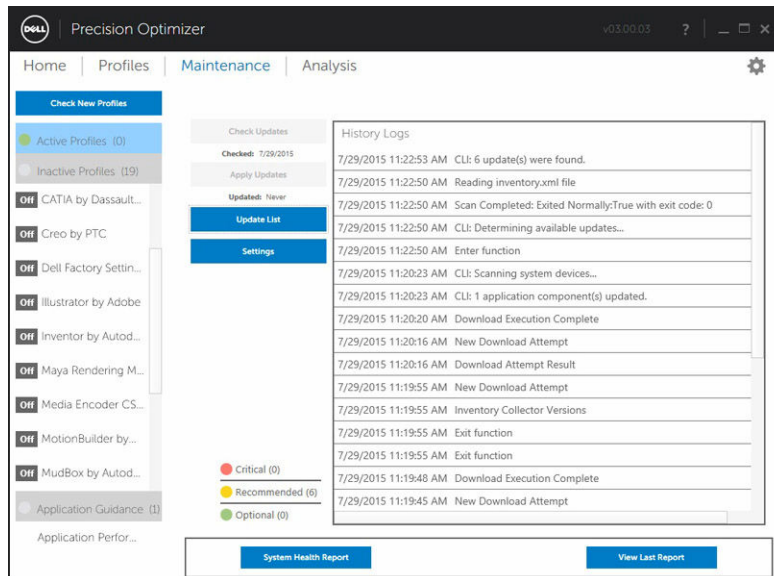
History Log

Click this button to display the logs containing detailed information of previous [Update History](#).

Settings

Click this button to [schedule automatic updates](#) and select options and filters that must be applied.

After viewing the history logs, you may click the **Update List** button to go back to the previous page listing all the updates.



The list of available updates displays detailed information including the Version and Release Date information:

- Check/Uncheck TYPE (Hardware Drivers, BIOS Updates, Application software, Firmware Updates) check boxes to select or de-select the corresponding updates from the selection.
- Check/Uncheck criticality (Critical/Recommended/Optional) check boxes to select or de-select the corresponding updates from the selection.
- Click on **Apply Update** button to install the current selection of updates.

The software can check the Dell server to retrieve the list of updates available for your specific system and/or download and install certain updates upon your request.

The updates can be configured so that they are done either manually or periodically. The updates are classified as Critical, Recommended or Optional.

All updates belong to one of the following four types:

- Hardware Drivers
- BIOS Updates
- Application Software
- Firmware Updates

In addition the following seven categories exist for updates:

- Audio
- Chipset
- Mouse and Keyboard
- Network and Bluetooth
- Storage

- Video
- All others

If the software is configured to CHECK or INSTALL UPDATE periodically, then the above filters is used to determine which updates is displayed to the user or which will be downloaded and installed on the system.

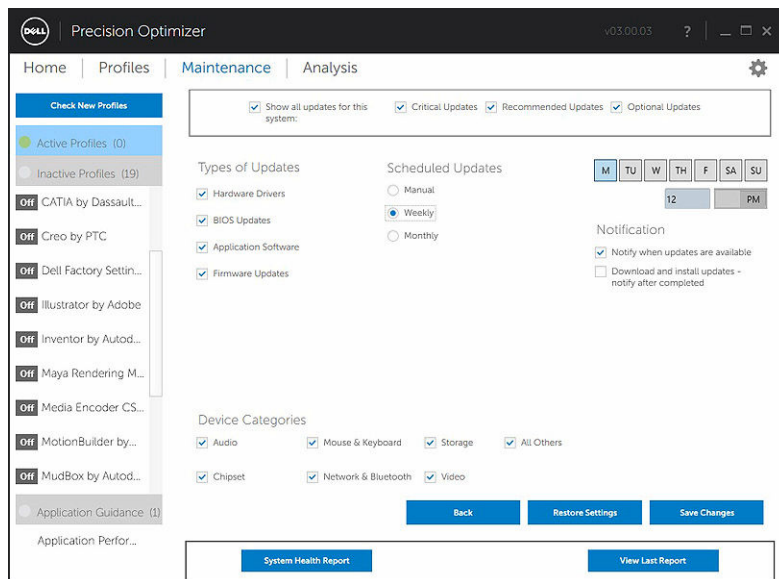
If the user selects only Critical Updates, all 4 types and 7 categories, then if the Dell Server has one Recommended BIOS Update or one Optional Video Driver update for your system, then these two updates will not be displayed or installed.

