

Getting Started with
Idera SharePoint
diagnostic manager

idera™



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Welcome to Idera SharePoint diagnostic manager

Idera SharePoint diagnostic manager is a powerful and intuitive monitoring solution that helps administrators to ensure the health of their SharePoint environment and the performance of their SharePoint applications. It saves time and money by dramatically reducing administrative overhead for IT and ensuring SharePoint business user productivity.

SharePoint dm provides real time monitoring of all SharePoint servers from a single console, enabling performance and availability problems to be quickly identified, diagnosed and resolved. It also provides critical information for SharePoint capacity planning by storing historical performance data of all SharePoint servers being monitored. It monitors SharePoint in real-time, providing a comprehensive set of metrics that enable SharePoint administrators to quickly pinpoint performance and availability issues related to server performance, resource usage and poorly performing HTML controls, Web Parts and Web Controls.

Key features include the following:

- Continuous, automated 24/7 monitoring from a central console.
- Intuitive dashboard UI provides "at-a-glance" view of SharePoint health.
- Page component level performance analysis.
- Summary and detail performance metrics.
- Automated alerting of poorly performing pages, controls & server performance issues.
- Repository of historical performance enables trending and analysis.
- Comprehensive reporting.

What is Idera SharePoint diagnostic manager?

Idera SharePoint diagnostic manager is a powerful and intuitive tool that helps administrators to ensure the health of SharePoint environment and the performance of SharePoint applications.

Monitor multiple SharePoint farms and farm servers from a central console	Provides an easy to use console with rich information displays that allow multiple farms and all component servers to be monitored 24/7.
No limitation on pages being monitored	Monitor the most important pages or all pages in your sites, without restriction. Choose how often pages should be monitored.
Monitor SharePoint farm servers availability	Monitor critical areas of your SharePoint farm servers such as CPU, disk activity, IIS, memory and page utilization. Instantly understand what's causing your SharePoint environment to perform below agreed performance thresholds.
Detailed configuration data	View complete and detailed information regarding the configuration of every SharePoint server in your farm.

Capacity planning data	Store historical performance data of your SharePoint farms, enabling rich graphical analysis of performance and behavior over time to identify patterns and trends.
Full web page coverage	Provides granular, server-side performance data analysis for all SharePoint publishing and web part pages such as server controls, web parts, images, scripts, and much more.
Automated alerting	Automated email alert notification whenever predetermined performance thresholds are not met.
Performance threshold customization	Customize server level thresholds such as CPU, Memory, Disk, IIS, page HTML, web parts and web control alerting to meet the performance requirements of your applications and environment.
Easy URL based page performance analysis	Analyze any web page in your farm by simply entering the URL.
Easy to use User Interface	Powerful and easy to use console that lets you display and understand complex analyses in seconds, without the need to be a SharePoint expert.

How does Idera SharePoint diagnostic manager help me?

Idera SharePoint diagnostic manager lets you monitor and analyze your Microsoft SharePoint farms, servers, and pages. SharePoint dm lets you:

Solve SharePoint performance problems even when SharePoint is not available.	Because SharePoint dm runs outside of SharePoint, you have access to historical data, alerts issued, up to the minute performance information, and much more for all SharePoint servers in your farm. SharePoint dm helps eliminate the risk of spending hours trying to find out what might have caused your SharePoint environment to fail or perform badly.
Take control of your SharePoint health.	Continuously monitor, diagnose, discover, analyze and fix SharePoint performance and availability issues efficiently. Quickly understand why your SharePoint servers are not performing well or why pages are taking long to load.
Out-of-the-box monitoring.	Instant and automatic monitoring of all

	SharePoint farm servers without the need to develop any kind of script. Take advantage of built-in default options to start monitoring your SharePoint servers immediately.
Provides accurate and clean server-side performance metrics.	Understand the real impact of the server side performance metrics without interference from browser type, location, operating systems and connection speed. Have control of how an application is behaving in its 'raw' state, and easily determine any application performance issues.
Quickly identifies worst performing page controls.	Immediately identify the worst performing HTML controls, web parts and web controls by quickly analyzing their load time, size and type.
Collects Component-level results.	Powerful collection of page control elements that clearly differentiates page loading, execution, or rendering of individual page elements. Quickly and easily identify what is impacting page performance, without guessing!
Provides true SharePoint-specific Analysis.	Enables true visibility into SharePoint by exposing the inner workings of server controls, web parts, menus and other page elements. Using advanced methods Idera SharePoint performance manager embeds into the page processing lifecycle allowing clear analysis of all the web page controls and parts before they are rendered into HTML and delivered to the user.
Offers Easy installation and use.	Installs quickly, enabling immediate performance access to any page. A typical installation takes less than 30 minutes. Additionally, the easy to use UI makes it very easy to identify all performance issues on a single page.

Contacting Idera

Please contact us with your questions and comments. We look forward to hearing from you. For support around the world, please contact us or your local partner. For a complete list of our partners, please see our website (www.idera.com).

Sales	713.523.4433
	1.877.GO.IDERA (464.3372)

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Website	www.idera.com/support www.idera.com

2.7 Release Notes

Idera SharePoint diagnostic manager lets you monitor, manage, and analyze your Microsoft SharePoint farms, servers, and pages.

- [New features](#) on page 11
- [Known issues](#) on page 13

Updated: 5/3/2012 3:04 PM 2.0.7.191

New features

Idera SharePoint diagnostic manager helps you to ensure the health of your SharePoint environment and the performance of your SharePoint applications. It saves time and money by dramatically reducing administrative overhead for IT and ensuring SharePoint business user productivity.

SharePoint dm provides real time monitoring of all SharePoint servers from a single console, enabling performance and availability problems to be quickly identified, diagnosed and resolved. It also provides critical information for SharePoint capacity planning by storing historical performance data of all SharePoint servers being monitored. It monitors SharePoint in real-time, providing a comprehensive set of metrics that enable SharePoint administrators to quickly pinpoint performance and availability issues related to server performance, resource usage and poorly performing HTML controls, Web Parts and Web Controls.

2.7 features

- New security model lets you restrict access to the configuration and performance information to selected users or groups.
- Added additional reports for the following:
 - Capacity planning
 - SQL Server
 - Page health
 - Page uptime
 - Content summaries
- Content Summary information now includes additional information about the document versions to help you plan for capacity needs.
- Full support for Microsoft SQL Server 2012.

2.6 features

- Improved information in alerts, including knowledge base information.
- Customizable knowledge base articles for every metric.
- New alert response rules.
 - Customizable rules for alert responses.
 - Improved email handling, including custom recipients for each alert response rule.
 - SNMP trap generation.

2.51 features

- Improved handling of Windows Management Instrumentation (WMI) data.

2.5 features

- Enhanced metrics for SQL Servers, including detailed configuration information, database fragmentation and detailed data file and log file storage information.
- Added the ability to wait a user-specified period of time before triggering alerts for certain metrics.
- Added the ability to clear alerts.
- Improved handling of Microsoft SQL Server Clusters. Virtual Servers now appear in the list of farm servers, as do the component servers. The Virtual Server lists the servers that the cluster lists each of the servers that make up the cluster. Each component server appears separately in the list of servers.

2.0.2 features

- Added the ability to manually add a server to a farm.

2.0.1 features

- Corrected an error that caused CPU usage to appear at 100% on Windows Server 2003 servers.

2.0 features

- Added more than 100 new Server, SharePoint, and SQL Metrics, including the following:
 - Disk Space.
 - SQL Server performance metrics.
 - SharePoint performance metrics.
 - Instance-based metrics.
- Added SharePoint Content Summary of monitored farms, Web Applications, and Site Collections, including object sizes and growth rates and graphical views of content.
- Added Content Summary-based alerts.
- You can now create and manage custom reports.
- You can create custom views for any collected metric.
- Added the ability to override alert thresholds per server.

1.3 features

- Changed defaults when adding a new page. By default, new pages are now tested using the URL the user provides.
- Added the ability to ignore errors caused when the Collection Service cannot verify the SSL certificates that your Windows Front End servers use.
- Updated the installer to verify the software and the permission requirements before installation.
- Improved error handling and reporting.

1.2 features

- Continuous, automated 24/7 monitoring from a central console.
- Intuitive dashboard UI provides "at-a-glance" view of SharePoint health.
- Page component level performance analysis.
- Summary and detail performance metrics.
- Automated alerting of poorly performing pages, controls & server performance issues.

-
- Repository of historical performance enables trending and analysis.
 - Comprehensive reporting.

Known issues

Idera strives to ensure our products provide quality solutions for your SharePoint needs. The following known issues for Idera SharePoint diagnostic manager are described in this section. *If you need further assistance with any issue*, please contact Support (www.idera.com/support).

Installation and configuration considerations

- **Installation fails**

If the installation fails, please contact Idera Technical Support for assistance.

- **Error message: Web Part not installed**

SharePoint dm uses a Web Part to collect component analysis data from the pages that you monitor. SharePoint dm also relies on the SharePoint Master Pages to analyze the pages it monitors. If a monitored page does not use a Master Page, then SharePoint dm is unable to monitor it. In addition, SharePoint sends the same error message to SharePoint dm for both a missing Web Part and a missing Master Page. If SharePoint dm displays an error message that it is unable to perform component analysis on a page because the Web Part is not installed and you have installed the Web Part, then the page does not use a Master Page. You can perform Page Load Time analysis for the page, and you can perform component analysis for pages on the same farm that do use Master Pages.

- **Windows SharePoint Services and SQL Server Embedded Edition**

Windows SharePoint Services 3.0 includes SQL Server Embedded Edition. You cannot use SQL Server Embedded Edition to host the Repository database. You must use a complete installation of Microsoft SQL Server to host the repository.

See [Software requirements](#) on page 40 for more information about the SharePoint dm requirements.

You must also ensure that the Collection Service can connect to the SharePoint Configuration Database. You should verify the following settings:

- The SQL Server Browser service on the SQL Server Embedded Edition host must be running.
- The `Microsoft#SSEE` instance must accept TCP/IP or Named Pipe connections.
- You must disable the Hide Instance option in the SQL Server Configuration Manager.

