



**Hewlett Packard**  
Enterprise

# **NimbleOS 5.2.1.200 Release Notes**

Version 5.2.1.200

Published July, 2020

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## Support

All documentation and knowledge base articles are available on HPE InfoSight at <https://infosight.hpe.com>. To register for HPE InfoSight, click the *Create Account* link on the main page.

Email: <https://infosight.hpe.com>

For all other general support contact information, go to <https://www.hpe.com/us/en/services/nimble-storage.html>.

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# NimbleOS 5.2.1.200

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<b>Version:</b>	5.2.1.200
<b>Revision:</b>	Wednesday July 22, 2020 18:06:55

The release notes describe the major changes, fixes, and known issues for this release of the NimbleOS. They do not include all individual fixes and internal changes.

For technical support, contact HPE Nimble Storage Support at:

<mailto:support@nimblestorage.com>

877-3-NIMBLE (877-364-6253), option 2.

## Important Update Note

Updating NimbleOS can involve an update to component firmware on the standby controller. This can cause an email alert and automated case indicating "Standby Controller Not Available" when the firmware update process takes longer than five minutes. This is expected behavior and does not affect data services. At the end of the software update, you can check status of both controllers in the Web UI under **Manage > Hardware**. One controller will be ACTIVE and the other STANDBY under normal operating conditions following a successful software update.

All third-party software notices can be found on HPE InfoSight (<https://infosight.hpe.com>) on the **Resources > Documentation** page:

<https://infosight.hpe.com/resources/nimble/docs>

The Documentation page also includes the *General Terms and Conditions* document. You can display this document by performing the following steps:

- 1 In the navigation pane on the HPE InfoSight Documentation page, scroll through the Document Type list and select Support Policy.
- 2 In the page that appears, select General Terms and Conditions. This document opens in a browser tab.

## Special Notes

Note	Description
<b>CRITICAL</b>	HPE Nimble Storage continues to qualify configurations between releases. The Validated Configuration Matrix provides information about validated configurations and is updated frequently. It is a good practice to check your system configuration against this online tool. The Validated Configuration Matrix tool is available on HPE InfoSight:  <a href="https://infosight.hpe.com/resources/nimble/validated-configuration-matrix">https://infosight.hpe.com/resources/nimble/validated-configuration-matrix</a>
<b>CRITICAL</b>	Arrays must be running NimbleOS 5.0.4.0 or later to update directly to NimbleOS 5.2.1.200.

