Nitro Release Notes

The Nitro release notes contains the following sections:

New Features

This section contains a summary of key new features in Nitro.

2.1.0

Dynamic Job Support

Nitro now supports malleable (dynamic) jobs. When you set a range of resources, Nitro will secure the minimum number of resources first and then will secure additional resources as they become available. This enables the Nitro job to finish earlier for a quicker time-to-solution.

User-Friendly Job Submission

The new nitrosub command provides a more user-friendly job submission option. This command lets users submit static or dynamic jobs without have to modify the bash shell scripts.

Nitro now comes packaged with the following scripts that are executed using the nitrosub command.

- **nitro_job.sh** – Job script for static job (where a single resource size is specified), or the static portion of a dynamic job (the minimum resource size specified resource size range). Calls the launch_nitro.sh script.

- **worker_job.sh** – Job script for the dynamic portion of the dynamic job (requested resources after the initial, minimum, request up to the maximum value). Calls the launch_worker.sh script.

- **launch_nitro.sh** – Resource manager-specific script. Launches the coordinator on the first host (node) and workers on the remaining hosts as determined by the requested resource size. When using the nitrosub command, this script is executed by the nitro_job.sh. If not using the nitrosub command, this script can still be executed by a user-customized sample job script; however it is executed for static jobs only (same functionality as in prior version).

- **launch_worker.sh** – Launches the additional workers on hosts as required by the worker_job.sh script.

Multiple Coordinators on the Same Node

Added the ability for coordinators to run multiple coordinators on a single node. Use the --port-file option to instruct the coordinator to search for available ports and write a file indicating which port was chosen. The workers assigned to the job will reference the --port-file to locate and attach to that coordinator.

Differences

This section contains differences in previously existing features that require a change in configuration or routine.

2.1.0

Dynamically Change the Assignment Size

The assignment size can now be set to 0, letting the coordinator determine the assignment size. When 0 is specified, the assignment size will be calculated by the coordinator and dynamically calculated to target assignments that take 5-10 seconds or a max of 350 tasks per assignment (optimum assignment size for fast jobs).

The assignment size can still be specified using the --assignment-size command line option or changing the respective value in the nitro.cfg file. Any value from 0-1000 is now accepted. 0 is the default in the nitro.cfg file.

Nitro Web Services Now Bootstraps Using nitro_user

Nitro Web Services now bootstraps MongoDB collections, indexes, and default application users using a nitro_user with the dbOwner role for the nitro-db instead of the admin_user, which has superuser rights to all MongoDB databases.

Coordinator Load Indicator

The coordinator node load value (Load Pct) is added to the Nitro job report.

Installation and Upgrade Information

This section identifies information useful when installing and upgrading.

In this section:

Licensing Requirement

Beginning with Nitro 2.0, the licensing procedure changed to use an RLM server. You can use an existing RLM server or you can install a new one. Instructions for installing an RLM server and instructions how to obtain and install the Nitro license is available in the System Administrator Guide.

Nitro Installation Bundles

The method to obtain the download files for Nitro has been revised to support the license requirement and the new Nitro Web Services component.

Beginning with Nitro 2.0, the nitro-releated files are bundled together.

- For the manual installation/upgrade method, the Nitro, Nitro Web Services, and the RLM tarball files are packaged together in a Nitro Tarball Bundle.

- For the RPM installation/upgrade method, the Nitro, Nitro Web Services. and the RLM RPM files are packaged together in a Nitro RPM Bundle.

Both bundles are available from the Nitro Download page. The Installation and Upgrade information in the System Administrator Guide has been enhanced to include a prepare the host topic and specific topics for a manual versus an RPM installation.

Known Issues

This section identifies known issues. Known issues are aggregated and grouped by the release version for which they first occurred or where reported. When applicable, each issue description has the associated issue number in parentheses.

2.1.0

No known issues.

Resolved Issues

This section lists issues/key bugs that are fixed. Resolved issues are aggregated and grouped by the release version in which they were resolved. When applicable, each resolved issue has the associated issue number in parentheses.

2.1.0

- Bug caused missing tasks in the task report when a job is killed prematurely. (NITRO-303)