Notifications

The application may give notifications to the user using pop-up dialog boxes to inform the user if some problem occurred during a check for updates or if a system reboot is required for installed update to work.

- If you click "Yes" the system will start the reboot process. Please make sure that you close all other applications and save your data before proceeding.
- If you click "No" the installed update will not be complete.

Maintenance Settings



Scheduled Updates

This set of check boxes can be used to select manual updates or schedule automatic weekly or monthly updates.

Table 5. Type of Updates

Type	Description
Manual	Select if you do not want the application to perform any update operation periodically in the background. You must use Check Updates button to look for available updates and then use Apply Updates to install these updates from the System Maintenance page.
Weekly	Select option to allow the application to perform weekly update operations based on other filters selected on this page. Select day of the week (M, TU, W, TH, F, SA, SU) and then select the time of the day (AM/PM) when the operation will be scheduled
Monthly	Select this option to allow the application to perform monthly update operations based on other filters selected on this page. Select day of the month (1-28) and then select the time of the day (AM/PM) when the operation will be scheduled

Notification

This set of check boxes identifies the action that is performed in the automatic mode (that is, when the **Scheduled Updates** is set to either weekly or monthly).

Table 6. Check-Box options

Option	Description
Notify when updates are available	The application notifies the user if any updates (based on the filter selection) are found to be available. Updates is not downloaded to the local system, nor are they automatically installed.
Download and install updates	The application downloads and installs any available updates (based on the filter selection) before notifying the user.

Update Filters

This page also contains three sets of check boxes allowing you to filter scheduled updates based on their Criticality, Type and Device Category. The checkboxes on this page are applicable to scheduled updates only.

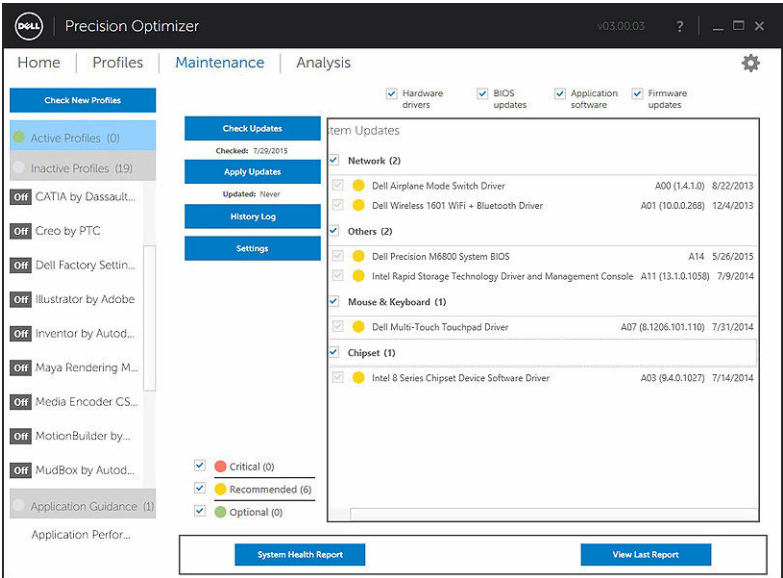
- **Criticality** (Critical/Recommended/Optional)
- **Type** (Hardware Drivers/BIOS Updates/Application Software/Firmware Updates)
- **Device Category** (Audio/Mouse & Keyboard/Storage/Chipset/Network & Bluetooth/Video/All others)

Following options appear on this page:

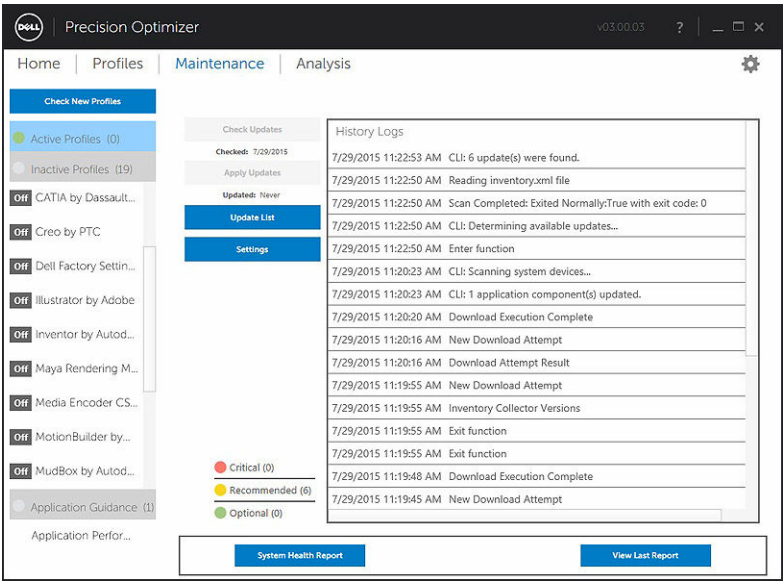
Option	Function
Cancel	Click this button to exit the settings page without saving any changes
Restore Settings	Click this button to load the program default values for all the settings
Save Changes	Click to save changes (if any)

Further, the left side of this page also contains the list of [Active and Inactive Profiles](#) and number of [System Updates](#).

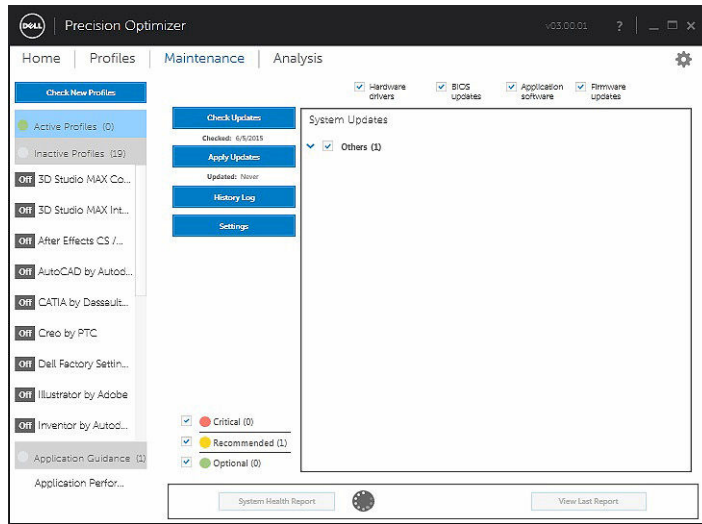
History Log



After viewing the history logs, click the **Update List** button to go back to the previous page that lists all the updates.

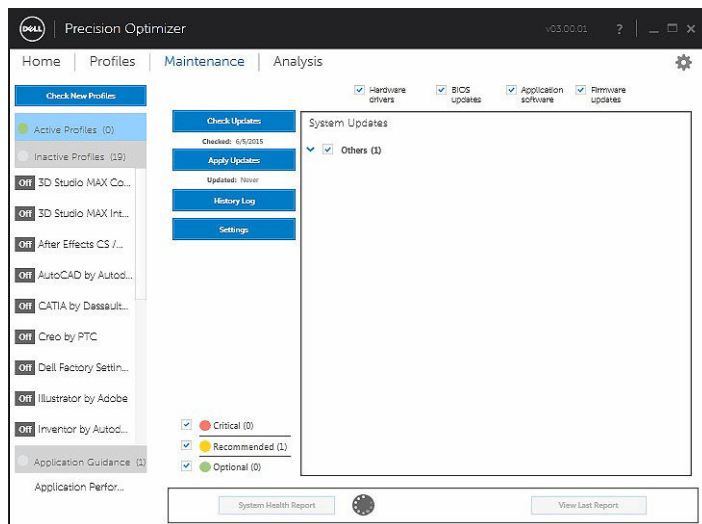


System Health Report



System Health Report

Clicking this button will generate a full system health and diagnostic report that can be viewed by clicking the **View Last Report** button. This may take a few seconds to complete.