Note	Description
<b>CRITICAL</b>	<p>An extended data services outage may occur with MS iSCSI initiator and Intel NICs using the built-in Windows driver e1q60x64.sys (version 11.0.5.21/11.0.5.22).</p> <p>If you encounter this problem, please update your system to use the latest Windows driver.</p>
<b>CRITICAL</b>	<p>A service outage may occur on Windows 2012 R2 hosts using Emulex or Broadcom Fibre Channel HBAs with firmware/driver prior to 11.2. Update the Emulex or Broadcom firmware/driver to 11.2 or later</p>
<b>CRITICAL</b>	<p>Due to a known Red Hat Enterprise Linux bug 1002727, while running virtualized in VMware ESX, manually rebooting the active controller in presence of heavy IOs using the <b>reboot --controller</b> command on a Fibre Channel array may trigger an incorrect retry initiated by RHEL guests running the following kernel versions:</p> <ul style="list-style-type: none"> <li>• 6.4 and earlier</li> <li>• 6.5 without the patch</li> <li>• 7.0 without the patch</li> </ul> <p>This incorrect retry logic may lead to unexpected application behavior. In these environments, we recommend the <b>failover</b> command instead.</p>
<b>CRITICAL</b>	<p>Due to a known Red Hat Enterprise Linux bug 3550561, unexpected application behavior may occur on RHEL 7.5 hosts with kernel-3.10.0-862.3.2.el7 or derivatives using Emulex FC FCoE HBAs (lpfc driver) and raw devices. To avoid this issue:</p> <ul style="list-style-type: none"> <li>• If running RHEL 7.6, update to kernel-3.10.0-957.el7 or later.</li> <li>• If running RHEL 7.5z, update to kernel-3.10.0-862.25.3.el7 or later.</li> </ul>
<b>CRITICAL</b>	<p>As outlined in the current Validated Configuration Matrix, HPE Nimble Storage fully supports Windows guest operating systems on Microsoft Hyper-V, including Virtual Fibre Channel (VFC) connectivity and multi-pathing with HPE Nimble Storage DSM and VSS support. However, Linux guest operating systems running in Hyper-V VFC configurations are not qualified.</p> <p>Running Red Hat Linux guest operating systems with the “Linux Integration Services” kit installed, or with hv_storvsc drivers in such configurations can lead to Red Hat bug 1364282, which can cause an unexpected service outage.</p>
<b>Important</b>	<p>Starting with NimbleOS 5.1.1.0, the size of the software package now exceeds 2 GB, which may lead to lengthier software download times. Previously, the sizes of the NimbleOS 5.0.x download packages were approximately 1.6 GB, and NimbleOS 4.x packages were approximately 900 MB.</p>
<b>Important</b>	<p>After completing the NimbleOS update for array groups configured for Synchronous Replication, download the corresponding version of the <a href="#">Synchronous Replication Witness</a> software, and update the witness host.</p>
<b>Important</b>	<p>Microsoft Offload Data Transfer (ODX) is not supported if the destination volume has synchronous replication enabled.</p>

Note	Description
<b>Important</b>	As of vSphere 7.0, VMware has discontinued the flex client. Consequently, the HPE Nimble Storage vCenter Plugin no longer supports the flex plugin for vCenter 7.0.
<b>Important</b>	<p>You can enable deduplication for CS1000, CS3000, CS5000, CS7000, CS700, and CS500 arrays on a volume only if the corresponding storage pool has a Flash to Disk Ratio (FDR) greater than 4%. To calculate the FDR, obtain the "Total array capacity (MiB)" and "Total array cache capacity (MiB)" values by using the HPE Nimble Storage CLI command <i>pool_name</i>. This command returns the <b>Pool capacity (MiB)</b>, which is the "Total array capacity (MiB)", and the <b>Pool cache capacity (MiB)</b>, which is the "Total array cache capacity (MiB)".</p> <p>Then perform the following calculation:</p> <p><b>FDR = "Total array cache capacity (MiB)"/"Total array capacity (MiB)" * 100</b></p> <p>If the array has sufficient capability for deduplication, the <b>pool --info</b> command will also show a value for <b>dedupe capacity (MiB)</b>.</p> <p><b>Note</b> On the HF20H, HF20, HF40, and HF60 platforms, <b>pool --info</b> displays "N/A" as the value for <b>dedupe capacity (MiB)</b>. This because you can enable deduplication for the entire array.</p>
<b>Important</b>	For connections to the NimbleOS GUI, you must have port 5392 open for the Group Management IP address and both diagnostic IP addresses.
<b>Important</b>	<p>Numerous host integration toolkits are supported in NimbleOS 5.2.1.200. It is strongly recommended that they be installed on all Windows, Linux, and VMware hosts. For more information about supported toolkits, refer to the Validated Configuration Matrix, which is available on HPE Nimble Storage InfoSight:</p> <p><a href="https://infosight.hpe.com/resources/nimble/validated-configuration-matrix">https://infosight.hpe.com/resources/nimble/validated-configuration-matrix</a></p>

