Overview

What is so cool about the SQL diagnostic manager Management Pack?

- The SQL diagnostic manager (SQLdm) Management Pack integrates key monitors and alerts used by SQL Server DBAs with Microsoft's Systems Center for IT Operators.
- SQLdm offers much deeper performance data than the native SQL Server management pack available with Systems Center.
- DBAs and IT Operators can achieve better synchronization and still utilize the tools to which they are each familiar with no customization required.

Who would benefit from this pack?

- SQLdm users who want to integrate with a new Systems Center deployment.
- Systems Center users who want more advanced SQL Server monitoring and diagnostics.
- Users of both Systems Center and SQLdm who want to integrate the two.

Highlights

- IT Operators get deep insights into the state and health of SQL Servers all within the Systems Center console.
- DBAs can enjoy the robust functionality of SQLdm for advanced troubleshooting of SQL Servers above and beyond the native SQL Server Management Pack's capabilities.
- No customization or configuration of the native Microsoft management pack required
- DBAs can set alert thresholds for individual SQL Servers from a single location and have those alerts automatically appear in Systems Center for IT Operations visibility.
- Provides a new level of collaboration between IT Operators and DBAs.

Key Technical Features

- The SQLdm Management Pack pulls alerts from the SQLdm repository which are then displayed in the System Center Console.
- The dashboard provides a single place to view the health of SQLdm itself, a health assessment of all SQLdm-monitored instances, and a list of recent events forwarded to System Center by SQLdm.
- The SQL diagnostic manager console can be opened up directly from within System Center so users can seamlessly start a troubleshooting session.
- System Center operators can move directly from the health state view to a filtered list showing all events (current and past) associated with a given SQL instance.

Frequently Asked Questions

What is the purpose of the SQL diagnostic manager Management Pack?

The Idera SQL diagnostic manager (SQLdm) Management Pack leverages and extends the investments made in Microsoft System Center by integrating more complete SQL Server performance metrics into the System Center console. It brings out-of-the-box SQL Server expertise to the tools that are already in place, so you can effectively monitor your SQL Server environments from day one and avoid the expense of buying, deploying, learning and maintaining a separate monitoring framework for SQL Server.

With the new SQLdm Management Pack, the years of in-depth, specialized knowledge available to database administrators is now also available to IT Operations through Systems Center.

What is System Center Operations Manager?

System Center is Microsoft's data center management solution of choice. It uses a single interface that shows state, health and performance information of systems. It also generates alerts when pre-defined availability, performance, configuration or security issues occur. It is a family of management solutions that are intended to provide integration of data centers, client devices, and hybrid-cloud IT environments. Available separately and as a suite, individual parts of System Center offer management of applications, services, physical resources, hypervisors, software defined networks, automation, client configuration management, and end point protection.

The current version of System Center (System Center 2012) comprises:

- System Center App Controller
- System Center Operations Manger
- System Center Orchestrator
- System Center Service Manager
- System Center Virtual Machine Manager
- System Center Data Protection Manager
- System Center Endpoint Protection
- System Center Configuration Manager

People may refer to System Center by other names including SCOM, OM (Operations Manager), or MOM (for Microsoft Operations Manager, its name before it became part of the System Center family).

The value of System Center comes from product- and system-specific Management Packs. Management Packs (MPs) provide the rules, models and custom knowledge by which System Center monitors systems. MPs are available from Microsoft for all Microsoft Enterprise-class server applications. Many third party management packs are also available, extending the value of System Center to a range of non-Microsoft solutions.

What versions of System Center does Idera support?

Idera's SQLdm Management Pack supports System Center 2007SP1 and above.

What are the limitations of System Center?

System Center is a tool that has a lot of breadth to the devices and platforms it can manage and it is very customizable which can often make the implementation process complicated, time-consuming and expensive. It ships with a number of default MPs that monitor various applications and devices. Some of these, such as Active Directory and Exchange, are very advanced and others, including the MP for SQL Server, monitor only basic health in their default configuration.

Most companies only use the default configuration of the MPs because customization to suit individual purpose is complex, requiring considerable knowledge both of the product to be managed and of System Center's internal architecture.

Is System Center used to manage SQL Servers?