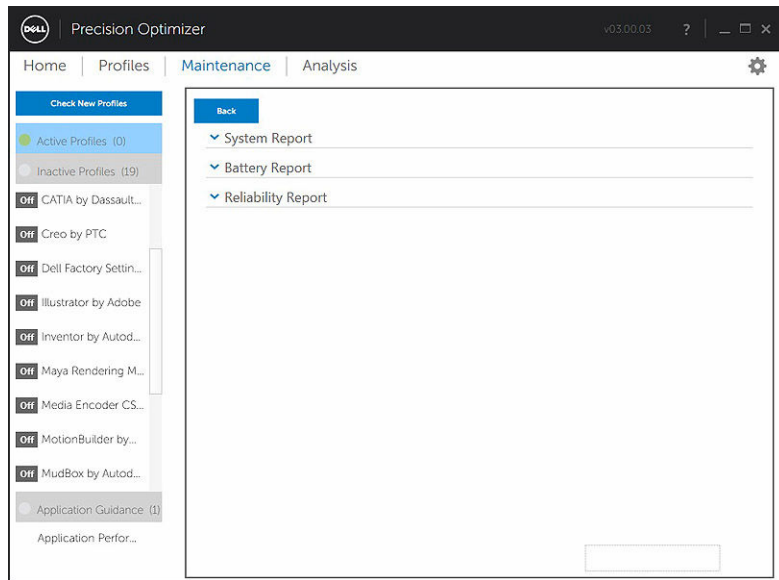


View Last Report

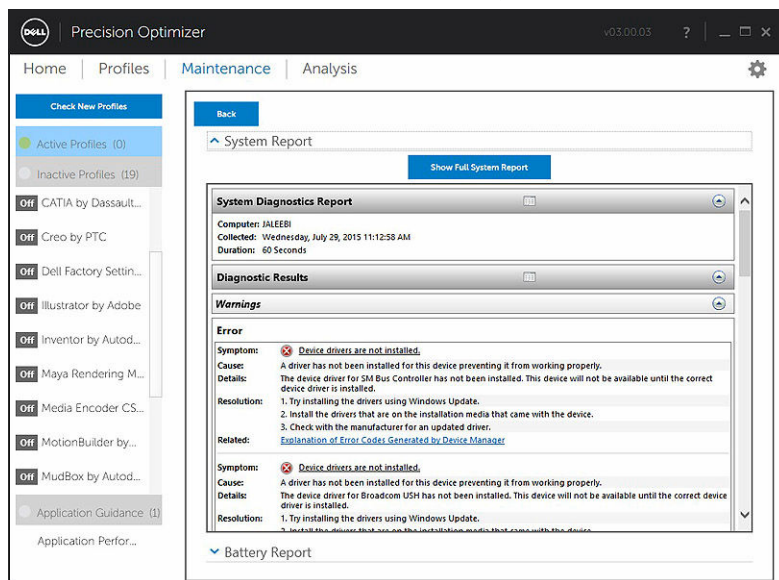
This button is greyed out when no System Health Report has been generated. Once a report has been generated, you may click this button to view the following:

- System Report
- Reliability Report

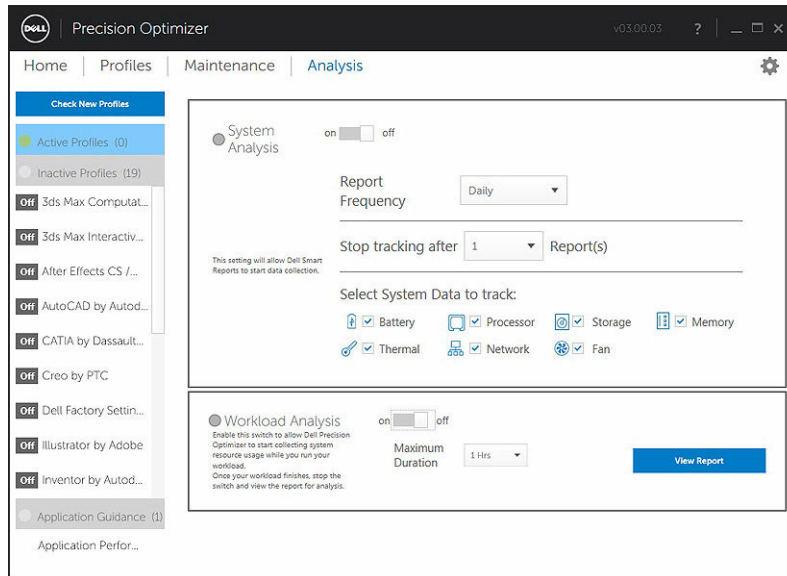
- Battery Report (*This report is available on Windows 8 and above only*)



The default behavior is to show only the Diagnostic part of the Full System Report. To view the full system report, click on the button at the top of the System Report window pane.



