DDN Infinia

Product Release Notes

Version 1.1 | 91-20692-002 | Revision A0

AI2000

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Table of Contents

1. Overview

This document applies to DDN Infinia 1.1, build 1.1.29. It covers the following:

2. Product Interoperability

DDN Infinia 1.1 supports the following hardware platforms:

- AI2000

For details about networking options, see the respective Hardware Installation and Maintenance Guide.

As of the date of document creation, supported servers must meet the following software requirements:

Product	Supported Version
Ubuntu	24.04

Ubuntu 24.04 is the supported BaseOS for DDN Infinia 1.1. If you have an OS other than Ubuntu 24.04, please contact engineering to discuss a support plan or upgrade path.

Password-protecting the GRUB Boot Loader

By default, DDN does not set a password on GRUB boot loader for DDN Infinia base OS. The password-protected boot loader prevents a node from reboot in case of a crash, potentially evicting the node from the cluster.

NOTE: DDN Infinia may face potential data loss if too many nodes and drives go down at the same time.

Therefore, DDN does not recommend setting a password on GRUB boot loader. In case you still need to set a password, contact DDN support.

3. Features

The following are the DDN Infinia features. For details about known issues and limitations of the DDN Infinia 1.1, build 1.1.29, see Known Issues/Limitations (Section 5 on page 9).

3.1 Features in DDN Infinia 1.1

The following are the features in DDN Infinia 1.1:

- Usability
  - CLI/API/GUI based management
  - Role Based access control
  - Multi-tenancy (Tenants, Subtenants, and DataServices) with QoS and Capacity SLA's
  - Easy rolling upgrades with zero downtime
  - Comprehensive RAS
  - Call Home capabilities
  - Dynamic cluster expansion
  - Dynamic I/O handling (EC vs replication)
- Data Management
  - Resilient placement policies
  - Data Reduction
  - Thin provisioning
- Data Services (Data Access)
  - S3 compatible Object Store data server
- Platforms
  - Optimized for consumer grade flash – QLC/PLC
  - Optimized, condensed X86_64 based servers
- Physical Deployment
  - Geo Distribution - Stretched Cluster mode with sync replication
  - Multi Hall Distribution - Supports multiple physical hall configuration as part of the failure domains
- Cyber Resiliency and Security
  - Role Based access control
  - Encryption at rest and on wire
  - Strong Multi-tenancy

3.2 Preview Features in DDN Infinia 1.1

IMPORTANT:	Features listed in this section are available for *preview only*. To run any of these features, contact DDN sales representative or field support engineer. These *preview features* are not supported for production use and hot-fixes will not be provided for any issues found.

The following are the preview features in DDN Infinia 1.1:

- Ecosystem (application integration, application certifications and so on.)
  - CSI Driver
- Data Services (Data Access)
  - Spark Data Service through a connector that talks native DDN Infinia protocol
  - CSI block volumes over NVMeoF

4. Fixed Issues

This section is not applicable to DDN Infinia 1.1.

5. Known Issues/Limitations

The following are known issues and limitations for the DDN Infinia 1.1, build 1.1.29:

- Multiple group membership in active directory is a restriction.
- Groups mapped to nested groups in active directory are not supported.
- Only a single default system pool is supported.
- Dynamic cluster expansion limitation — at present the maximum number of nodes that can be added at a time to a cluster is limited to the half of the cluster size at the time of expansion.
- Multiple network interfaces in the same subnet is not currently supported. DDN Infinia deployment will not be blocked if multiple network interfaces per subnet are identified, but the system will be unstable. A sysadmin event is triggered (that is "Should not have more than one interface per virtual network in v1. Networking could be unstable“). The system will function if multiple network interface are configured to be separated in different subnets.
- The DDN Infinia release is pre-installed on all nodes. If a re-installation is required, consult with DDN Support. To re-install DDN Infinia, the following steps must be completed on all the nodes of the DDN Infinia cluster:

  a. Remove previous installation of **`redsetup`**.

  ```
  sudo redsetup --reset
  sudo apt purge -y redsetup
  docker system prune --all --force
  ```