- **Server roles incorrect in details pane**

When you add a farm, the Collection Service contacts the Topology Server that you specify and analyzes the topology of the farm, including the roles assigned to each server in the farm. If a server is unavailable, the Collection Service is unable to correctly obtain all of the services from the server. The services appear correctly after the Collection Service scans the topology while the server is running. You can wait for the scan to run at a scheduled time or you can refresh the topology manually after you start the server.

- **Content summary does not appear immediately**

When it performs a content summary operation, the Collection Service examines the entire SharePoint farm and counts every object in the farm. The content summary operation is time consuming and can impact your farm performance. By default, the Collection Service only performs a content summary operation one time per day at 1:00 AM according to the server clock.

When you install SharePoint dm, it begins a content summary immediately. The results do not appear in the Management Console until the content summary operation is complete, which may take several minutes or more. When you upgrade SharePoint dm, it does not immediately perform a content summary until the next scheduled operation. You can also manually start a content summary operation. When you manually start a content summary operation, the Collection Service starts the content summary operation immediately. The results appear in the Management Console when the operation is complete.

- **Collection Service logs errors**

If the Collection Service is unable to properly start, it automatically logs any errors it encounters to the Windows Event Logs. You can use the Event Viewer to review the logs and correct any problems.

- **Uninstall does not automatically uninstall the Web Part**

If you uninstall SharePoint dm, the uninstaller does not automatically remove the SharePoint dm Web Part. You should use the Web Part Installer to remove the Web Part separately before you uninstall the other components.

- **Installing on a SQL Server instance where the instance name matches the SQL Server host name**

Prior to version 2.6, SharePoint dm could not correctly report on a SQL Server whose instance name and host name matched. In version 2.6, you can choose per instance whether to support the unnamed default instance or to support matching instance and host names. To support matching host and instance names, you update the SharePoint dm Collection Service configuration file. On the Collection Service host, edit the file `<Installation Directory>\Idera\SharePoint diagnostic manager\CollectionService\CollectionService.exe.config`.

You must ensure that you set the `InstAndServerNameMatch` value in the `ApplicationSettings` block. If the line exists, you can edit it. Otherwise, add the following lines to the `Idera.SharePoint.DiagnosticManager.CollectionService.Properties.Settings` group in the `<ApplicationSettings>` block:

```
<setting name="InstAndServerNameMatch" serializeAs="String">
  <value>Instance_Name</value>
</setting>
```

After you update the configuration file, you should use the Windows Services Control Panel to stop and restart the Collection Service.

Known issues

- **Upgrading to 2.5 or later from version 1.3 or earlier**

If you upgrade from SharePoint dm 1.3 or earlier to 2.7, you must reinstall all SharePoint dm components, including the SharePoint dm Web Part. Components earlier than 2.7 are not compatible with SharePoint dm 2.7 and later. When you reinstall, you must enter the name of the Collection Service that the SharePoint dm Management Console connects to. In addition, you must reset any Management Console or Collection Service preferences after the upgrade completes.

In addition, if you change the SQL Server Instance or Database Name from those used in your earlier installation, the installer creates a new version of the SharePoint dm Database Repository and the existing data will no longer be accessible.

- **Disabling a metric for a page does not clear active Alerts**

When you disable a metric for a page, SharePoint dm does not clear any existing, active alerts for the metric on that page. If you choose, you can manually clear the alerts for the page. SharePoint dm does not create any additional alerts for the metric.

- **New information about page performance data collection in the documentation**

A new topic detailing how SharePoint dm collects page performance information is included in the documentation set in version 2.0.1 and later. See [Analyzing page component performance](#) on page 34.

- **Wrong disk size on Windows Server 2008 hosts**

Under certain circumstances, the Management Console lists incorrect disk sizes for Windows Server 2008 hosts that do not have R2 installed. All other versions of Windows Server list correct disk sizes.

- **"Services not detected" message appears in SharePoint service graphs**

SharePoint dm can report performance data for the following SharePoint service types:

- SharePoint Search Services
- SharePoint Indexing Services
- SharePoint Excel Calculation Services

If the message "Services not detected" appears in service graphs, one of the following is true:

The service type is not enabled on the selected server.	Normal behavior for most servers.
---	-----------------------------------

The service	When the server is configured and working properly,
-------------	---

type is enabled on the server. The service has started, but configuration is not yet complete.

performance data for the service appears in the SharePoint Management Console.

The service type is enabled and configured on the server.

Rarely, problems with the Windows Management Instrumentation (WMI) system on the server can prevent SharePoint Management Console from accessing some or all of the WMI data for the server. When you correct the issues with the WMI system, the performance data for the service appears in the SharePoint Management Console.

- **Page content does not automatically refresh**

If you leave the SharePoint Management Console running for a long period of time, certain items that do not change rapidly are only updated when you first display the page. Examples include the number of days remaining in the license on the home page, information about the farm in the Farm Overview tab, and so on. If you change to another page, then return to the original, the changed information appears.

- **"Http status 401: Unauthorized" when performing a content summary on a farm that was temporarily unavailable**

If a farm or the component servers is not available when the Collection Service performs a content summary operation, an error occurs that indicates that the farm is not available.

When the farm and the component servers are available again, an alert that includes the text "Http status 401: Unauthorized" appears the first time the Collection Service performs a content summary operation.

This error appears as a result of the way that credentials are cached, and you may ignore it.

Subsequent Content Summary operations should complete with no errors.

- **Reallocating licenses assigned to a deleted server**

If you delete a server from your SharePoint farm, the SharePoint Management Console license assigned to the server is not automatically assigned to another server. If you want to assign the license to a different server, you must do so manually.

- **Error when running reports**

Under certain circumstances, an error message may appear when you generate a report. Close the error message and you can regenerate the report successfully.

- **Complex legends in charts**

When a chart contains a large number of data types and you choose to show the legends for the chart, the legend may take the majority of the area assigned to the chart and make it difficult to view the chart itself. If this happens, expand the chart to full size or use the legend for reference, then close it.

- **Web Application created after most recent content summary**

If you view the content summary for a Web Application that was created after the most recent content summary operation and the Web Application does not yet contain a Site Collection, the creation date for the Web Application in the content summary view is N/A. The creation date for the Web Application is based on the Site Collections it contains.

- **"No data available" message appears in a chart**

The message "No data available" may appear in place of a chart in the SharePoint dm Management Console. This error can appear when the Collection Service is unable to retrieve the data from the server or when the metric does not apply to the server.

See [Retrieving server performance information](#) on page 20 for information on which Windows Management Interface (WMI) objects the Collection Service accesses.

- **Server counts include hosts for URL-only pages**

When you monitor a page, you can choose to monitor the page on specific Web Front End (WFE) servers. You can also specify that the Collection Service should only use the provided URL. The Farm Servers view includes in its server counts the servers that host any URL-only pages in the monitored farm. The names and other information for the hosts for URL-only pages are not included in the lists of servers. If the URL you specify includes the name of a known WFE, the page will be included in the count for that WFE. If you monitor pages by URL only, the total number of servers at the top of the Farm Servers view will not match the number of servers listed at the bottom of the view.

- **Page availability graph shows page unavailable even though Page Load Time includes successful load times**

In the Page Availability graph in the Page Status view, the number of data collections represented by each data point in the graph varies, depending on the total time represented by the graph. Any single data point in the graph can represent one or many individual attempts to collect data. In the graph, a page is unavailable if it is unavailable for any single attempt to collect data in the time period the data point represents. This does not indicate that the page was unavailable every time the page availability was tested. It is possible for the Page Load Time graph to indicate successful loading at the same time that the Page Availability graph indicates that the page is unavailable. The Page Load Time graph is based on an average of all load times for the period in the graph.

- **Page availability graph shows page unavailable on WFE when page is not monitored on the WFE**

When you monitor a page, you can specify that SharePoint dm monitors the page on one or more WFEs. If you stop monitoring the page on a WFE, the WFE continues to appear on the Page Availability graph in the Page Status view. Since availability is no longer monitored on the WFE, the page is unavailable in the graph for the unmonitored period. No alert is generated when the page appears to become unavailable.

In the same way, if you add a WFE to the list of WFEs on which the page is monitored, the page appears as unavailable on the WFE for any unmonitored period. No alert is generated when the page appears to become available.

- **Server removed from SharePoint farm continues to appear in the Management Console**

If you remove a server from your SharePoint farm, the server continues to appear in the SharePoint dm Management Console after the farm topology is refreshed manually or on a scheduled basis. The Collection Service continues to attempt to collect monitored server and monitored page data from the server. The server is retained in the Management Console to ensure the continued availability of the historical data collected for the server. To stop the Collection Service from attempting to retrieve data from the server, you should right-click the server in the tree and click **Disable Server**.

- **SQL Server aliases used for SharePoint servers**

If your SharePoint farm uses an alias name for a SQL Server to connect to a SQL Server database, SharePoint dm uses the actual name of the SQL Server to connect to the server and collect performance data, rather than the Alias. As a result, the actual name of the SQL Server appears in SharePoint dm instead of the Alias. In consequence, you may note a different name for the SQL Server in the farm Central Administration page and in the SharePoint dm server pages. This difference is normal and expected.

- **SQL Server file sizes in Server Dashboard and Server Details differ**

When you select a server that hosts a SQL Server in the tree, the database file size in the Dashboard includes only SharePoint databases. In the Server details pane, the database file size includes all databases hosted by the SQL Server.

- **Automatic proxy detection can cause long page load times**

Under certain circumstances, automatic proxy detection in SharePoint dm can cause page load times to be reported incorrectly. If you are not using a proxy server, you can edit the configuration file for the collection service and manually disable proxy detection.

On the Collection Service host, edit the file `<Installation Directory>\Idera\SharePoint diagnostic manager\CollectionService\CollectionService.exe.config`. You should add the following lines before the `</configuration>` line:

```
<system.net>

  <defaultProxy enabled="false"/>

</system.net>
```

- **Fragmentation level alert remains active for an excluded database**

If you enable database fragmentation collection and SharePoint dm generates an alert for a database, the alert is not automatically cleared if you later mark the database as excluded from fragmentation collection. You should manually clear the alert for the database.