Analyze



This page allows you to enable/disable Dell System Analysis feature as well as view previously generated reports.

Enable/Disable System Analysis feature

When enabled, The System Analysis feature collects system configuration information as well as sub-system usage data in the background. The System Analysis feature reports contain data such as Fan speed, Thermal data, Battery usage, Processor Utilization etc. over a period of time. These reports can help you understand the behavior of your specific system under the operating environment that was present when the report was running.

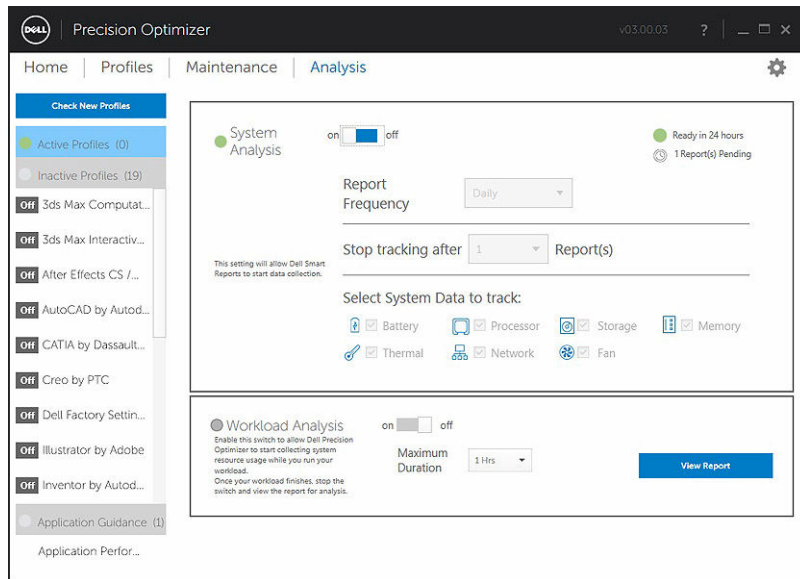
You can configure the following options that control the operation of the System analysis:

Table 7. Options to control the System Analysis feature

Options	Description
Report Frequency	This setting controls how often reports are generated. Daily reports are generated whenever the system date changes which may be a period less than 24 hours. The report frequency period does not include the time your system spends in Sleep/Hibernate/Shutdown states.
Stop Tracking After	This setting controls how many reports are generated before the System Analysis feature gets disabled automatically. E.g. If you configure the system with a Report Frequency of 10 hours and Stop Tracking after 3 Report(s), then you should expect to see your first report after 10 hours. Two new reports should be seen every 10 hours after the first one. System Analysis should stop after three reports are generated.

Options	Description
Select System Data To Track	This set of check boxes allows you to choose the sub-systems that the System Analysis feature collects data from. By default all sub-systems are selected.

The following screen shot shows how the GUI will look once you have enabled the System Analysis feature to generate one report after 24–hours.



View System Analysis Reports

Select/View a Report

If there is more than one report ready on your system, you can select the report to view by clicking on the ← and → arrows on the left side of the page. The right side of the page displays detailed information and graphs from the selected report. The bottom left side of this page displays a tree view of the report. Clicking on any of the nodes of the tree takes you directly to the corresponding section of the report.

This page also shows you if there are any previously generated reports available for you to view. Click on "... Reports Ready" to view these System Analysis Reports.

This page also shows you the number of previously completed System Analysis feature reports ready for viewing. You can click on the "... Report(s) Pending" text to view these reports.