Note	Description
<p><b>Important</b></p>	<p>HPE Nimble Storage recommends that you update to HPE Nimble Storage Windows Toolkit (NWT) 7.0.1 or later if you are using Microsoft VSS Synchronization and NimbleOS 5.1.4.200 or later.</p> <p>Using application consistent snapshots with earlier versions of NWT and NimbleOS 5.1.4.100 may result in the following error messages:</p> <ul style="list-style-type: none"> <li> <p>In the host's VSS requestor log (C:\ProgramData\Nimble Storage\Logs\VssRequestor.log):</p> <pre>PID:1996 TID:5752 ERR reqcommon. cpp:683 Request-Status=QueryStatus(), Function=pAsync-&gt;QueryStatus(), Error=VSS_E_PROVIDER_VETO, rc=SystemError, ca=ContactSupport</pre> </li> <li> <p>In the Windows event viewer:</p> <p>event id 4100: EndPrepareSnapshots method: failed to find LUN s/n &lt;SERIAL_NUMBER&gt; on connected arrays. Make sure that the Nimble array version is compatible with this version of Nimble Windows Toolkit.</p> <p>event id 4170: Nimble VSS provider is not compatible with the current version of the Nimble array software(). Install appropriate version of the Nimble VSS provider.</p> </li> </ul> <p>NWT 7.0.1 resolves this issue.</p>
<p><b>Important</b></p>	<p>HPE Nimble Storage Connection Manager (NCM) for VMware 7.0 is signed by VMware for ESXi 7.x. It can be installed through the VMware Update Manager or esxcli command without the <b>--no-sig-check</b> flag.</p> <p>See the NCM for VMware Release Notes 7.0 or later and the latest <i>VMware Integration Guide</i> for further details.</p> <p>To locate the latest version of the guide, log in to HPE InfoSight. Choose <b>Resources &gt; Nimble Storage Documentation</b>. In the left pane, click <b>Integration Guide</b>, then click <b>Connection Manager (NCM) for VMware</b>. From the list displayed, choose the version of the guide that you want.</p>

Note	Description
<p><b>Important</b></p>	<p>Various timeout values affect HPE Nimble Storage targets from Windows/Linux hosts. Before you update the NimbleOS, install the HPE Nimble Storage Windows Toolkit (NWT) or HPE Nimble Storage Linux Toolkit (NLT) on the host or tune the timeout values. Timeout details for various operating systems can be found on HPE InfoSight under <b>Resources &gt; Documentation</b>. From the <a href="#">HPE Nimble Storage Documentation</a> page, locate the article you want.</p> <p>The following <b>Knowledge Base</b> articles and Integration Guides explain how to configure and verify host timeout settings for the major supported operating systems (OS):</p> <ul style="list-style-type: none"> <li>For Windows, refer to <a href="#">KB-000052: Windows Host Disk Timeout Values</a>.</li> </ul> <p>In the context of Microsoft Windows, the following article should also be considered:</p> <p><a href="#">KB-000246 MPIO Timeout Parameters for MSDSM and NimbleDSM in Windows 2012 R2</a></p> <ul style="list-style-type: none"> <li>For VMware, refer to the <b>Common Tasks and Best Practices &gt; Host Timeout Values</b> section of the <i>VMware Integration Guide</i>.</li> <li>For Linux, refer to <a href="#">KB-000304: Linux Host Disk Timeout Values</a>.</li> </ul>
<p><b>Important</b></p>	<p>vVol VMs cannot be claimed after deleted from the downstream array.</p> <p>A vVol VM can be protected and may be subsequently replicated to a downstream array (as configured in the storage policy). In the case where this vVol VM is deleted, a supported “claim” workflow allows us to claim this vVol VM on the downstream array. This workflow is not supported at present if performed on a setup where the vCenter version is 6.5 or above due to validation failures on the vCenter.</p> <p>VMware DCPN Ticket Reference:</p> <p><a href="https://dcpn.force.com/TechnicalRequestCaseRedesignPartner?Id=5000H00001JRKhf">https://dcpn.force.com/TechnicalRequestCaseRedesignPartner?Id=5000H00001JRKhf</a></p>

## New Features in 5.2.1.200

No new features were introduced in NimbleOS 5.2.1.200.