- **Y-axis of graphs in reports has no label for values if range is 0-1**

If the Y-Axis of a graph in a report ranges from 0 to 1, SharePoint dm does not label the values on the Y-axis.

- **Web Service Current Connections data is not averaged**

Most graphical data in the SharePoint dm Management Console is an average whose period varies with the time the graph represents. In the IIS view of the Web tab of the Server details view, the Current Connections are not averaged.

Recommended Idera Solutions

Idera strives to ensure our products provide quality solutions for your Microsoft SharePoint needs. The following Idera Solutions have been recently added to the knowledge base at our Customer Service Portal (www.idera.com/support).

Number	Title
0000410-0	What ports are used by SharePoint diagnostic manager?
0000416-6	Alert for "Missing SharePoint Counters" received repeatedly for a newly added farm
0000416-7	SharePoint diagnostic manager alert, "WMI Object Counter encountered an Invalid Class error in WMI query"

Learning about performance monitoring

Idera SharePoint diagnostic manager helps you to monitor and analyze the performance of your SharePoint farms. SharePoint dm lets you do the following:

- Monitor the status of SharePoint farms.
- Monitor the status of specified SharePoint pages.
- Analyze the performance of the components that make up specified pages.

You can use these tools to help find and correct SharePoint performance and availability issues.

How does SharePoint dm help me to monitor SharePoint server performance?

SharePoint dm uses the Windows Management Interface (WMI) to collect performance and availability information from the servers in your SharePoint farm. You can use the SharePoint dm Management Console to review the data for the period that you specify. You can also use the Management Console to specify the conditions that trigger alerts, and the response to those

alerts.

For more information about how SharePoint dm collects server performance information, see [Retrieving server performance information](#) on page 20.

How does SharePoint dm help me monitor and understand page availability and performance?

You can use SharePoint dm to monitor and analyze pages that you specify.

When you monitor the page, SharePoint dm tracks the load times and availability for the page at specified intervals. You can specify when SharePoint dm generates alerts. You can monitor any page in a monitored SharePoint farm. You do not need to modify your SharePoint farm or the pages to monitor pages in this way. Monitoring page availability and load times has a low impact on your SharePoint farm.

For more information about monitoring page availability and load times, see [Analyzing page performance](#) on page 34

SharePoint dm can also analyze the performance of the components that make up a monitored SharePoint page. When you perform component analysis, you deploy a SharePoint dm Web Part. The Collection Service uses the Web Part to analyze the performance of the components that make up the page. As with page load time monitoring, you can specify when SharePoint dm generates alerts.

Normally, when SharePoint generates a monitored page, the Web Part is unused and has no impact on your SharePoint performance.

This comprehensive page analysis is separate from page availability monitoring. Because it is comprehensive, page component analysis takes additional time to perform. You should generally not perform comprehensive analysis on every monitored page every time you monitor the page. Instead, you should monitor page load times and availability on a routine basis. When routine monitoring locates a problem with a page, you can analyze the page components to further isolate the source of the problem.

For more information about page component analysis, see [Analyzing page component performance](#) on page 34.

Retrieving server performance information

The Collection Service uses the Windows Management Interface (WMI) to collect performance information from servers in the SharePoint farms that you monitor.

What information does the Collection Service collect?

The Collection Service retrieves information about the operating system, including the number of physical and logical processors in the CPU, and the physical and virtual memory. For Web Front End (WFE) servers, the Collection Service also retrieves the installed IIS and ASP.NET versions.

In addition, the Collection Service retrieves SharePoint-specific information from the Web Front End servers and SQL Server-specific information from the database servers in your farm. The SharePoint-specific information includes information about the SharePoint services and the performance of search, index, and other services. The SQL-specific information includes information

about the database and log file sizes, and performance information for the server and the databases that it hosts.

The SharePoint dm Collection Service includes the `PageUtil.exe` utility that lists all of the WMI metrics, arranged into groups and categories. By default, the utility is stored in the `c:\Program Files (x86)\Idera\SharePoint diagnostic manager\CollectionService\PageUtil.exe` directory on the computer that hosts the Collection Service.

Open a command prompt in the Collection Service directory and type `PageUtil.exe -m` then press Enter to view the list.

How can I correct WMI problems?

SharePoint dm relies on WMI to collect information from your servers. If the WMI system on your servers is not properly configured, SharePoint dm is unable to retrieve this information.

If the script is unable to collect information about a WMI object, then you may need to correct the problems in the WMI subsystem on the computer. You can use the following troubleshooting aids to assist you:

Microsoft WMI Diagnostic utility:	http://www.microsoft.com/downloads/en/details.aspx?FamilyID=d7ba3cd6-18d1-4d05-b11e-4c64192ae97d http://technet.microsoft.com/en-us/library/ff404265.aspx
Using the WMIDiagnostic utility to troubleshoot:	http://myitforum.com/cs2/blogs/socal/archive/2007/08/22/troubleshooting-wmi-with-wmidiag.aspx
Basic WMI Testing:	http://blogs.technet.com/b/askperf/archive/2007/06/22/basic-wmi-testing.aspx
Using WMIDiagnostic on Windows Server 2008:	http://blogs.technet.com/b/askperf/archive/2008/11/11/wmidiag-vbs-and-the-missing-wmi-files.aspx http://blogs.technet.com/b/askperf/archive/2008/07/11/wmi-troubleshooting-the-repository-on-vista-server-2008.aspx
Microsoft Technet articles on WMI:	http://technet.microsoft.com/en-us/library/ee692942.aspx
WMI Secrets, troubleshooting, and tips:	http://technet.microsoft.com/en-us/library/ee692772.aspx http://technet.microsoft.com/en-us/library/ff406382.aspx

What WMI scopes does the Collection Service analyze?

The Collection Service accesses the following WMI scopes to collect information:

\\<ComputerName>\root\default	Used to access the registry on the remote server.
\\<ComputerName>\root\cimv2	Used to collect performance information.
\\<ComputerName>\root\Microsoft\SqlServer\ComputerManagement10	Used to access the list of SQL Server instances.
\\<ComputerName>\root\Microsoft\SqlServer\ComputerManagement	Used to access the list of SQL Server 2003 instances.
\\<ComputerName>\root\mscluster	Used on SQL Server cluster nodes to determine the active/passive node in the cluster.

What WMI Objects and properties does SharePoint dm access?

The Collection Service accesses the following WMI classes and fields on each server in the farm:

CPU

Item	WMI Class	Class Property
Processor Interrupts per Second (Count)	Win32_PerfRawData_PerfOS_Processor	InterruptsPersec
CPU Usage Total - Privileged Time (Percent)	Win32_PerfRawData_PerfOS_Processor	PercentPrivilegedTime
CPU Usage Total (Percent)	Win32_PerfRawData_PerfOS_Processor	PercentProcessorTime
CPU Usage Total - User Time (Percent)	Win32_PerfRawData_PerfOS_Processor	PercentUserTime
Processor Queue Length (Count)	Win32_PerfRawData_PerfOS_System	ProcessorQueueLength
CPU Usage - Per-Process Privileged Time (Percent)	Win32_PerfRawData_PerfProc_Process	PercentPrivilegedTime
CPU Usage - Per-Process Total (Percent)	Win32_PerfRawData_PerfProc_Process	PercentProcessorTime
CPU Usage - Per-Process User Time (Percent)	Win32_PerfRawData_PerfProc_Process	PercentUserTime

Disk

Item	WMI Class	Class Property
Disk Free Space (MB)	Win32_PerfFormattedData_PerfDisk_LogicalDisk	FreeMegabytes
Disk Free Percent (Percent)	Win32_PerfFormattedData_PerfDisk_LogicalDisk	PercentFreeSpace
Disk Used (Percent)	Win32_PerfFormattedData_PerfDisk_LogicalDisk	PercentFreeSpace
Disk Idle Time (Percent)	Win32_PerfFormattedData_PerfDisk_LogicalDisk	PercentIdleTime
Average Disk Seconds Per Read (ms)	Win32_PerfRawData_PerfDisk_LogicalDisk	AvgDisksecPerRead
Average Disk Seconds Per Transfer (ms)	Win32_PerfRawData_PerfDisk_LogicalDisk	AvgDisksecPerTransfer
Average Disk Seconds Per Write (ms)	Win32_PerfRawData_PerfDisk_LogicalDisk	AvgDisksecPerWrite
Disk Size (MB)	Win32_PerfRawData_PerfDisk_LogicalDisk	PercentFreeSpace_Base
Average Disk Queue Length (Count)	Win32_PerfRawData_PerfDisk_PhysicalDisk	AvgDiskQueueLength
Disk Reads Per Second (Count)	Win32_PerfRawData_PerfDisk_PhysicalDisk	DiskReadsPersec
Disk Writes Per Second (Count)	Win32_PerfRawData_PerfDisk_PhysicalDisk	DiskWritesPersec
Disk Time (Percent)	Win32_PerfRawData_PerfDisk_PhysicalDisk	PercentDiskTime

IIS

Item	WMI Class	Class Property
IIS Current Connections (Count)	Win32_PerfFormattedData_W3SVC_WebService	CurrentConnections
IIS Maximum Connections	Win32_PerfFormattedData_W3SVC_WebService	MaximumConnections

Item	WMI Class	Class Property
nec-tions (Count)		
Appli-cation Pool Recycl-es (Count)	Win32_PerfRawData_APPPOOL-CountersProvider_APPPOOLWAS	TotalApplicationPoolRecycles
IIS Server Services Not Running	Win32_Service	Dis-play-Name, Started, StartMode, StartName, State, Status