Report 7/28/2015 11:29:03 AM - Hardware Information

System Service Tag	J5K94X1
Report Beginning Date	7/27/2015 3:26:31 PM
Report Ending Date	7/28/2015 11:28:56 AM
Report Creation Date/Time	7/28/2015 11:29:03 AM

Hardware Information

HardwareInfo GUID	C8F89D78-872D-4802-8748-CD4B48440AD1
DDV Revision	4.3.4.4
Report Creation Datetime	2015-07-28T11:29:03-05:00
Report Beginning Date	2015-07-27T15:26:31-05:00
Report Ending Date	2015-07-28T11:28:56-05:00
System Service Tag	J5K94X1
System Model	Precision M6800
Motherboard ePPID	CN0XD1M5129613510008X02
BIOS Version	A13
System Type	Laptop(9)
Processor Information	Intel(R) Core(TM) i7-4930MX CPU @ 3.00GHz(Cores 4) [Logical/Core 2]
Processor Speed	3201
Video Controller	Intel(R) HD Graphics 4600
Video RAM Bytes	1073741824
Operating System	Microsoft Windows 8.1 Pro [64-bit OS][System Locale de-DE]
AC Adapter Type(W)	130
Hours On	0.65
Hours On AC	0.65
Hours On Battery	0.00
Number Of AC	1
Insertions	
Number Of Battery Sessions	1
Total S5 Requests	1
Total S4 Requests	0
Time in S4 (mins)	0
Total S3 Requests	0

If there is more than one report, you may compare the two reports side by side by selecting the reports using the drop down menu and then clicking on the **Compare** button.

Report 7/28/2015 11:29:03 AM

Report 7/29/2015 10:32:23 AM

Compare

Hardware Information

System Service Tag	J5K94X1	J5K94X1
Report Beginning Date	7/27/2015 3:26:31 PM	7/28/2015 11:28:56 AM
Report Ending Date	7/28/2015 11:28:56 AM	7/29/2015 10:32:18 AM
Report Creation Date/Time	7/28/2015 11:29:03 AM	7/29/2015 10:32:23 AM

Hardware Information

HardwareInfo GUID	C8F89D78-872D-4802-8748-CD4B48440AD1	9FD3D67F-FDD4-4C84-9896-207653D0C707
DDV Revision	4.3.4.4	4.3.4.5
Report Creation Datetime...	2015-07-28T11:29:03-05:00	2015-07-29T10:32:23-05:00
Report Beginning Date	2015-07-27T15:26:31-05:00	2015-07-28T11:28:56-05:00
Report Ending Date	2015-07-28T11:28:56-05:00	2015-07-29T10:32:18-05:00
System Service Tag	J5K94X1	J5K94X1
System Model	Precision M6800	Precision M6800
Motherboard ePPID	CN0XD1M5129613510008X02	CN0XD1M5129613510008X02
BIOS Version	A13	A13
System Type	Laptop(9)	Laptop(9)
Processor Information	Intel(R) Core(TM) i7-4930MX CPU @ 3.00GHz...	Intel(R) Core(TM) i7-4930MX CPU @ 3.00GHz...
Processor Speed	3201	3201
Video Controller	Intel(R) HD Graphics 4600	Intel(R) HD Graphics 4600
Video RAM Bytes	1073741824	1073741824
Operating System	Microsoft Windows 8.1 Pro [64-bit OS][Syste...	Microsoft Windows 8.1 Pro [64-bit OS][Syste...
AC Adapter Type(W)	130	130
Hours On	0.65	0.25
Hours On AC	0.65	0.25
Hours On Battery	0.00	0.00
Number Of AC Insertions	1	0
Number Of Battery Ses...	1	0
Total S5 Requests	1	1
Total S4 Requests	0	0
Time in S4 (mins)	0	0
Total S3 Requests	0	0
Time in S3 (mins)	0	0

Battery

Manufacture Date	2013/04/21	2013/04/21
Serial Number	763	763

Reading a Graph

All graphs on the X-axis show the range of data or specific value collected for the given system parameter. The Y-axis displays the percentage of time the given range (or specific value) was found during the report interval. E.g. In the above report for **Temperature** (Location Memory), the graph shows the range of temperature in degree Celsius on the X-axis whereas the Y-axis shows the percentage of time the temperature was found to be in the range, say 30-40 C.

Export/Print a Report



You may click on the **"Export"** icon on this page to save the selected report in an XML format.