## Recent Release Features

The following features were released in NimbleOS 5.2.1.x:

### Fan-Out Replication

You may now use volume snapshot replication to replicate to two destinations simultaneously.

### HPE Cybersecurity – Signed Updates

NimbleOS Releases are now digitally signed by HPE. Code signing ensures the authenticity of the provider (it is HPE) and the integrity of the software download.

### Fibre Channel Target Driven Zoning



HPE Nimble Storage arrays are now able to program the zones in the Fibre Channel (FC) fabric using information from the initiator groups that have been configured. This removes the requirement for the administrator to program the FC zones using separate fabric management tools.

### **Array Upgrade for AFxxxx/CSxxxx to AFxx/HFxx (Offline)**

HPE Nimble Storage now supports data-in-place upgrades from the previous generation of arrays to the currently shipping arrays. This version of the upgrade process requires a brief down time while the existing array chassis is replaced with the new one, and the media is moved from the older array to the new array.

### **Support for 10,000 Volumes on AF40 Arrays**

The limit on the number of volumes supported by an HPE Nimble Storage AF40 model array is now 10,000, up from 1,000 volumes in previous NimbleOS releases.

### **Storage Class Memory**

NimbleOS now supports new 1.5 TB storage class memory cards. Support is limited to HPE Nimble Storage AF60 and AF80 model arrays.

### **Synchronous Replication: Witness OVA**

The Peer Persistence feature requires an external witness. The Witness is available for download from InfoSight as a virtual machine packaged as an OVA.

### **dHCI Unified Update**

HPE Nimble Storage dHCI now provides an Update tab in the HPE Nimble Storage vCenter Plugin that allows you to perform an automatic update when there is a new version of NimbleOS, ESXi, or HPE Nimble Storage Connection Manager for VMware.

### **dHCI Server Configuration Limits**

The limit on the number of servers supported in a dHCI cluster has increased to 32.

### **dHCI Support for Intel and AMD Processors**

dHCI adds support for ProLiant servers using AMD processors. It continues to maintain support for Intel-based ProLiant servers. The [Validated Configuration Matrix](#) provides information about which server models are supported.

**Note** You can use either Intel-based ProLiant servers or AMD-based ProLiant servers in your dHCI configuration. You cannot use both in the same cluster.

## Documentation

These Release Notes and other user documentation are available on HPE InfoSight:

<https://infosight.hpe.com/resources/nimble/docs>

You can manually reach the documentation page by logging onto HPE InfoSight and selecting **Resources > Nimble Storage > Documentation**.

### Document Search Interface

There are several methods you can use to locate the documents you need.

The **Nimble Storage Documentation** page provides a search interface that allows you to search for information across all documentation, including support and knowledge base articles, best practices, solutions and integration guides, product documentation, and configuration matrices.

To go directly to a document, use the navigation pane on the left side of the **Nimble Storage Documentation** page. The navigation pane organizes documents into categories, including:

- Document Type
- Nimble Software and Solutions
- Software Version
- Integration
- Platform

You can use the page scroll bar to move up and down the navigation pane.

### Third-Party Software Notices

All third-part software notices can be found in the Documentation Portal on HPE InfoSight.

Here are the steps to manually access the third-party software notices.

- 1 Log in to HPE InfoSight (<https://infosight.hpe.com>) .
- 2 From the menu, select Resources Nimble Documentation .
- 3 In the left navigation pane of the Documentation Portal, scroll through the Document Type section and select Support Policy.
- 4 From the list of documents, select General Terms and Conditions. The document opens in a new browser tab.

### Core User Documentation

The following is the core user documentation for NimbleOS:

- *GUI Administration Guide*
- *CLI Administration Guide*
- *SNMP Reference*
- *Command Reference*
- *REST API Reference*

If you are using an HPE Nimble Storage dHCI-enabled array, you should also check the dHCI Deployment Guides and Getting Started Guide.