Memory

Item	WMI Class	Class Property
Total Physical Memory (KB)	Win32_ComputerSystem	TotalPhysicalMemory
Free Physical Memory (KB)	Win32_OperatingSystem	FreePhysicalMemory
Free Virtual Memory (KB)	Win32_OperatingSystem	FreeVirtualMemory
Total Virtual Memory (KB)	Win32_OperatingSystem	TotalVirtualMemorySize
Memory Pages Per Second (Count)	Win32_PerfRawData_PerfOS_Memory	PagesPersec
Per-Process Handle Count (Count)	Win32_PerfRawData_PerfProc_Process	HandleCount
Per-Process Page Faults Per Second (Count)	Win32_PerfRawData_PerfProc_Process	PageFaultsPersec
Per-Process Pool Non-paged Bytes (Count)	Win32_PerfRawData_PerfProc_Process	PoolNonpagedBytes
Per-Process Memory Usage(MB)	Win32_PerfRawData_PerfProc_Process	PrivateBytes
Per-Process Thread Count (Count)	Win32_PerfRawData_PerfProc_Process	ThreadCount

Item	WMI Class	Class Property
Per-Process Working Set (MB)	Win32_PerfRawData_PerfProc_Process	WorkingSet

Network

Item	WMI Class	Class Property
Redirector Sessions (Count)	Win32_PerfRawData_PerfNet_Redirector	ServerSessions
Redirector Sessions Hung (Count)	Win32_PerfRawData_PerfNet_Redirector	ServerSessionsHung
Network Bytes Received Per Second (Count)	Win32_PerfRawData_Tcpip_NetworkInterface	BytesReceivedPersec
Network Bytes Sent Per Second (Count)	Win32_PerfRawData_Tcpip_NetworkInterface	BytesSentPersec
Network Bytes Total Per Second (Count)	Win32_PerfRawData_Tcpip_NetworkInterface	BytesTotalPersec
Network Packets Per Second (Count)	Win32_PerfRawData_Tcpip_NetworkInterface	PacketsPersec

Paging File

Item	WMI Class	Class Property
Paging File Percent Usage (Percent)	Win32_PerfFormattedData_PerfOS_PagingFile	PercentUsage
Paging File Percent Usage Peak (Percent)	Win32_PerfFormattedData_PerfOS_PagingFile	PercentUsagePeak
Paging File Size (KB)	Win32_PerfRawData_PerfOS_PagingFile	PercentUsage_Base
Per-Process Page File Bytes (MB)	Win32_PerfRawData_PerfProc_Process	PageFileBytes

SharePoint Service Status

Item	WMI Class	Class Property
SharePoint Services Not Running	Win32_Service	DisplayName, Started, StartMode, StartName, State, Status

SQL Server

Item	WMI Class	Class Property
SQL Server Services Not Running	Win32_Service	DisplayName, Started, StartMode, StartName, State, Status

Web Service

Item	WMI Class	Class Property
Web Svc Bytes Received Per Second (Count)	Win32_PerfRawData_W3SVC_WebService	BytesReceivedPersec
Web Svc Bytes Sent Per Second (Count)	Win32_PerfRawData_W3SVC_WebService	BytesSentPersec
Web Svc Bytes Total Per Second (Count)	Win32_PerfRawData_W3SVC_WebService	BytesTotalPersec
Web Svc Connection Attempts Per Second (Count)	Win32_PerfRawData_W3SVC_WebService	ConnectionAttemptsPersec
Web Svc Current Connections (Count)	Win32_PerfRawData_W3SVC_WebService	CurrentConnections
Web Svc Total Method Requests (Count)	Win32_PerfRawData_W3SVC_WebService	TotalMethodRequests

The Collection Service queries the following WMI classes and fields on each server where it detects a running IIS installation:

IIS

Item	WMI Class	Class Property
ASP Cache Total Entries (Count)	Win32_PerfFormattedData_ASPNET_ASPNETApplications	CacheTotalEntries
ASP Cache Hits (Count)	Win32_PerfFormattedData_ASPNET_ASPNETApplications	CacheTotalHits
ASP Cache Misses (Count)	Win32_PerfFormattedData_ASPNET_ASPNETApplications	CacheTotalMisses

Item	WMI Class	Class Property
ASP Application Restarts (Count)	Win32_PerfRawData_ASPNET_ASPNET	ApplicationRestarts
ASP Request Execution Time (ms)	Win32_PerfRawData_ASPNET_ASPNET	RequestExecutionTime
ASP Requests Executing (Count)	Win32_PerfRawData_ASPNET_ASPNET	RequestsCurrent
IIS Requests Queued (Count)	Win32_PerfRawData_ASPNET_ASPNET	RequestsQueued
IIS Requests Rejected (Count)	Win32_PerfRawData_ASPNET_ASPNET	RequestsRejected
ASP Request Wait Time (ms)	Win32_PerfRawData_ASPNET_ASPNET	RequestWaitTime
ASP Worker Process Restarts (Count)	Win32_PerfRawData_ASPNET_ASPNET	WorkerProcessRestarts
IIS Requests Per Second (Count)	Win32_PerfRawData_ASPNET_ASPNETApplications	RequestsPerSec

The Collection Service queries the following WMI classes and fields on each server where it detects SQL Server Instances:

SQL Server

Item	WMI Class	Class Property
Active Transactions/Total (Count)	Win32_PerfFormattedData_?Databases	ActiveTransactions
Data Files Size/Total (KB)	Win32_PerfFormattedData_?Databases	DataFilesSizeKB
Log Files Size/Total (KB)	Win32_PerfFormattedData_?Databases	LogFilesSizeKB
Transactions Per Second/Total (Count)	Win32_PerfFormattedData_?Databases	TransactionsPersec
User Connections (Count)	Win32_PerfFormattedData_?GeneralStatistics	UserConnections
Logins Per Second	Win32_PerfRawData_?GeneralStatistics	LoginsPersec

Item	WMI Class	Class Property
(Count)		
Logouts Per Second (Count)	Win32_PerfRawData_?GeneralStatistics	LogoutsPersec
Latch Waits Per Second (Count)	Win32_PerfRawData_?Latches	LatchWaitsPersec
Lock Requests Per Second (Count)	Win32_PerfRawData_?Locks	LockRequestsPersec
Lock Waits Per Second (Count)	Win32_PerfRawData_?Locks	LockWaitsPersec
Number of Deadlocks Per Second (Count)	Win32_PerfRawData_?Locks	NumberofDeadlocksPersec

SQL Server Database

Item	WMI Class	Class Property
Active Transactions (Count)	Win32_PerfFormattedData_?Databases	ActiveTransactions
Data Files Size (KB)	Win32_PerfFormattedData_?Databases	DataFilesSizeKB
Log Files Size (KB)	Win32_PerfFormattedData_?Databases	LogFilesSizeKB
Transactions Per Second (Count)	Win32_PerfFormattedData_?Databases	TransactionsPersec

The Collection Service queries the following WMI classes and fields on each server where it detects a SharePoint installation:

SharePoint Excel Calculation Services

Item	WMI Class	Class Property
Active Requests (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelCalculationServices	ActiveRequests
Active Requests (Count) (2010)	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelCalculationServices	ActiveRequests
Aver-	Win32_PerfRawData_Office-	Aver-

Item	WMI Class	Class Property
Average Request Processing Time (Seconds) (2007)	ServerPerformanceMonitoring_ExcelCalculationServices	AverageRequestProcessingTime
Average Request Processing Time (Seconds) (2010)	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelCalculationServices	AverageRequestProcessingTime
Average Session Time (Seconds) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelCalculationServices	AverageSessionTime
Average Session Time (Seconds) (2010)	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelCalculationServices	AverageSessionTime
Requests Received Per Second (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelCalculationServices	RequestsReceivedPerSecond
Requests Received Per	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelCalculationServices	RequestsReceivedPerSecond

Item	WMI Class	Class Property
Second (Count) (2010)		
Requests With Errors Per Second (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelCalculationServices	Reque- stsWi- thErrorsPerSecond
Requests With Errors Per Second (Count) (2010)	Win32_PerfRawData_Micro- soft- WindowsSharePointSharePointServer_ExcelCalculationServices	Reque- stsWi- thErrorsPerSecond
Sessions Per Second (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelCalculationServices	SessionsPerSecond
Sessions Per Second (Count) (2010)	Win32_PerfRawData_Micro- soft- WindowsSharePointSharePointServer_ExcelCalculationServices	SessionsPerSecond

SharePoint Excel Services

Item	WMI Class	Class Property
Web Front End Active Requests (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_ExcelServicesWebFrontEnd	ActiveRequests
Web Front End	Win32_PerfRawData_Micro- soft- WindowsSharePointSharePointServer_ExcelServicesApplicationWebFrontEnd	ActiveRequests

Item	WMI Class	Class Property
Active Requests (Count) (2010)		
Web Front End Average Request Processing Time (Seconds) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_Excel-ServicesWebFrontEnd	Average-RequestProcessingTime
Web Front End Average Request Processing Time (Seconds) (2010)	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelServicesApplicationWebFrontEnd	Average-RequestProcessingTime
Web Front End Requests Per Second (Count) (2007)	Win32_PerfRawData_Office-ServerPerformanceMonitoring_Excel-ServicesWebFrontEnd	Requestspersecond
Web Front End Requests Per Second (Count) (2010)	Win32_PerfRawData_Microsoft-WindowsSharePointSharePointServer_ExcelServicesApplicationWebFrontEnd	Requestspersecond

SharePoint Search

Item	WMI Class	Class Property
Blocked Documents (Count) (2007)	Win32_PerfFormattedData_WSSArpi_SharePointSearchArchivalPlugin	Blockeddocuments
Blocked Documents (Count) (2010)	Win32_PerfFormattedData_Microsoft-WindowsSharePointSharePointServer_OSSSearchArchivalPlugin	Blockeddocuments
Processed Documents per second (Count) (2007)	Win32_PerfFormattedData_WSSGatherer_SharePointSearchGathererProjects	ProcessedDocumentsRate
Processed Documents per second (Count) (2010)	Win32_PerfFormattedData_Microsoft-WindowsSharePointSharePointServer_OSSSearchGathererProjects	Document-sProcessedRate
Retries per second (Count) (2007)	Win32_PerfFormattedData_WSSGatherer_SharePointSearchGathererProjects	RetriesRate
Retries per second (Count) (2010)	Win32_PerfFormattedData_Microsoft-WindowsSharePointSharePointServer_OSSSearchGathererProjects	RetriesRate
Waiting Documents (Count) (2007)	Win32_PerfFormattedData_WSSGatherer_SharePointSearchGathererProjects	WaitingDocuments