  b. Download and install the **`redsetup`** package for DDN Infinia 1.1, build 1.1.29.

  ```
  export BASE_PKG_URL=https://storage.googleapis.com/ddn-redsetup-public
  export TARGET_ARCH="$(dpkg --print-architecture)"
  export REL_DIST_PATH="ubuntu/24.04"
  export REL_PKG_URL="${BASE_PKG_URL}/releases/${REL_DIST_PATH}"
  export RED_VER="1.1.29"
  export REDSETUP_PKG="redsetup_${RED_VER}_${TARGET_ARCH}${RELEASE_TYPE}.deb"
  wget $REL_PKG_URL/$REDSETUP_PKG?cache-time="$(date +%s)" -O /tmp/redsetup.deb
  sudo apt update
  sudo apt install -y /tmp/redsetup.deb
  ```

  c. Select one node as the realm entry node and complete the installation on this node. Note the “Control plane IP address” during the installation which will be used in the next step.

  ```
  wget $BASE_PKG_URL/releases/rmd_template.json -O /tmp/rmd_template.json
  envsubst < /tmp/rmd_template.json > /tmp/rmd.json
  sudo redsetup --realm-entry-secret <realm_secret> --admin-password Adminpassword \
  --realm-entry --ctrl-plane-ip $(hostname --ip-address) --release-version $RED_VER \
  --release-metadata-file /tmp/rmd.json
  ```

  d. Complete the installation on all other nodes. Specify the “Control Plane IP address” for the realm entry node that was noted in the previous step.

  ```
  sudo redsetup --realm-entry-address <Control Plane IP address> \
  --realm-entry-secret <realm_secret>
  ```

- Creating, deleting, and recreating of tenant or subtenant in a cycle with the same name might cause errors on creating new buckets under the same subtenant.

- Creating and deleting a bucket or dataset in a cycle with the same name might cause errors. You can use **`redcli dataset delete`** to force delete but note that this command would bypass **`reds3`** server. Restart **`reds3`** if the service is not responding.
- Multiple drive eviction and reinsertion cycles are not fully supported. DDN Infinia might get into a blocking state, requiring a reboot. To avoid this situation, insert devices one by one. Add a device and wait till it shows *joined* state and then add a new device.
- In node failure, a cluster may experience transient timeouts of up to 90 seconds, during which IO operations may fail. You can reattempt the operation.
- DDN Infinia 1.1 allows only one log upload job at a time. If you run concurrent log upload jobs then redapi will display an error “CallHome: Log upload job is already running".

  Check log upload status using **`redcli task show <task_id>`** command.
- Following a complete node failure, when the failing node rejoins, s3 workloads may terminate.
  Workaround: As a realm admin, run **`redcli realm restart -s reds3`** on the node.
- RED API container can crash due to congestions or network instabilities and all ongoing redcli commands will be blocked. In such case long tasks like redcli logs upload calls will be particularly impacted. Restart redapi container to unblock the commands and then issue the commands again.
- With large multipart uploads the runs might fail either due to data checks reporting unexpected values or due to ENOSPC hits. In some cases the S3 client will be crushed and restarted. This is a recoverable error with no data loss.
- redcli commands may stop responding due to logs rotation not working correctly. Clean the logs to unblock redcli.
- DDN Infinia instance to instance communication supports both RoCE and TCP/IP. Applications to S3 services and NVMeoF support only TCP/IP.
- Listing a large number of buckets (for example, 100's of thousands of buckets) might block the application requesting the listing.
- redcli realm configuration updates may fail with a 504 Gateway timeout.
  Recommended action: Retry the operation.
- CAT usage shown in following two CLI commands is different.
  - **`redcli tenant list`** - This command shows the actual data stored for each tenant including upsert metadata + bulk (erasure + replicated) data.
  - **`redcli cat list`** - This command shows the actual data stored by each CAT including all the data for tenants + CAT internal data stored by various subsystems (for example, CAT, RFS, DLM and so on.)

  On any cluster, typically the total CAT usage will be higher than any single tenant usage.

6. DDN Support

If you have questions or require assistance, contact DDN Support:

Web

DDN Customer Support Portal	support.ddn.io
Portal Registration	support.ddn.io/DDNUserRegistration
Portal Assistance	portalsupport@ddn.com

Email

DDN Support Email	support@ddn.io

Telephone

DDN Support Worldwide Directory	www.ddn.com/support/global-services-overview

Bulletins & Notices

Support Bulletins	www.ddn.com/support/technical-support-bulletins
End-of-Life Notices	www.ddn.com/support/end-of-life-notices
Bulletin Subscription Request	support-tsb@ddn.com

NOTE: If you are a beta test site, when contacting DDN, identify yourself as a beta test site so DDN can dispatch your request accordingly.

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