### Workflow Documents

There are several workflow guides that contain procedures you can perform using either the CLI or the GUI. Each workflow guide covers a specific, frequently performed task related to HPE Nimble Storage products.

## NimbleOS 5.2.1.200 Verified Update Paths

Each task described by a workflow document is explained in detail in the *GUI Administration Guide* and the *CLI Administration Guide*.

### Hardware

Documentation for all hardware components is available on HPE InfoSight. Click the Hardware Guide link in the **Document Type** category. Hardware documentation includes array and expansion shelf installation quick start guides, installation, upgrade, and replacement guides, and comprehensive hardware guides.

### Host Integration Guides

Host Integration Guides are available from HPE InfoSight. To locate these documents on the HPE InfoSight **Documentation** page, scroll down the navigation pane to the section called **Integration Guide**.

**Note** A single Host Integration Guide supports multiple version of NimbleOS and the companion Integration Toolkit software packages. The version number listed on the guide might be different from the version numbers of the NimbleOS and Toolkit software packages that it supports.

## Verified Update Paths

Table 1: From Versions 5.x

From Versions 5.x	
From Version	To Version
5.2.1.100	5.2.1.200
5.2.1.0	5.2.1.200
5.1.4.200	5.2.1.200
5.1.4.100	5.2.1.200
5.1.4.0	5.2.1.200
5.1.3.100	5.2.1.200
5.1.3.0	5.2.1.200
5.1.2.100	5.2.1.200
5.1.2.0	5.2.1.200
5.1.1.0	5.2.1.200
5.0.10.0	5.2.1.200
5.0.9.100	5.2.1.200
5.0.9.0	5.2.1.200
5.0.8.100	5.2.1.200
5.0.8.0	5.2.1.200
5.0.7.300	5.2.1.200
5.0.7.200	5.2.1.200
5.0.7.100	5.2.1.200
5.0.7.0	5.2.1.200

From Versions 5.x	
From Version	To Version
5.0.6.0	5.2.1.200
5.0.5.300	5.2.1.200
5.0.5.200	5.2.1.200
5.0.5.0	5.2.1.200
5.0.4.0	5.2.1.200
5.0.3.100	5.0.10.0
5.0.3.0	5.0.10.0
5.0.2.0	5.0.10.0
5.0.1.100	5.0.10.0
5.0.1.0	5.0.10.0

**Table 2: From Versions 4.x**

From Versions 4.x	
From Version	To Version
4.5.6.0	5.1.4.200
4.5.5.0	5.1.4.200
4.5.4.0	5.1.4.200
4.5.3.0	5.0.10.0
4.5.2.0	5.0.10.0
4.5.1.0	5.0.10.0
4.5.0.0	5.0.10.0
4.4.1.0	5.0.10.0
4.4.0.0	5.0.10.0
4.3.1.0	5.0.10.0
4.3.0.0	5.0.10.0
4.2.1.0	5.0.10.0
4.2.0.0	5.0.10.0
4.1.0.0	5.0.10.0

**Table 3: From Versions 3.x**

From 3.x Versions	
From Version	To Version
3.9.3.0	5.0.10.0
3.9.2.0	5.0.10.0

From 3.x Versions	
From Version	To Version
3.9.1.0	5.0.10.0
3.9.0.0	5.0.10.0
3.8.1.0	5.0.10.0
3.8.0.0	5.0.10.0
3.7.0.0	5.0.10.0
3.6.2.0	5.0.10.0
3.6.1.0	5.0.10.0
3.6.0.0	5.0.10.0
3.5.4.0	5.0.10.0
3.5.3.0	5.0.10.0
3.5.2.0	5.0.10.0
3.5.0.0	5.0.10.0
3.4.1.0	5.0.10.0
3.4.0.0	5.0.10.0
3.3.0.0	5.0.10.0
3.2.1.0	5.0.10.0
3.1.0.0	5.0.10.0