Item	WMI Class	Class Property
Waiting Documents (Count) (2010)	Win32_PerfFormattedData_Microsoft-WindowsSharePointSharePointServer_OSSSearchGathererProjects	TransactionsWaiting
Idle Threads (Count) (2007)	Win32_PerfFormattedData_WSSGTHRSVC_SharePointSearchGatherer	IdleThreads
Idle Threads (Count) (2010)	Win32_PerfFormattedData_Microsoft-WindowsSharePointSharePointServer_OSSSearchGatherer	IdleThreads

SharePoint Search Indexer

Item	WMI Class	Class Property
Active Connections (Count) (2007)	Win32_PerfFormattedData_WSSIndex_SharePointSearchIndexerCatalogs	ActiveConnections
Active Connections (Count) (2010)	Win32_PerfFormattedData_MicrosoftWindowsSharePointSharePointServer_OSSSearchIndexerPlugin	ActiveConnections
Documents Filtered (Count) (2007)	Win32_PerfFormattedData_WSSIndex_SharePointSearchIndexerCatalogs	DocumentsFiltered
Documents Filtered (Count) (2010)	Win32_PerfFormattedData_MicrosoftWindowsSharePointSharePointServer_OSSSearchIndexerPlugin	DocumentsFiltered
Index Size (Count) (2007)	Win32_PerfFormattedData_WSSIndex_SharePointSearchIndexerCatalogs	IndexSize
Index Size (Count) (2010)	Win32_PerfFormattedData_MicrosoftWindowsSharePointSharePointServer_OSSSearchIndexerPlugin	IndexSize

Item	WMI Class	Class Property
Queries Failed (Count) (2007)	Win32_PerfFormattedData_WSSIndex_SharePointSearchIndexerCatalogs	QueriesFailed
Queries Failed (Count) (2010)	Win32_PerfFormattedData_MicrosoftWindowsSharePointSharePointServer_OSSSearchIndexerPlugin	QueriesFailed
Queries Succeeded (Count) (2007)	Win32_PerfFormattedData_WSSIndex_SharePointSearchIndexerCatalogs	QueriesSucceeded
Queries Succeeded (Count) (2010)	Win32_PerfFormattedData_MicrosoftWindowsSharePointSharePointServer_OSSSearchIndexerPlugin	QueriesSucceeded

Analyzing page performance

Idera SharePoint diagnostic manager helps you to monitor the availability and load times of the pages that you specify in your SharePoint farm. You can specify how often the SharePoint dm Collection Service loads the page to determine the page load time and availability. You can also specify the Windows Front End (WFE) Servers that the Collection Service retrieves the page from.

When you monitor the load time and availability for a page, the SharePoint dm Collection Service contacts the SharePoint farm and requests the page. When it retrieves the page in this way, you can choose from the following options:

- The SharePoint Farm can assign the request to any WFE in the farm.
- You can request the page from every WFE in the farm.
- You can request the page from one or more WFEs that you specify.

You can use these options to help you locate issues with the WFE servers in your farm.

For more information about configuring monitored pages, see the following in the SharePoint dm help:

- Configuring monitored SharePoint pages
- Adding a monitored page
- Setting monitored page options
- Editing monitored page settings

Analyzing page component performance

The Idera SharePoint diagnostic manager Collection Service can analyze the load performance of individual page components on the SharePoint pages that you specify. To perform page

performance analysis, you must install the SharePoint dm Web Part. The Collection Service uses the Web Part to analyze the page components that make up the pages that you specify.

When you analyze page performance, the analysis itself can change the page performance; the more comprehensive the analysis, the more changes the analysis introduces. The SharePoint dm Web Part imposes the minimum possible performance penalty consistent with accurate analysis. In addition, performance analysis components are only used when performance analysis is actually in progress. When SharePoint dm is not analyzing page performance, there is no performance impact on your SharePoint pages.

SharePoint dm uses a custom HTTP module to collect page performance data. The Web Part can use the HTTP module to analyze any page that is based on a master page template that includes the `AdditionalPageHead` placeholder. The Web Part overrides the default `AdditionalPageHead` to direct the request to the analysis components.

How do I tell if my master page template uses the `AdditionalPageHead` placeholder?

You can examine the HTML that makes up the Master Page template for the SharePoint site to determine if the page includes the `AdditionalPageHead` placeholder. The Master Page header should include a line similar to the following:

```
<SharePoint:DelegateControl runat="server" ControlId="AdditionalPageHead"
  AllowMultipleControls="true"/>
```

The default Master Page templates include the placeholder.

How does SharePoint dm analyze page component performance?

When the Web Front End (WFE) processes a page, the HTTP module determines if the page request is the SharePoint dm Collection Service calling for a component performance analysis. If the request is not for component performance analysis, the HTTP module exits and the page renders normally, with no performance penalty.

If the request is for component performance analysis, the HTTP module redirects the request to the SharePoint dm Web Part. The Web Part parses each element that makes up the page. The Web Part filters the components, excluding the ones that have little relevance to the user experience of the page, or those that do not impact the page load time. The excluded elements include the following:

- HTML structure tags, including tables and DIVs.
- Empty placeholders.
- Certain types of ASP.NET web controls.
- The SharePoint dm Web Part.

The Web Part passes the raw data for the page analysis to the Collection Service, which analyzes the data.

How does the SharePoint dm Web Part collect data from the components on a page?

The methods that the Web Part uses to collect data vary. The Web Part uses a different data collection method for each type of control that makes up the page.

The Web Part uses the individual object event handlers to insert a listener into the execution process of ASP.NET controls, including web controls, server controls, user controls, and other

ASP.NET elements. The Web Part overrides the load events and the unload events for each control. The Web Part uses the timers that it inserts to track component start and end times. Many controls are unloaded in batches by garbage collection processes on the Web Front End (WFE) server. That is, the WFE server loads the ASP.NET controls, then keeps them resident until the garbage collector removes items in its queue. Resident items are technically still loaded until the garbage collector removes items in the queue.

SharePoint web parts and ASP.NET web parts are a type of server control but each has unique behaviors. The information that the web parts expose is different from that exposed by a base control. The SharePoint dm Web Part treats the SharePoint and ASP.NET Web Parts as server controls to collect web part performance information from them. SharePoint dm creates a web part group that is based on the type value of the Web Parts that it analyzes. SharePoint dm also uses the `SPWebPartManager` object for the page to access the data.

Each page in your SharePoint deployment has a single Web Part Manager object. SharePoint uses this Web Part Manager object to keep track of all of the web parts on the page. The Web Part Manager object is accessible within the page context using the `this.page.WebPartManager` command. SharePoint dm also accesses the Web Part Manager object out-of-band with the `SPLimitedWebPartManager` object from the `GetLimitedWebPartManager` method.

The method used to collect the data from the Web Part Manager object varies, depending on the calling context. SharePoint dm can access the `SPWebPartManager` object inside a web part. SharePoint dm uses `SPLimitedWebPartManager` to get web part data from an HTTP module or handler assembly without access to the post-rendered context of a page.

For HTML controls, linked objects, or embedded objects, SharePoint dm must request the object URI and time the response to measure performance. This method is simple for pages which do not utilize authentication mechanisms. When the page requires valid user credentials for a remote server, the task is more complex. If remote host is also a SharePoint server, timing complexities ensue. In the worst-case scenario, the SharePoint farm includes a complicated domain architecture that requires impersonation techniques to pass credentials to the remote host. As with ASP.NET controls, the Web Part performs careful filtering to determine which HTML controls have a potentially high-value performance impact and which are simply filler or formatting objects.

SharePoint dm uses a DOM-parsing method to obtain and analyze the HTML components. In addition, it uses other mechanisms, including Regular Expressions, to build an array of controls for further processing. When the array is populated, the SharePoint dm Web Part passes the URLs to the Data Collection service protocol analyzer object to retrieve the objects and generate performance statistics.

For more information about configuring monitored pages, see the following in the SharePoint dm help:

- Configuring monitored SharePoint pages
- Adding a monitored page
- Setting monitored page options
- Editing monitored page settings

Learning about the components and architecture

Idera SharePoint diagnostic manager lets you monitor your Microsoft SharePoint farms, servers, and pages. You can also analyze load times for individual pages and web parts. You can analyze the farm or individual Web Front End (WFE) servers. SharePoint dm management console is easy to use. SharePoint dm can scale to fit the needs of your environment no matter how complex.

SharePoint dm requires minimal changes to your existing Microsoft SharePoint farms.

What are the product components?

Management Console

The Management Console is a centralized, intuitive user interface that lets you configure SharePoint dm. It also lets you select the SharePoint farms to collect data from and to select the pages to monitor. The Management Console lets you review collected data and analyze your SharePoint deployment.

You can install the Management Console on multiple machines that share a single Collection Service. Each SharePoint Administrator can use the console to help manage their portion of the SharePoint farm. Multiple Management Consoles can connect to the same Collection Service at the same time.

Collection Service

The Collection Service runs on a computer that you specify and collects data from your SharePoint farm or farms. Your enterprise network can have multiple Collection Services installed, but the Management Console can only contact a single Collection Service at a time.

If the Collection Service encounters errors, it automatically logs them to the Windows Event Logs. You can use the Event Viewer to review the logs when errors occur.

Repository Database

SharePoint dm Repository stores the data that the Collection Service collects from your SharePoint deployment. You use the Management Console to review the data and to manage repository grooming. You specify the Microsoft SQL Server database to host the Repository when you install the Collection Service.

Web Part

SharePoint dm Web Part helps the Collection Service gather data about the page load times, the Web Part load times, and other information. You install the Web Part on a Web Front End in your farm. As with other Web Parts, SharePoint automatically replicates it to the other WFEs in your farm.

How does SharePoint dm collect information from my servers?

