Statement of Support on Shared File System Support for Informatica PowerCenter High Availability Service Failover and Session Recovery

Updated: February 2018

Applicable Products and Versions

This statement of support applies to the following Informatica product, version, and configuration:

- Informatica PowerCenter 9.6 and higher with Enterprise Grid option with High Availability configured for the Informatica services.

For products not listed above, please contact Informatica Global Customer Support.

For product versions and configurations not included above, please see the Frequently Asked Questions (FAQ) section at the end of this statement of support.

The functionality impacted by this statement includes Informatica PowerCenter High Availability service failover and session recovery; resiliency functionality is not affected. This statement does not apply to Informatica PowerCenter installations that do not have High Availability option enabled.

Support Impact

Informatica PowerCenter High Availability service failover and session recovery functionality can be configured for two modes:

- Storage of High Availability Persistence in Database turned ON
- Storage of High Availability Persistence in Database turned OFF (Default)

When Informatica PowerCenter High Availability is configured with Database Persistence turned ON, the functionality is supported on PowerCenter supported environments with any shared file system.

When Informatica PowerCenter High Availability is configured with Database Persistence turned OFF, the functionality is supported on PowerCenter supported Unix and Linux environments using the following cluster file systems configured for high availability with I/O fencing.

- Veritas Cluster File System (VCFS);
- IBM General Parallel File System (GPFS)

In addition, Informatica PowerCenter High Availability service failover and session recovery functionality does support the usage of the Network File System (NFS) protocol on PowerCenter supported Unix and Linux environments under the following configuration:

- PowerCenter High Availability is configured with Database Persistence turned OFF.
- Only NFS version 3 running over TCP/IP is supported for use. NFS v3 over UDP is not supported. NFS v2 protocol is not supported.
- NFS 4.x is supported using Amazon Elastic File System (EFS) on Linux. For more details, see https://aws.amazon.com/efs/.
- The underlying file system being exported must be either: EMC Celerra UxFS or NetApp WAFL
- The NFS v3 server must be hosted from either EMC Celerra or NetApp NAS appliances configured for high availability. Both integrated and gateway models are supported.
- The NFS v3 client used on the application machine must be the native NFS v3 client provided by the operating system.
- To ensure that the NFS v3 client running on the PowerCenter host machine is operating correctly at all times, the associated processes – rpc.statd and rpc.lockd – must configured and started according to the operating system's guidelines. Also, the NFS v3 client should be configured to start as part of operating system initialization.

- PowerCenter High Availability failover functionality is subject to caveats in specific scenarios due to weaknesses in the NFS v3 protocol.

Outside of above stated configuration, any file system, including supported clustered file systems, exported through NFS v3 will not be supported.

Given that file system software supports a limited set of certified operating systems and hardware platforms, the customer is responsible for configuring the file system for high availability on an environment supported by the file system vendor. In deploying Informatica in this environment, the customer, along with the file system vendor, will be responsible for any issues that arise at the hardware or operating system layer as a result of their use of the file system.

Informatica will not require customers to utilize the vendor's management software for the file system, although this is highly recommended as file system administration is a complex and technical procedure. Informatica reserves the right to request our customers to install and use the file system vendor's recommended management software to debug specific issues with the file system. Informatica will typically make this request only when there is reason to believe that the file system configuration is a contributing factor to the issue.

Network File System Protocol Version 3 Caveats

Due to limitations in the NFS v3 protocol, PowerCenter Integration Service Failover will hang in these scenarios:

- Informatica Integration Service is configured for HA using primary and backup nodes:

    If the machine running the primary Integration Service process loses network communication with NFS v3 server and Integration Service failover is initiated. The backup node will be unable to start the Integration Service process due to an inability to access required resources on the NFS shared storage. Thus, the entire Integration Service will be enabled but not running.

- Informatica Integration Service is configured in a grid:

    If the machine running the primary Integration Service process loses network communication with NFS v3 server and an election of a new master Integration Service process is initiated. The new master Integration Service process will hang due to an inability to access required resources on the NFS shared storage. Thus, no workflows can be dispatched to run across the entire Integration Service.

In both scenarios, above, if the NFS v3 client can re-establish communication with the NFS v3 server, then Integration Service failover will continue as normal.

In the case where the NFS v3 client can never re-establish communication with the NFSv3 server, Informatica recommends restarting the NFS v3 server which will initiate the NFS v3 procedure to reclaim the necessary resources.

For more information regarding NFS v3 procedures, please refer to your file system vendor's documentation or technical support.

License Impact

There is no license impact in regards to Informatica PowerCenter. File system licenses and associated hardware are obtained through the respective software vendor.

Other Considerations

Each file system is a 3rd party and independent software. If support for third party software used by Informatica is restricted, or limited in a customer's environment, this also applies to the use of

this software in Informatica environments. Informatica depends on the support from various partner and OEM software products and is required to pass their limitations and restrictions on to the customer. It is the customer's responsibility to work with the file system vendor to ensure compliance and compatibility of third party applications.

Concerns regarding the security of data transferred across NFS are the responsibility of the customer to address. Informatica PowerCenter does not have any additional security provisions for data transferred over NFS. Since the NFS implementation is part of the operating system kernel, any security layer would have to be implemented at the operating system level.

File system performance, cost, reliability, ease-of-management and availability of technical support are additional factors to consider when choosing a file system. Each file system can vary significantly in each of these areas. Informatica recommends that customers contact the file system vendors directly to evaluate which file system best matches customer requirements. In particular, configuring the file system for optimal performance often requires educational courses and a professional consultation from the file system vendor.