**Table 4: From Versions 2.x**

From 2.2.x, 2.3.x Versions		From 2.1.x Versions		From 2.0.x Versions	
From Version	To Version	From Version	To Version	From Version	To Version
2.3.18.0	4.5.6.0	2.1.9.1	2.3.18.0	2.0.8.0	2.1.9.1
2.3.16.0	4.5.6.0	2.1.9.0	2.3.18.0	2.0.7.0	2.1.9.1
2.3.15.0	4.5.6.0	2.1.8.0	2.3.18.0	2.0.6.*	2.1.9.1
2.3.14.0	4.5.6.0	2.1.7.0	2.2.9.0	2.0.5.0	2.1.9.1
2.3.12.*	4.5.6.0	2.1.6.0	2.2.9.0	2.0.4.0	2.1.9.1
2.3.9.*	4.5.6.0	2.1.5.0	2.2.9.0		
2.3.8.0	4.5.6.0	2.1.4.0	2.2.9.0		
2.3.7.0	4.5.6.0	2.1.3.0	2.2.9.0		
2.3.6.0	4.5.6.0	2.1.2.0	2.2.9.0		
2.3.4.0	4.5.6.0	2.1.1.0	2.1.9.1		
2.3.3.0	4.5.6.0	2.1.0.0	2.1.9.1		
2.3.2.1	4.5.6.0				
2.3.2.0	4.5.6.0				

From 2.2.x, 2.3.x Versions		From 2.1.x Versions		From 2.0.x Versions	
From Version	To Version	From Version	To Version	From Version	To Version
2.3.1.0	4.5.6.0				
2.2.11.0	3.9.3.0				
2.2.10.0	3.9.3.0				
2.2.9.0	3.9.3.0				
2.2.7.*	3.9.3.0				
2.2.6.0	3.9.3.0				
2.2.5.*	3.9.3.0				
2.2.3.*	2.2.11.0				
2.2.2.0	2.2.11.0				
2.2.1.0	2.2.11.0				
2.2.0.0	2.2.11.0				

**Table 5: From Versions 1.x**

From 1.4.x Versions		From 1.3, 1.2, 1.1 Versions		From 1.0.x Versions	
From Version	To Version	From Version	To Version	From Version	To Version
1.4.12.0	2.1.9.1	1.3.*.*	1.4.6.0	1.0.7.*	Contact Support
1.4.11.0	2.1.9.1	1.2.*.*	1.4.6.0	1.0.6.*	Contact Support
1.4.10.0	2.1.9.1	1.1.*.*	1.2.2.0		
1.4.9.0	2.1.9.1				
1.4.8.0	2.1.9.1				
1.4.7.0	2.1.9.1				
1.4.*.*	1.4.12.0				

## Known Critical Issues

Known Critical Issues in NimbleOS version 5.2.1.200					
ID	Component	Title	Description	Workaround	
AS-104569	Data Service	Data Service may restart when array is low on memory	After updating to NimbleOS 5.0.x, the Data Service may restart if the array is running low on memory. This is caused by changes made in 5.0.x to in-memory caching.	Not applicable	