SharePoint dm Collection Service uses Windows Management Instrumentation (WMI) and SQL queries to collect information about the performance of your SharePoint farm and the servers that make it up. The Collection Service cannot collect performance information from the farm if it cannot connect to the servers. You should ensure that the credentials that you supply when you add

the farm allow the Collection Service to connect to the servers that make up the SharePoint farm. In addition, you should ensure that the firewall settings on the network allow the Collection Service to connect to every server in the SharePoint farm. Finally, you should ensure that you do not disable or prevent remote access to WMI on the servers in the SharePoint farm.

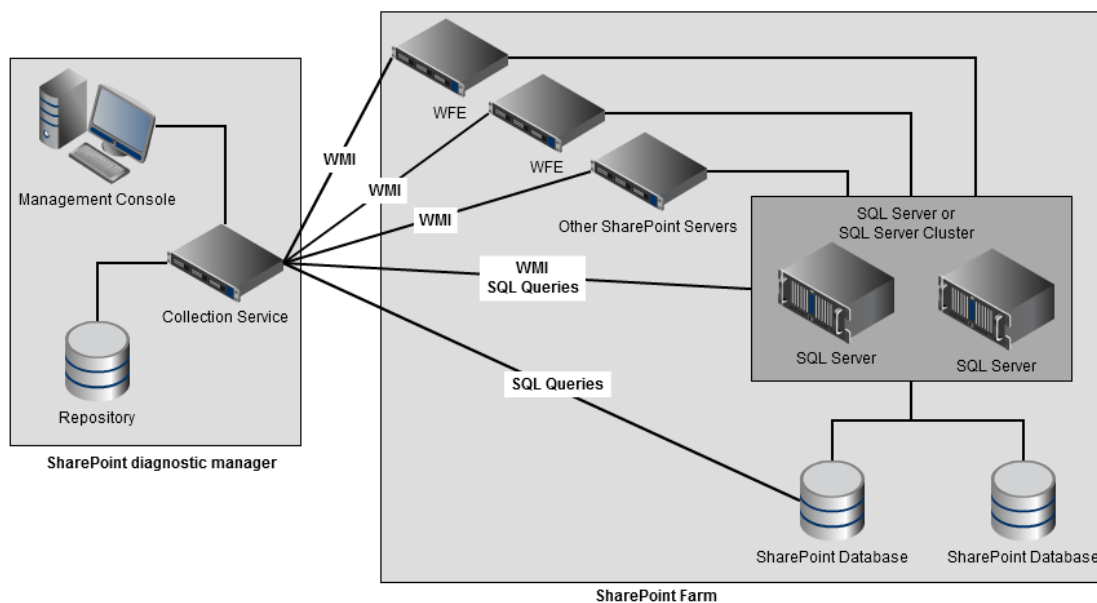
On the SharePoint server that you specify as the Topology Server when you add the farm, the Collection Service also access the registry to determine the location of the Farm Configuration Database. The Collection Service uses SQL queries to the Farm Configuration Database to analyze the composition of the SharePoint farm.

If your SharePoint farm includes one or more SQL Server Clusters, the Collection Service uses WMI information to analyze the composition of the cluster and locate all of the servers that make up the cluster.

The Collection Service uses SQL queries to the SQL Servers in the farm to collect configuration information, as well as database statistics and fragmentation information for the SharePoint databases. The credentials that you supply when you add the farm should allow the Collection Service to retrieve this data. The Collection Service does not make changes to the SharePoint or other data hosted by your SQL Server. The Collection Service does store information in the SharePoint dm Repository on a SQL Server host that you specify. You can specify any SQL Server on network that meets the requirements as the repository host.

For information about the communications ports that the Collection Service uses, see [Learning about the communications ports](#) on page 39.

For information about the permissions that the Collection Server needs, see [Permission requirements](#) on page 42.



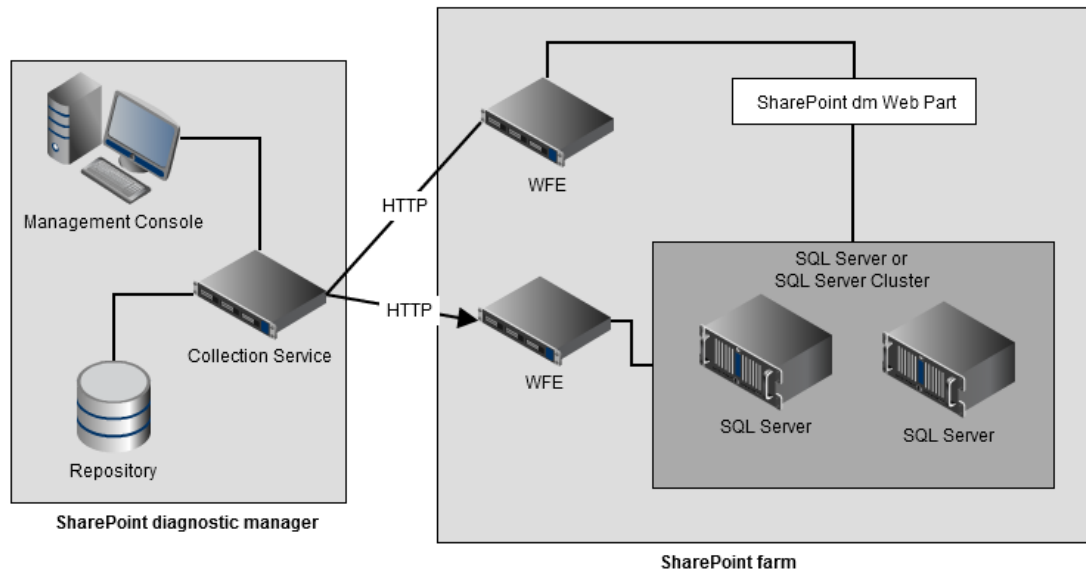
How does SharePoint dm collect information from the SharePoint pages that I specify?

SharePoint dm uses HTTP calls to collect data about page load times and to analyze page performance. You can configure SharePoint dm to collect data from the URL of a page, from all

WFEs, or from specific WFEs that you select. When you collect page analysis data, the Collection Service uses the Web Part to collect detailed information about the page component load times. When it collects page performance data from the SharePoint farm, the Collection Service uses the credentials that you specify, not the credentials of the user who added the page. As a result, users can review page load times and page analysis information for pages that they are unable to access. Users cannot use these credentials and SharePoint dm to access information from the pages, only information about the page performance.

If the Collection Service account is not able to access a page, it cannot collect page load times or other performance information from the page. You should ensure that the credentials that you supply when you add the farm allow the Collection Service to access any pages that you need to monitor.

For information about the permissions that the Collection Server needs, see [Permission requirements](#) on page 42.



Learning about the communications ports

Idera SharePoint diagnostic manager components use communicate with one another over TCP/IP ports. You must configure your network firewall settings to allow the components to communicate with one another. If you disable communications between the components, SharePoint dm may not function properly.

What TCP/IP ports does the Collection Service use?

The Management Console uses ports 5292 and 5293 to communicate with the Collection Service. You must allow outbound communications on ports 5292 and 5293 from the computer that hosts a Management Console to the computer that hosts the Collection Service. You must allow inbound communications on ports 5292 and 5293 on the computer that hosts the Collection Service.

If necessary, you can change this port. Contact Idera Technical Support for assistance to change the port.

The Collection Service uses the Windows Management Interface (WMI) to collect information about the servers in monitored SharePoint farms. If you want to collect information about your servers, you must allow communications from the computer that hosts the Collection Service to the servers in monitored SharePoint farms over these ports.

When the Collection Service performs Page Availability, Load Time, or Page Component Analysis tests on monitored pages, it uses whatever port is specified in the URLs you supply. If no port is specified, the default Web Server port is used.

Hardware requirements

Idera SharePoint diagnostic manager requires the following hardware on any computer that hosts a component.

Hardware Type	Requirement
CPU	2 GHz
Memory	1 GB
Hard Drive Space	200 MB total for all components

Software requirements

Idera SharePoint diagnostic manager components have the following general software requirements, as well as specific requirements outlined in the following sections. *If a service pack is not specified*, a service pack is not required for that version of the software.

General Software Requirements

You must have Microsoft Internet Explorer 7.0 or later to use the online Help.

You must have access to one or more Microsoft SharePoint farms with one of the following installed:

- Microsoft Office SharePoint Server 2007 SP1 or later
- Windows SharePoint Services 3.0 SP1 or later
- SharePoint Foundation 2010
- SharePoint Server 2010

Management Console

The Management Console can run on both 32- and 64-bit computers. The Management Console requires one of the following operating systems.

Operating System	32-bit	64-bit
Windows XP Professional SP2 or later	✓	✓
Windows Server 2003 SP2 or later	✓	✓
Windows Vista Business and Enterprise	✓	✓

Operating System	32-bit	64-bit
Windows 7	✓	✓
Windows Server 2008 SP1 and later	✓	✓
Windows 2008 R2	✓	✓

In addition, you must install Microsoft .NET 3.5 or later on the computer that hosts the Management Console.

Collection Service

You can run the Collection Service on both 32- and 64-bit computers.

Operating System	32-bit	64-bit
Windows XP Professional SP2 or later	✓	✓
Windows Server 2003 SP2 or later	✓	✓
Windows Vista Business and Enterprise	✓	✓
Windows 7	✓	✓
Windows Server 2008 SP1 and later	✓	✓
Windows 2008 R2	✓	✓

Repository

The computer that hosts the Repository must have the following software installed.

Software Type	Requirement
Operating System	The computer that hosts SharePoint dm Repository should meet or exceed the software requirements recommended by Microsoft to run and manage SQL Server.
SQL Server	The Repository requires one of the following Microsoft SQL Server versions: <ul style="list-style-type: none"> ○ Microsoft SQL Server 2012 ○ Microsoft SQL Server 2008 R2 ○ Microsoft SQL Server 2008 Standard and Enterprise Editions ○ Microsoft SQL Server 2005 Standard and Enterprise Editions SP1 or later

TIP: You must use a complete installation of Microsoft SQL Server to host the repository. Windows SharePoint Services 3.0 includes SQL Server Embedded Edition. You cannot use SQL Server Embedded Edition to host the Repository database.

