

**Specification**

**for**

**Cluster Support**

**10/6/09**



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# Revision history:

|  |  |  |
| --- | --- | --- |
| **When?** | **Who?** | **What?** |
| 9/01/2009 | Kurt | First draft |
| 10/9.2009 | Kurt | Reduced scope |

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# Requirements

## Overview/Purpose

In response to a number of customer requests, we are going to make it easy for our customers to configure the SQLdm services to run in a clustered environment.

### Related Customer Requests

PR 12960 <http://sqldm.hosted3.fastbugtrack.com/?page=com.other.ViewBug&bugId=12960>

David Brown, Navistar International Corp / International Truck & Engine Co (#37834); Fabian Morales, Banco Central de Costa Rica (#39658); Teresa Ferguson, Southwest Power Pool (#44366); Brian Gilles; Norton Healthcare (46035)

## Target Users

This request has come from a number of users and will be useful to any SQLdm customer utilizing Microsoft Windows Clusters for high availability.

## Feature/Function Market Requirements

### Function in a Cluster

The SQLdm Services should function when the services are properly configured in a cluster environment.

### Non-Supported Functions

Automating the cluster configuration. The customer will be required to manually configure the SQLdm services to function in a cluster.

## FAQ

TBD

## Open Issues

# Functional Design

## Installation and Upgrade

When we detect that the user is doing a full install on a system that is a cluster node, the installer will prompt the user to autostart the services. If the user selects no then the services will not autostart at the end of the install (also no need to start the DesktopClient) however we will configure the services as autostart in Service Control Manager. The customer will have to manually change the services to manual when they configure the cluster.

On an upgrade we will configure the services to retain the current setting for service start. If the services were set for manual then we will not automatically start the services after the install finishes.

## User Interface

NONE

## Configuration

To allowed service state information to move with the active node the services should allow the location of the data directory to be configured. We will allow data directory to be specified in the registry. Cluster services can be configured to replicate the registry setting across all cluster nodes so the user only has to configure this in one place. We have had requests to allow configuration of the data directory before so we are also going to allow you to configure the location in the service config files. If the location is set in both the registry and the config file then the registry wins. If not set then the services will operate as before.

## Permissions

No special considerations

## Licensing Issues

No special considerations

## Dependencies

### Dependencies on Idera Software

No special considerations.

### Third-Party Software Required

No special considerations

# Internal Design

## Architecture

### Desktop Client

No changes

### Management Service

The Management Service configure its data directory by checking for a configured value in the following order:

1. registry location: HKEY\_LOCAL\_MACHINE\SOFTWARE\Idera\SQLdm for a DataPath value.
2. The “dataDirectory” attribute in the application config file

If a configured value does not exist it will use the product installation directory.

So that multiple Management Services can exist on the same machine in the future, the instance name (currently Default) will be added to the configured path.

So that both the Management and Collection services can keep their stuff separated ManagementService will be added to the configured path.

### Collection Service

The Collection Service configure its data directory by checking for a configured value in the following order:

1. registry location: HKEY\_LOCAL\_MACHINE\SOFTWARE\Idera\SQLdm for a DataPath value.
2. The “dataDirectory” attribute in the application config file

If a configured value does not exist it will use the product installation directory.

So that multiple Collection Services can exist on the same machine in the future, the instance name (currently Default) will be added to the configured path.

So that both the Management and Collection services can keep their stuff separated CollectionService will be added to the configured path.

## Installation Issues

The following functions will need to be added to the SQLdm Custom Actions dll used by the installer.

Determine if the install machine is a clustered node

Determine the current service autostart setting if there isn’t an InstallScript function for doing this

On install, if the services are being installed and the machine is a cluster node, we need to ask the user if they want to autostart the services at the end of the install. If so we should not start the services automatically and if the desktop client is being installed we should not start the desktop client.

On an upgrade of the services we should retrieve the current autostart setting for the services and use this value when reconfiguring the services. If the autostart setting is not auto then we should not automatically start the services.

## Schedule

### Work Breakdown and Sizings

|  |  |  |
| --- | --- | --- |
| Component | Who | Sizing |
| Collection Service | Kurt | .5 days |
| Management Service | Kurt | .5 day |
| Installer | Trent | 1 day |
| Unit and Integration Testing | Kurt | .5 days |
| **Total** |  | **2.5 days** |

### Areas of Risk

# Quality Assurance Considerations

### Overview

* Make sure to test with service accounts that have limited authority.

# Documentation Considerations

We will need to fully document the steps to properly install the SQLdm services in a cluster.

1. Select the cluster nodes to host the SQLdm services.
2. Install the SQLdm services on one of the nodes. This step will install the SQLdm Repository.
3. Make sure the SQLdm Management service is stopped and that the autostart setting is set to Manual
4. Make sure the SQLdm Collection service is stopped and that the autostart setting is set to Manual
5. Repeat steps 2-4 on each of the failover nodes. Make sure to specify the same location for the SQLdm Repository.
6. Select a Disk that is configured in the Cluster Resource Group and create a directory on that disk that will be used to hold local data for the services.
7. On the primary node add the full path to the data path to the registry value DataPath under HKEY\_LOCAL\_MACHINE\SOFTWARE\Idera\SQLdm\Default
8. Select a Cluster Resource Group to define the SQLdm resources in.
9. Create a Network Name resource for the SQLdm Services. If there is already an existing Network Name in the Cluster Resource Group then you can skip this step.
10. Create an IP Address resource that will map to the Network Name
11. Create the Network Name resource and add the IP Address as a dependency
12. Create a Generic Service resource for the SQLdm Management Service.
13. Add the Disk for the shared data as a dependency
14. Add the Network Name as a dependency
15. Specify ‘SQLdmManagementService$Default’ as the name of the service to start
16. After the service is added right-click it and select Properties.
17. Select the Parameters Tab and check the ‘Use network name for computer name’ checkbox.
18. Select the Registry Replication Tab and add ‘SOFTWARE\Idera\SQLdm\Default’
19. Click OK
20. Create a Service resource for the SQLdm Collection Service
21. Add the Disk for the shared data as a dependency
22. Add the Network Name as a dependency
23. Specify ‘SQLdmCollectionService$Default’ as the name of the service to start
24. After the service is added right-click it and select Properties.
25. Select the Parameters Tab and check the ‘Use network name for computer name’ checkbox.
26. Click OK
27. Bring the SQLdm Management service resource online.
28. Bring the SQLdm Collection service resource online.
29. Start the SQLdm Desktop Client and select SQLdm Repository. If the SQLdm Repository is clustered make sure to use the virtual server name for the SQL Server hosting the SQLdm Repository.
30. If the SQLdm Services were started before they were configured in Cluster Services then they may have already registered themselves in the SQLdm Repository. Use the Management Service Configuration Wizard to force the services to re-register.

Upgrading SQL diagnostic manager when configured in a cluster.

1. The services cannot be running when upgrading the primary node so you must take the services offline in Cluster Administrator.
2. Upgrade the services on the primary node. This step will also upgrade the SQLdm Repository.
3. Bring the services back online on the primary node.
4. Upgrade the services on each of the fail over nodes. Until you have completed this step the services will not be available if a fail over occurs.

# Bibliography