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-77607	Data Service	Removing member array from multi-array group may cause IO disruption to scaled vVol environments	Scaled vVol environments with 500 vVol VDI VMs or more than 5000 Nimble vVol volumes may experience IO disruption when removing a member array from group. Symptom of problem would appear as vVol datastores being (inaccessible). Virtual Machine status would also appear as (inaccessible).	When planning to remove a member array from group, schedule a planned maintenance window and place all ESX hosts into maintenance mode to minimize impact to availability. ESX typically resumes connection to vVol datastores, and reconnects to VMs, after a period of 15-30 minutes automatically without a manual intervention.
AS-109979	Data Service	Data Service may restart when assert in Fingerprint Index Hash Table is encountered	Arrays that support deduplication with large dedupe domains may encounter Data Service restart. The cause of the restart is due to incorrect handling of the Fingerprint Index Hash Table.	Contact HPE Nimble Storage Support
AS-101976	Data Service	Volume move may result in latency if Nimble Connection Manager is not installed	Volume moves transfer data from one Nimble array to another. During this move, if the host sends I/O to the incorrect array, the I/O needs to be forwarded to the correct array owning the data. This results in higher than usual I/O latency. To avoid this issue in VMware environments, the Nimble Connection Manager for VMware needs to be installed on all hosts accessing the volume.	Not applicable
AS-90668	Data Service	Data Service restarts when detecting metadata inconsistency	When the Data Service detects a metadata inconsistency, the service may restart repeatedly and hosts could experience unexpected application behavior.	Contact HPE Nimble Storage Support
AS-106021	Data Service	Index verification fails if a 16 TiB volume is completely unmapped causing Data Service to go down	In rare cases during index creation, when a 16 TiB volume is fully unmapped, the resulting index structure fails verification and brings down the Data Service leading to an outage.	Contact HPE Nimble Storage Support.

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-106093	Data Service	Data service may restart due to a race condition	While committing internal transactions, Data Service may hit a rare race condition. To recover from this Data Service might restart	Not applicable
AS-105607	Data Service	Snapshot replication of deduplication-enabled volumes may lead to File System restart	During snapshot replication of a dedupe-enabled volume, the downstream array file system may restart due to an out-of-memory condition.	Not applicable
AS-94834	Data Service	Data Service may unexpectedly restart	A disruption in network connections can cause Data Service to restart unexpectedly.	Not applicable
AS-96300	Data Service	Data Service may restart due to volume manager health check failure	Generation delete operations and NVRAM to disk data flush operation can cause Data Service to restart due to health check failure, as it can hold checkpoint for a long time.	Not applicable, on restart Data Service would behave normally.
AS-95470	Data Service	Pool merge fails due to too many pending deletes	When attempting to perform a pool merge operation, if there are a large number of volumes that must be striped across the pool, and one of the arrays has a large number of pending deletes, then it is possible for the operation to fail due to the Data Service being overloaded. Symptoms of this behavior are if the pool merge operation hangs for several minutes and returns the following message: The request could not be understood by the server.	Not applicable





Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-104517	Platform	Data Service may restart due to health check failure	The Data Service on the array may restart when timeout for internal communication between array controllers has been exceeded. The service restarts to restore the communication.	Not applicable
AS-86764	Platform	Controller sensors missing for AFxx/HFxx arrays	During boot up due to a known Intel defect the controller sensors may report missing for a period of time in the array alerts. After about 15-20 minutes, it returns to a valid state and the sensors should report valid readings again.	If after 20 minutes the controller sensors do not report good state, please contact HPE Nimble Storage Support for assistance.
AS-94961	Platform	Performance affecting firmware defect in a subset of 6TB drives.	HPE Nimble Storage has identified a rare firmware defect in a subset of drives which can, under certain write intensive workloads, cause the array to underperform.	Contact HPE Nimble Storage Support.
AS-76520	Platform	Red overtemp LED is illuminated after NimbleOS software update to 5.0.x	After performing a software update to NimbleOS 5.0.x, the over temperature LED is illuminated on the array front LED panel. However, no alerts are triggered from the array software.	This issue has been confirmed as cosmetic. To resolve this issues, you may reboot the controller(s) reporting the illuminated over temp LED. Please contact HPE Nimble Storage Support if further assistance is needed.
AS-87507	Platform	Array GUI and CLI show quad port 10 GB Twisted Pair NIC ports in reverse order	In multi-port network cards, the interfaces are initialized starting with the interface closest to the PCI slot, and ending with the interface furthest away from the PCI slot. The 4-port 10Gbps twisted pair NIC used in the HPE NimbleStorage array initializes the ports in reverse order, causing the array GUI and physical labeling to show them in the wrong order.	Not applicable