Yes. Many customers who have installed System Center have installed the native SQL Server Management Pack. The goal of the native SQL Server MP is to provide IT Operations staff with a basic view of SQL Server availability and health, and not to inundate them with raw, un-interpreted data. It is designed to require the minimum amount of configuration to be functional. Enterprises that wish to fine tune what System Center monitors, have access to the MP's underlying rules and monitors. Custom configuring the MP, however, requires a deep knowledge of both SQL Server and of the SQL Server MP architecture. For this reason many enterprises only use System Center to provide a basic overview of SQL Server health, potentially missing important, but more elusive, performance indicators that might identify and mitigate SQL performance issues before end users are affected.

Why add SQL diagnostic manager if System Center already manages SQL Server?

As mentioned, the default functionality of the native SQL Server MP is to provide a view of basic SQL Server health. To get more functionality from the MP involves a level of customization that requires considerable expertise, often from a consultant. The investment of such a consultant can be greater than the cost of SQLdm itself, which is already configured to provide advanced SQL performance monitoring, alerting and diagnostics.

SQLdm is designed to be a DBA's best friend. DBAs can change settings easily as needs change. Making tuned SQLdm data available to System Center serves to provide advanced SQL management information to IT Operations. Using the SQLdm Management Pack provides the visibility to System Center operators of all the key monitors used by SQL DBAs providing better synchronization of IT Operations and DBA staff. It further alerts IT Operations to situations that could impact SQL Server availability and performance that System Center alone might miss without customization.

How does SQL diagnostic manager integrate with System Center?

The SQLdm Management Pack provides views within the System Center Console and pulls alerts from the SQLdm repository which are then displayed in System Center and integrated into the System Center database.

What is a Management Pack?

A management pack is a definition file (either with an .xml or .mp extension) that contains predefined monitoring settings that enable an agent to monitor a specific service or application in System Center.

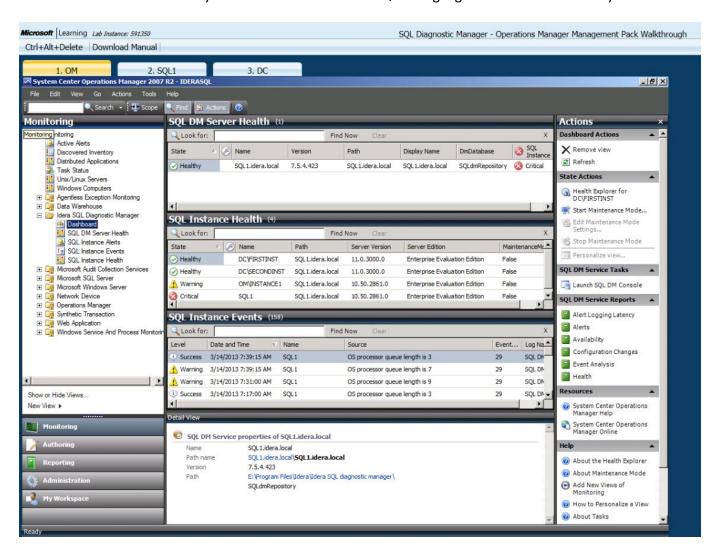### Will I have to deploy SQL diagnostic manager agents to all my SQL Servers?

No. An important feature of SQLdm is that it is agentless so it does not require the deployment of any additional agents or services. Extending System Center with SQLdm therefore requires no change to any SQL Server instance already managed by System Center.

What is displayed in the System Center Console?

After the SQLdm Management Pack is installed, a new node will appear in the System Center Console tree called 'Idera SQL diagnostic manager'. When expanded, users can see the SQLdm Status Dashboard which shows the status of the DM Services and the instances being monitored by SQLdm (through the SQLdm Management Pack) along with their status and alerts.

Since System Center simply displays the actual SQLdm alerts, there is no need to modify the alerts as they enter the System Center interface. If the alerts necessitate any further investigation, SQLdm can be opened from a shortcut within System Center to allow the DBA to start a diagnostic session.

Below is a screenshot of the System Center console with SQLdm highlighted within its hierarchy tree:

What level of advanced monitoring does SQL diagnostic manager offer System Center?