You may click on the **"Print"** icon on this page to save the selected report in a PDF format.

Delete a Report

You may click on the **"Delete"** button to delete the currently selected report.

Workload Analysis

This is a switch that can be turned ON to track the system resource utilization (i.e. CPU, Memory, Graphics and Disk) while a specific work load is executing. This switch must be manually turned OFF once the work load has completed. Setting the **Maximum Duration** prevents the report from running indefinitely if the user forgets to turn the switch OFF.

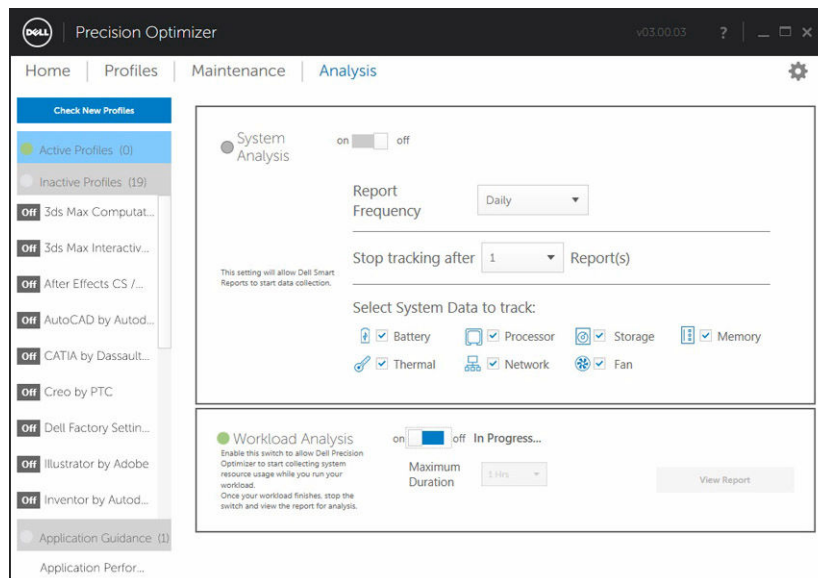


NOTE: The report will automatically turn OFF if you shut down or reboot the system.

Once the report is ready, click the **View** button to see the report.



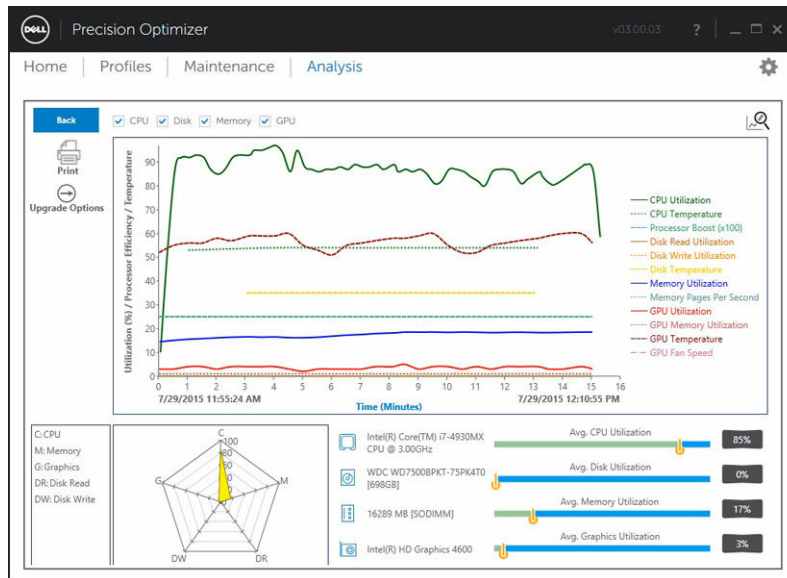
NOTE: It may take a few minutes to prepare the report after you click on the **View** button.



View

Click this button to view the report that was generated the last time the Analyze Workload switch was activated. You may print this report for your records or send it to your IT Administrator for analysis.

Clicking the **Upgrade Options** button will take you to the Dell Parts and Services Page if your system is connected to the internet.



You may select or deselect any of the 4 categories of graphs. This will allow you to just see the graphs that you are interested in.