Frequently Asked Questions

1. Will Informatica provide direct support for cluster file system products and configuration?

A1: No. Informatica supports its products running on specific cluster file systems, but Informatica does not provide direct support for issues and education that are specifically related to the file system. For support of file system software products, customers are recommended to contact the file system software vendor support directly.

2. Will Informatica provide direct support for Network File System (NFS) protocol and configuration?

A2: No. Informatica supports its products running on specific configurations with NFS v3, but Informatica does not provide direct support for issues and education that are specifically related to the NFS v3 protocol or the underlying file system. For support of NFS related issues, customers are recommended to contact the NAS application server vendor support directly.

3. Will Informatica provide assistance with High Availability issues where it is unclear if the problem is related to Informatica's products or the underlying file system or NFS v3 protocol?

A3: Yes. If the problem cannot be determined as an Informatica or a file system software or NFS protocol issue, Informatica GCS would ask the customer to open a GCS case with the file system software vendor in addition to the case they have open with Informatica. Informatica will work with the file system software vendor and the customer to resolve the issue.

4. Is Veritas InfoScale supported?

A4: Yes. Cluster File System (CFS) from Veritas is supported. Veritas has rebranded the Storage Foundation High Availability (SFHA) to a new InfoScale Family (version 7.x). Cluster File System is mapped to InfoScale Storage and InfoScale Enterprise. For further details, please refer to information provided by Veritas "Mapping to Veritas InfoScale" https://www.veritas.com/content/dam/Veritas/docs/data-sheets/mapping-to-veritas-infoscale_21357404.pdf

5. *Will Informatica provide fixes or patches for all High Availability service failover and session recovery issues encountered while deploying Informatica PowerCenter under a supported file system configuration?*

A5: Not necessarily. Depending on the severity, or impact of such issues, Informatica may issue a workaround or other remedy, as appropriate. If an issue occurs only in specific configuration and cannot be recreated under a standard installation such issues will not be considered Informatica product defects and no fixes will be issued. The customer will be referred to the file system vendor for further troubleshooting.

6. *I am currently running Informatica PowerCenter with High Availability on a file system that is not supported in this statement, will Informatica continue to support issues related to High Availability?*

A6: Please contact your nearest Informatica support center. On the web, you can refer to http://www.informatica.com/services/customer_support/

7. *I am currently using PowerCenter High Availability functionality on a version of PowerCenter below 8.6.0, how does this statement of support apply to me?*

A7: Informatica highly recommends that you upgrade to the latest version of PowerCenter in order to take advantage of various improvements and fixes to PowerCenter High Availability functionality.

8. *How do I get answers to any other questions pertaining to the use of Informatica PowerCenter High Availability and support under a specific file system?*

A8: Please contact your nearest Informatica support center. On the web, you can refer to http://www.informatica.com/services/customer_support/

9. *Are there any Informatica PowerCenter configuration changes required to work with supported file systems?*

A9: No. There are no changes to the configuration for Informatica PowerCenter. The $PMStorageDir should point to the shared directory residing on the supported highly available file systems. Please see documentation on how to configure the $PMStorageDir.

10. *Regarding the NFS v3 caveat, if the application node running the primary integration service is unexpected restarted or rebooted, will this also trigger a hang in the Integration Service failover?*

A10: No. As long as the NFS v3 client running on the application node is able to re-establish communication with the NFS v3 server, even after a system restart, then Integration Service failover will proceed as normal. The only noticeable difference may be a delay in the failover associated with the extra time needed for the NFS v3 client on the restarted application node re-establishing communication with the NFS v3 server.

11. How can I minimize the risks involved with the NFS v3 caveat with regards to Integration Service failover?

A11: In order to minimize the risk caused by the NFS v3 protocol deficiency, customers should consider running Informatica PowerCenter on an isolated NAS appliance. In the case that an NFS v3 server reboot is required, only the Informatica PowerCenter application will be affected.

12. What option do I have other than cluster file system persistence for running Informatica PowerCenter with High Availability?

A12: Informatica recommends that you use a supported cluster file system when running Informatica PowerCenter with High Availability option. If you don't have a supported cluster file system, and still wish to use High Availability functionality, you can enable Informatica PowerCenter Integration Service advanced property "Store High Availability Persistence in Database". It enables the Informatica PowerCenter Integration Service to store process state information in the high availability persistence tables in the Informatica PowerCenter repository database. If you enable this option, you may see some delay in Integration Service failover scenario.

13. Do I have to adjust sizing of PowerCenter Repository database if Integration Service property "Store High Availability Persistence in Database" is enabled?

A13: Informatica PowerCenter Integration Service additionally stores only lock information in the Repository database when "Store High Availability Persistence in Database" property is enabled. It is quite small and for the duration of the workflow run only. Therefore, there is no need for additional sizing. Session recovery data would continue to be stored in the shared file system.

14. What option do I have if I am on an older PowerCenter version?

A14: If you are on PowerCenter version 8.6.0 or higher but lower than 9.6, see previous version of this support statement at https://mysupport.informatica.com/community/my-support/support-statements.

For further information, questions, or issues around any Informatica product, open a Support Case through the Support Portal Informatica Network or call any of our Support Centers.

For additional information on Informatica Support, refer to the Informatica Global Customer Support Guide.

Revisions

- V2.0 (Jan 31, 2014): Support Statement published
- V2.1 (Sep 2016): Updated with Veritas InfoScale support FAQ
- V2.2 (March 2017): Updated with NFS 4.x support Amazon EFS on Linux