Web Part

You install the Web Part on any server in the Microsoft SharePoint farm. SharePoint replicates the Web Part to every member of the farm. The Web Part imposes no additional requirements on the servers that host it beyond the requirements to be part of the SharePoint farm.

The Web Part can use a custom HTTP module to analyze any page that is based on a master page template that includes the `AdditionalPageHead` placeholder. The Web Part overrides the default `AdditionalPageHead` to direct the request to the analysis components. If a Master Page does not include the placeholder, the Web Page cannot analyze page performance for pages that are based on it.

Permission requirements

Idera SharePoint diagnostic manager requires specific permissions and rights to successfully operate. The rights of the service account that you supply while installing the Collection Service user dictate the rights available to SharePoint dm.

SharePoint dm uses Windows Management Instrumentation (WMI) and SQL queries to collect information about the performance of your SharePoint farm and the servers that make it up. On the SharePoint server that you specify as the Topology Server when you add the farm, the Collection Service also access the registry to analyze the composition of the SharePoint farm.

The Collection Service needs WMI access to every server in the SharePoint farm, including any computers that host SQL Server databases that the farm uses. If your SharePoint farm includes one or more SQL Server Clusters, the Collection Service uses WMI information to analyze the composition of the cluster and locate all of the servers that make up the cluster.

The Collection Service uses SQL queries to the SQL Servers in the farm to collect configuration information, as well as database statistics and fragmentation information for the SharePoint databases.

The Collection Service cannot collect performance information from the farm if it cannot connect to the servers. You should ensure that the credentials that you supply when you add the farm allow the Collection Service to connect to the servers that make up the SharePoint farm. In addition, you should ensure that the firewall settings on the network allow the Collection Service to connect to the servers that make up the SharePoint farm. Finally, you should ensure that you do not disable or prevent remote access to WMI on the servers in the SharePoint farm.

SharePoint dm uses HTTP calls to collect data about page load times and to analyze page performance. You can configure SharePoint dm to collect data from the URL of a page, from all WFEs, or from specific WFEs that you select. When you collect page analysis data, the Collection Service uses the Web Part to collect detailed information about the page component load times. When it collects page performance data from the SharePoint farm, the Collection Service uses the credentials that you specify, not the credentials of the user who added the page. As a result, users can review page load times and page analysis information for pages that they are unable to access. Users cannot use these credentials to access information from the pages with SharePoint dm, only information about the page performance.

If the Collection Service account is not able to access a page, it cannot collect page load times or other performance information from the page. You should ensure that the credentials that you supply when you add the farm allow the Collection Service to access any pages that you need to monitor.

Tip: To collect data for page load times and other data, you must use Windows Authentication. You cannot use alternate authentication methods, including Forms Based Authentication or Claims Based Authentication.

Required permissions to install:

Component	Requirement
Management Console	The account you use to log on when you install the Management Console must have local administrator permissions.
Collection Service	<p>The account you use to log on when you install the Management Console must have local administrator permissions. The account must also have permissions to create databases on the Microsoft SQL Server that hosts the Repository.</p> <p>During the installation, you supply the service account credentials that the Collection Service uses to collect data. You do not need to log on with the Service Account when you install the Collection Service.</p>
Web Part	The account you use to log on when you install the Web Part must have local administrator permissions and must also have Farm Administrator permissions in the Microsoft SharePoint farm.

Required permissions to collect data

Component	Requirement
Management Console	The Management Console uses the permissions of the currently logged on user. The user can see live and historical data for all monitored servers and pages. When the user browses to select additional pages to add, SharePoint permissions control the pages the user can view. The user can add any page by URL, but the page content is not visible.
Collection Service	<p>The account that you specify for the Collection Service does not need specific permissions to collect data from the farm. The installer grants the Collection Service account the "Log on as service" privilege.</p> <p>In addition, the Collection Service account does need Local Admin permissions on the computer that hosts the Collection Service.</p> <p>The Collection Service account does need specific permissions for the SQL Server instances that host the SharePoint farm configuration and content databases. You can do one of the following:</p> <ul style="list-style-type: none"> • Grant the Collection Service account <code>SYSADMIN</code> privileges for the SQL Server. • Assign the Collection Service account specific privileges for the SQL Server instance, and for every SharePoint database. <p>If you assign specific privileges, you grant the following privileges for</p>

Component	Requirement
	<p>the SQL Server instance:</p> <ul style="list-style-type: none"> • Public Role membership. • Either the <code>VIEW ANY DATABASE</code> permission or the <code>DBCREATOR</code> role. • The <code>VIEW SERVER STATE</code> permission. <p>In addition, grant the following privileges for every SharePoint database:</p> <ul style="list-style-type: none"> • <code>VIEW DEFINITION</code> or <code>GRANT VIEW ANY DEFINITION TO <user_name></code> at the server level. • <code>VIEW DATABASE STATE</code> <p>Finally, you should also grant the <code>SELECT</code> permission to the account on the <code>SharePoint_Config</code> database.</p> <p>When you add a farm, you can specify the credentials that the Collection Service uses to collect data from the farm.</p>

When you add a farm, you can specify credentials to that the Collection Service uses to collect data from your farm. You can specify individual credentials to collect each of the following types of data:

- Farm data
- Server performance data
- Page performance data

The credentials that you specify must have the following privileges:

Component	Requirement
Farm data	The account that you supply must have read access to the SharePoint Farm configuration database.
Server performance data	The account that you supply must have access to the Windows Management Instrumentation (WMI) data for every machine in the Farm. Normally, you use an administrator account, but you can use any account that has the appropriate permissions.
Page performance data	<p>The account must have HTTP read access to all areas of the farm. SharePoint dm uses the account to perform page performance testing and content summary.</p> <p>Page performance tests only require access to the monitored pages that you specify.</p> <p>To perform a content summary, the account must be able to access the entire farm. SharePoint dm performs a "spider crawl" every Web Application, Site Collection, Site, List, List Item, and so on in the entire farm. If the account does not have access to an element, the error message "Permission Denied" appears in the Management Console for the element.</p>

Installing and deploying

You can install and deploy Idera SharePoint diagnostic manager in any network environment. You must have at least one Microsoft SharePoint farm deployed to use SharePoint dm.

- Learn about the components and architecture.
See [Learning about the components and architecture](#) on page 37.
- Review the [Hardware requirements](#) on page 40, the [Software requirements](#) on page 40, and the [Permission requirements](#) on page 42.
- Install the SharePoint dm components.
See [Installing the components](#) on page 45.

Installing the components

This procedure guides you through a typical install of Idera SharePoint diagnostic manager. You should use this procedure for both first-time installs and evaluation installs.

You use the same installer to install the Management Console, the Collection Service and the Web Part Installer.

Any computer on your network can host the Collection Service.

You can install the Web Part installer and the Web Part on any computer included in your Microsoft SharePoint farm.

You can install the Management Console on any number of computers on your network. A computer that hosts the Management Console does not need to be part of the SharePoint farm.

Start SharePoint dm installer

You can install SharePoint dm components on any computer that meets or exceeds the [Hardware requirements](#) on page 40, the [Software requirements](#) on page 40, and the [Permission requirements](#) on page 42 .

To start the Idera SharePoint diagnostic manager installer

1. Log on to the computer where you will install SharePoint dm component or components.
You must log on with an administrator account.
2. Close all open applications.
3. Run `Setup.exe` in the root of the installation kit.
4. Click **Next** in the Welcome page of the wizard.
5. In the License Agreement page, if you agree with the terms of the license agreement, click **I accept the terms in the license agreement**, then click **Next**.

Select where to install the components

You can specify where the components are installed.

To select the destination folder

1. In the Destination Folder page, specify a custom install directory, or click **Next** to use the default location.

Select the components to install

You can choose to install some or all of SharePoint dm components on a given computer.

You can install the Management Console on any computer on your network that meets the requirements. You can install the Management Console on multiple computers on your network and use all of the copies at the same time.

You install a single copy of the Collection Service. The Collection Service collects data from all monitored farms. The computer that hosts the Collection Service does not need to be a member of a SharePoint farm.

You use the Web Part Installer to install the Web Part on a single Web Front End (WFE) server in each SharePoint farm you monitor. SharePoint automatically replicates the Web Part to each WFE. The computer where you install the Web Part Installer must be a WFE in the Share Point farm. After you install the Web Part Installer, you use the installer to install the Web Part.

See [Installing the Web Part](#) on page 47.

To install all components on a single computer

1. In the Setup Type page, click **Complete**, then click **Next**.

To select the components to install

1. In the Setup Type page, click **Custom**, then click **Next**.
2. In the Custom Setup page, select the components to install.
3. To specify an alternate location to install the components, click **Change**, then specify the custom location.
4. Click **Next**.

Select the database server

If you install the Collection Service, you specify the database server the Collection Service uses as its data repository. You can use any Microsoft SQL Server host that meets the minimum requirements. See [Software requirements](#) on page 40 and [Hardware requirements](#) on page 40. The SQL Server that hosts the repository does not need to be a member of the SharePoint farm.

You can let the Collection Service create the database it uses or you can use an existing database.

When it starts, the Collection Service checks the database. The Collection Service verifies that the database exists and that all required tables and stored procedures are present and up-to-date. The Collection Service automatically creates or upgrades the database if needed. When you install a new version of the Collection Service, it upgrades the tables and stored procedures automatically.

TIP:

If you use an existing database for the Collection Service, any table names or stored procedures that match that names of those the Collection Service uses are overwritten.

To select the database server

1. In the Idera SharePoint diagnostic manager Repository page, do one of the following:
 - Type the name of the SQL Server in the SQL Server Instance field. You can specify a database instance. Use a backslash (\) to separate the database name from

-
- the instance name.
 - Click **Browse**, then select the name of the SQL Server.
2. In the Idera SharePoint diagnostic manager Repository Server page, do one of the following:
 - Leave the default Database Name.
 - Type the name to use for the database. If the database name that you specify does not exist, the Collection Service creates it the first time that it runs.
 - Click **Browse**, then select an existing database to use. If you select an existing database, the Collection Service will replace the database contents the first time that it runs.
 3. Click **Next**.