To zoom into any area of the graph you may left-click on the one corner of the rectangle to zoom into and then while keeping the left-button down, drag the mouse to the other end of the area to zoom into. You can also scale the graph up/down by pressing the CTRL key and while the CTRL key is pressed move the mouse away from the origin (scale up) or towards the origin (scale down). Once the graph is zoomed in, if you want to move the graph around, you can press the SHIFT key and while the SHIFT key is down, move the mouse to move the visible portion of the graph.

Finally, to zoom out to the original graph, press the ZOOM OUT button.

Troubleshooting

Table 8. Installation Issues

Issue	Solution
Can I use Dell Precision Optimizer on my non-Dell laptop or desktop?	No. Dell Precision Optimizer software has been especially designed to optimize the performance of your Dell machine. Dell Precision Optimizer will not run on any non-Dell system.
Why does Dell Precision Optimizer installer fail with a message saying my system is not supported?	Dell Precision Optimizer will not install on operating systems other than Windows 7, Windows 8 or Windows 10. Windows Vista or earlier versions are not supported.

Table 9. Home Page

Issue	Solution
Why don't I see the Graphics Utilization bar on the home page of Dell Precision Optimizer application?	This is not a cause for concern. Graphics utilization is not available on some Dell systems. Based on the configuration of your system, this data may not be available. In some cases, even if the graphics adapter is supported by Dell Precision Optimizer, the graphics driver may not be compatible OR the current active display may not be via the supported graphics adapter. This may happen later if Switchable Graphics is enabled on the system.

Table 10. Profiles

Issue	Solution
Why do I see " Policy needs reboot " message?	Some of the Dell Precision Optimizer policies change system attributes that require a reboot before the changes can take effect. When this happens the user is informed and given an opportunity to reboot the system. You can decide to reboot later but the changes applied to your system will become effective only after you reboot. Some examples of policies that require reboot are those that change Processor Hyper-Threading, Processor Cores etc.
Why do I see " Policy needs application restart " message?	Some of the Dell Precision Optimizer policies change system attributes that require the ISV application to be restarted before the changes can take effect. When this happens the user is informed and given an opportunity to restart the ISV

Issue	Solution
	application. You can decide to continue using the application but the changes applied to your system will become effective only the next time the application is started. Some examples of policies that require application restart are those that change Nvidia settings.
Why do I see "Policy conflict occurred" message?	You may have two different active profiles that contain policies that change the same system attribute to different values. When such a situation is detected by Dell Precision Optimizer, one of the policies is aborted and the user is notified. Dell Precision Optimizer determines a policy conflict at application runtime, not policy selection. To avoid such a situation, you must not activate conflicting policies at the same time. Such policies are meant to be enabled one at a time to optimize the system for ISV applications running in different modes. If you get a policy conflict message, please disable one of the profiles.

Table 11. Maintenance

Issue	Solution
Why does "Check for Updates" or "Apply Updates" fail?	Check for updates or Apply updates may fail if you do not have an internet connection or if the Dell server is not reachable. Please check your network connection and try again after some time. You may also see this failure because of a conflict with some other application that updates your system e.g. Dell Client System Update software. If this happens, please retry the operation after closing other applications and associated update schedulers.
Why do I see "Update requires reboot" message sometimes?	Not all software updates require the system to be rebooted. If you get this message, it means that the software update that was just applied can only become effective once your system is rebooted. Please save all your data and close all running applications before rebooting your system.
Why do I see the same list of available updates even after I apply some updates?	The list of available updates is not updated automatically after you apply some updates until you run Check For Updates again.

Table 12. Analyze

Issue	Solution
Will enabling Dell System Analysis or Workload Analysis impact my system's performance?	Dell System/Workload Analysis is a very powerful tool and has been extensively tested to ensure that

Issue	Solution
	it does not adversely impact your system's performance or battery life. However, please bear in mind that it is a tracking tool meant to be used as needed. You need not keep it enabled at all times.

Table 13. CPU & Graphics Intelligence

Issue	Solution
Will enabling CPU or Graphics Intelligence graphs impact my system's performance?	As with Dell System/Workload Analysis tools, this tool is meant to be used as needed. You need not keep it enabled at all times.

Contacting Dell



NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **support.dell.com**.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.