The following is a list of the alerts provided by SQL diagnostic manager (SQLdm) management pack compared to the default monitoring capabilities of the native SQL Server Management Pack alone.

Monitors	System Center Operations Manager	
	Using native SQL Server Server Management Pack only	**Using Native + SQLdm Management Pack Together**
Databases		
Database Space across all files (MB and %)	●	●
DB File Group Free Space (MB and %)	●	●
Database File Free Space (MB and %)	●	●
Database Full in each file (MB and %)		●
Log Full in each file		●
Log Full across all files (percent)	●	●
Log Space across all files (MB and %)	●	●
Database Read/Write Error		●
Database Status		●
Index Row Hits		●
Mirroring Performance		●
- Mirror Commit Overheads		●
- Mirrored Server Role Change		●
- Mirroring Oldest Unset Trans		●
- Mirroring Preferred Config		●
- Mirroring Status		●
- Mirroring Unrestored Log		●
- Mirroring Unset Log		●
- Mirroring Witness Connection		●
Replication Performance		●
- n-Distributed Transaction		●
- Unsubscribed Transaction (count)		●
- Unsubscribed Transactions (sec)		●
Server Broker/Mirroring running in FIPS compliant mode	●	●
Service Broker or Database Mirroring Transport stopped/started	●	●
Service Broker or Database Mirroring transport is disabled or not configured	●	●
Table Fragmentation		●

Monitors	System Center Operations Manager	
	Using native SQL Server Server Management Pack only	Using Native + SQLdm Management Pack Together
Logs		
SQL Server Agent Log		●
SQL Server Error Log		●
Operational		
CLR Enabled		●
OLE Automation Disabled		●
SQL Server Agent XPs Disabled		●
SQL Server Data Used		●
SQL Server Log Used		●
WMI Service Unavailable		●
Queries		
Monitor Query Performance		●
Resources		
Disk Reads per Second, Disk Writes per Second, Disk Transfers per Second		●
Avg Disk ms/Read, Avg Disk ms/Transfer, Avg Disk ms/Write		●
SQL Server Physical I/O		●
OS Avg Disk Queue Length (count), OS Avg Disk Queue Length (percent)		●
SQL Server CPU Usage, SQL Server Memory Usage		●
OS Disk Full, OS Disk Time, OS Disk Time Per Disk, OS Memory Usage, OS Paging, OS Privileged Time, OS Processor Queue Length, OS Processor Time, OS User Time		●
Page Life Expectancy		●
Procedure Cache Hit Ratio		●
Services		
Cluster Active de		●
Cluster Failover		●
DTC Status		●
Full-Text Search Status		●
Last Full-Text Catalog Update		●
SQL Server Agent Job Failure	●	●
Advanced SQL Server Agent Job & Job Step Monitoring - Failures/ Success/ Retries		●
SQL Server Long Running Job (minutes)	●	●
SQL Server Long Running Job (Percent)	●	●
SQL Server Agent Status	●	●
SQL Server Status	●	●

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	System Center Operations Manager	
Monitors	Using native SQL Server Server Management Pack only	Using Native + SQLdm Management Pack Together
Sessions		
Blocked Sessions (count)		●
Blocked Session Wait Time	●	●
Client Computers		●
Deadlock		●
Oldest Open Transaction		●
Session CPU Time		●
SQL Server Response Time		●
User Connections		●
Tempdb		
Long Running Version Store Transaction		●
Session Tempdb Space Usage (MB)		●
Tempdb Contention (ms)		●
Version Store Generation Ratio		●
Version Store Size (MB)		●
Virtualization		
ESX CPU Usage (percent)		●
ESX Memory Swap Detected		●
ESX Memory Usage (Percent)		●
ESX Power State		●
VM CPU Ready Wait Time (ms)	●[1]	●
VM CPU Usage (Percent)	●[1]	●
VM Host Server Change	●[1]	●
VM Memory Swap Delay Detected	●[1]	●
VM Memory Usage (Percent)	●[1]	●
VM Power State	●[1]	●
VM Reclaimed/Ballooned Memory (Kb)	●[1]	●
VM Resource Configuration Change	●[1]	●
VM Resource Limits Detected	●[1]	●

[1] *Note: requires System Center Virtual Machine Manager and VMM Management Pack*

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