Specify the Collection Service Account

If you install the Collection Service, you must supply credentials for the account the Collection Service uses to connect to the SQL Server.

To specify the Collection Service Account

1. In the Idera SharePoint diagnostic manager Collection Service Account page, do one of the following:
 - Type the user name for the Collection Service account in the Domain\User name field. The name should be in <domain name>\<user name> format.
 - Click **browse**, then use the Browse for a User Account dialog box to browse for a domain name and user name.
2. Type the password the Collection Service should use in the Password field.
3. Click **Next**. The installer verifies the credentials. If it cannot verify the credentials, it prompts you to correct the credentials.

Install the components

After you supply the information needed to install the components, you can complete the installation.

To install the components

1. In the Ready to Install the Program page, click **Install**.
2. When the installation is complete, the InstallShield Wizard Completed page appears.
3. Click **Finish** to close the wizard. *If you installed the Management Console* and **Launch Idera SharePoint diagnostic manager** is selected, the Management Console starts.

Installing the Web Part

You should install Idera SharePoint diagnostic manager Web Part on a single Web Front End (WFE) in each Microsoft SharePoint farm that you want to monitor. SharePoint automatically replicates the Web Part to every WFE.

Before you install the Web Part, you must install the Web Part Installer. You use SharePoint dm installer to install the Web Part installer.

For information about installing the Web Part installer, see [Installing the components](#) on page 45.

Start the Web Part installer

You can install the Web Part on any WFE that is part of the Microsoft SharePoint farm that you plan to monitor.

To start the Web Part Installer

1. Log on to the computer where you will install the Web Part. You must log on with an administrator account.
2. Close all open applications.
3. If you have not yet done so, you must install the Web Part Installer See [Installing the components](#) on page 45.
4. Click **Start > All Programs > Idera > SharePoint diagnostic manager > Install Web Part**.
5. In the Idera SharePoint diagnostic manager Web Part page, click **Next**.
6. The wizard verifies that it can install the Web Part. **If the Web Part Installer can install**, click **Next**. **If the wizard detects a problem**, click **Abort** to exit the wizard, then correct the problem and repeat the installation.
7. In the End-User License Agreement page, click **I accept the terms in the License Agreement**, then click **Next**.
8. In the Farm Deployment Targets page, select the web applications where you want to deploy the Web Part, then click **Next**.
9. In the Installing page, click **Next**
10. In the Installation Successfully Completed page, click **Close**.

Installing the Web Part manually

If you choose, you can install the Idera SharePoint diagnostic manager Web Part manually.

Your SharePoint dm installer includes the manual Web Part installer. You copy the manual Web Part installer to a Web Front End (WFE) server in your SharePoint farm, then use it to install the Web Part. The Web Part installer places the Web Part files into a folder that you specify on the WFE. The default location for the installer is:

```
C:\Program Files (x86)\Idera\SharePoint diagnostic manager\WebPartInstall
```

You can then use the `stsadm` command-line utility to add and deploy the web part. To use the utility, you must be a member of the local Administrators group on the WFE. The location of the utility depends on the version of SharePoint that the farm uses.

SharePoint 2007	C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\BIN
SharePoint 2010	C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\BIN

Tip: For information about the `stsadm` tool, enter the following command at the command prompt in the `stsadm` folder:

```
stsadm -help
```

For more information about the `stsadm` command, change to the folder where the `stsadm` command is stored, and then enter the following command:

```
stsadm -help
```

How do I deploy the Web Part manually?

You use the stsadm tool to deploy the Web Part to your SharePoint farm.

To deploy the Web Part

1. Log on the SharePoint WFE where you want to deploy the Web Part. You must use an account that has Local Administrator privileges on the server.
2. On the WFE, open a command prompt window. In the Command Prompt, change to the stsadm folder. The folder path depends on the version of SharePoint.
3. In the Command Prompt window, add the Web Part to the farm. Type the following command, then press Enter:

```
stsadm.exe -o addsolution -filename "<Web Part install path>\IderaSharePointdm.wsp"
```

4. Enter one of the following commands to deploy the Web Part to a site:

- To deploy to all non administrative web applications that are in the farm, enter:

```
stsadm.exe -o deploysolution -name IderaSharePointdm.wsp -all-contenturls -immediate -allowgacdeployment -allowcaspolices
```

- To deploy to a single web application, enter:

```
stsadm.exe -o deploysolution -name IderaSharePointdm.wsp -immediate -allowgacdeployment -allowcaspolices -url http://<URL of the web application to deploy to>
```

Tip: A message may appear that a timer job was created. If the message appears, enter the following command to run the job immediately:

```
stsadm.exe -o execadmsvcjobs
```

How do I retract and delete the Web Part?

You use the stsadm tool to retract the Web Part. When you have retracted the Web Part, you can use Windows Explorer to delete the Web Part files.

To retract the Web Part

1. Log on the SharePoint WFE where you want to retract the Web Part. You must use an account that has Local Administrator privileges on the server.
2. On the WFE, open a command prompt window. In the Command Prompt, change to the stsadm folder. The folder path depends on the version of SharePoint.

3. Retract the Web Part from the solution farm by entering one of the following commands:

- To remove from all non administrative web applications that are in the farm, enter:

```
stsadm.exe -o retractsolution -name IderaSharePointdm.wsp -all-  
contenturls -immediate
```

- To retract from a single web application, enter:

```
stsadm.exe -o retractsolution -name IderaSharePointdm.wsp -imme-  
diate -url http://<URL of the web application to deploy to>
```

Tip:

A message may appear that a timer job was created. If the message appears, enter the following command to run the job immediately:

```
stsadm.exe -o execadmsvcjobs
```

4. Enter the following command to delete the Web Part from the farm:

```
stsadm.exe -o deletesolution -name IderaSharePointdm.wsp
```

How do I upgrade the Web Part?

When you upgrade the Web Part, you use the `stsadm` tool to retract the existing version, then use the `stsadm` tool to deploy the new version.

Adding a farm to monitor

The Idera SharePoint diagnostic manager lets you monitor pages and servers from one or more SharePoint farms on your enterprise network. To collect data from a farm, you must add it to the Management Console. When you add the farm, you specify the following:

Farm Name	The name that appears for the farm in the Management Console. This "friendly name" only appears in SharePoint dm. It does not need to match any other name for the farm that is used outside SharePoint dm. That is, this is not necessarily the name of the farm within SharePoint itself.
Topology Server	<p>You must specify the name or Internet Protocol (IP) address of any Windows Front End (WFE) server in the farm.</p> <p>The Collection Service contacts the server that you specify and uses information from the registry on the Topology Server to locate the SharePoint configuration database. The Collection Service then queries the configuration database to determine the servers that make up the farm and the roles the servers play.</p> <p>The Collection Service uses the Farm Data credentials that you specify to access the Topology Server.</p> <p>The Farm Data credentials must allow the Collection Service to read the SharePoint configuration database.</p>
Farm Access Accounts	<p>You can specify the account credentials that SharePoint dm uses to collect data. You can specify unique credentials for the following types of information:</p> <ul style="list-style-type: none">• Farm data• Server performance data

-
- Page performance data.

When you specify credentials, you can perform a test of the credentials in the Add Farm dialog box.

If you do not specify credentials, the Collection Service uses the Service Account credentials to retrieve data.

When you use alternate access credentials, you specify the user name and password that SharePoint dm uses to collect the data. The user name that you specify should be in `<domain_name\user_name>` format.

The credentials that you specify must have the following privileges:

Farm data	The account that you supply must have read access to the SharePoint Farm configuration database. The SharePoint dm Collection Service uses this account to query the SQL Server instances that host SharePoint databases to determine cluster status.
Server performance data	The account that you supply must have access to the Windows Management Instrumentation (WMI) data for every machine in the Farm. Normally, you use an administrator account, but you can use any account that has the appropriate permissions.
Page performance data	<p>The account must have HTTP read access to all areas of the farm. SharePoint dm uses the account to perform page performance testing and content summary.</p> <p>Page performance tests only require access to the monitored pages that you specify.</p> <p>To perform a content summary, the account must be able to access the entire farm. SharePoint dm performs a "spider crawl" every Web Application, Site Collection, Site, List, List Item, and so on in the entire farm. If the account does not have access to an element, the error message "Permission Denied" appears in the Management Console for the element.</p>

If you start the Management Console and you have not yet added a farm, the Management Console prompts you to add a farm. If you do not specify a farm, SharePoint dm does not collect data.

TIP: You should install the SharePoint dm Web Part on each SharePoint farm that you want to monitor.

For more information, see [Installing the Web Part](#) on page 47.

For more information, see [Installing the Web Part manually](#) on page 48.

The Collection Service stores the list of monitored farms in the repository. Any user of the Management Console can add farms to the Collection Service. Any user of the Management Console can review any of the collected data.

How do I add a farm to monitor?

You can add as many farms to a single Collection Service as your environment requires.

To add a farm

1. Do one of the following:
 - Click **Home Page** in the tree, then click **Add Farm**.
 - On the toolbar, click the **Add Farm** icon.
 - Click **File > Add Farm**.
 - Right-click any element in the tree, then click **Add Farm**.
2. In the Add Farm window, specify the farm name. In the Topology Server field, specify the name or the IP Address of any WFE in the farm.
3. *If you want to use alternate credentials to access the farm*, do one or more of the following:
 - Select the **Farm Data** check box, then specify the credentials that SharePoint dm uses to collect farm data.
 - Select the **Server Performance** check box, then specify the credentials that SharePoint dm uses to collect server performance data.
 - Select the **Farm Data** check box, then specify the credentials that SharePoint dm uses to collect farm data.
4. *If you specified alternate credentials*, click **Test Farm Access Accounts**.
5. Click **OK**.
6. The farm appears in the tree. The farm Central Administration page is added automatically. You can specify additional pages from the farm to monitor. Data from the new farm appears in the Management Console as soon as it is collected. If the farm is large and complex, the data may take some time to appear. You may need to refresh the view in the Management Console to update the view as new data is collected. You can click **View > Refresh** to refresh the view.

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