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-86099	Platform	Data service may restart during when file operation timeout is exceeded	During internal file operations, processes may be waiting for a lock to be released. If the wait time exceeds 30 seconds, a service health check may restart the Data service to recover.	Not applicable
AS-104924	Not applicable	Plugin: Cannot add 4 or more servers in the dHCI deployment	Currently, if customer plans to add 4 or more Proliant servers in their dHCI deployment via the plugin, the operation fails.	In order to add more 4 or more Proliant Servers, the workaround is to add up to 3 servers at a time from the plugin.
AS-109904	SAN	VMWare virtual machine may become unresponsive during Backup Group Leader (BGL) controller failover	In a configuration where ESX hosts connect to peer persistence arrays using iSCSI, during BGL controller failover, ESX hosts may temporarily lose access to peer persistence volumes, causing virtual machine to become unresponsive and restart of ESX hosts and virtual machines is needed to bring them back up.	Contact HPE Nimble Storage Support
AS-107367	System Management	Array resetup fails due to previous complications with Array Switchover Service	The Automatic Switchover Service may restart unexpectedly when the witness is removed or Automatic Switchover is disabled on an array group. In rare instances, this may lead to an issue with a database entry within the array is not cleared successfully. If this array resetup is attempted on this array, the operation will fail when the Array Management Service encounters this stale entry.	Please contact HPE Nimble Storage Support

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-89701	System Management	Automatic Switchover Service restarts due to thread limitations	The Automatic Switchover Service internally creates and closes threads each time during Automatic Failover (AFO) quorum setup and tear down. This may cause the service to eventually crash after reaching the maximum thread limit. The system recovers automatically when the Automatic Switchover Service restarts.	Not applicable
AS-65615	System Management	Group Management Service must be restarted to unlock additional volume limits after controller upgrade	When performing a controller upgrade to a high-end model, the object limits will still show the lower limits if the Group Management Service is not restarted.	A failover can be initiated in order to restart the Group Management Service. You may also contact HPE Nimble Storage Support to restart the service manually.
AS-94594	System Management	Group Management service may restart unexpectedly	Group Management service may restart when internal processing fails on arrays with high snapshot activity. This may cause snapshots to fail to be deleted.	Not applicable
AS-106276	System Management	Array group remains out-of-sync following network recovery.	When there are network communication issues between the Group Leader and Backup Group Leader, the system goes into an out-of-sync condition. In rare circumstances, even after network connection is restored, the array group may still remain out-of-sync.	Please contact HPE Nimble Storage Support.
AS-61614	System Management	Group Management service may restart during array shutdown	The Group Management service may restart during an array shutdown while processing REST request. No user operations are impacted because the array is already in the middle of a shutdown. The shutdown proceeds normally.	Not applicable

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-94113	System Management	Group Management service may restart due to duplicate snapshot collection name	If an attempt is made to create a snapshot collection with same the name of an existing snapshot collection, an error indicating object already exists will be reported and the Group Management service may restart. The service will recover upon restart.	Use unique name when creating snapshot collection.
AS-100254	System Management	Group Management Service restarts under heavy load	A system management process can restart when the system is under heavy load. The system recovers automatically. The Data service is not affected.	Not applicable
AS-98124	System Management	Array Management service restart during service shutdown	The Array Management service may restart due to a race condition encountered during service shutdown. The service will recover after the restart.	Not applicable
AS-87736	System Management	Software precheck failures return generic error message	If a software update precheck fails, in some cases it will return only the failure status without providing additional information about the cause of the failure.	Contact HPE Nimble Storage Support for assistance in determining the cause of the failure.
AS-92465	System Management	Intermittent login failures due to Active directory lookups failures	There is a possibility of sporadic, transient, active directory authentication failures. In these cases, the system will recover on its own, requiring no user interaction.	Not applicable
AS-95169	System Management	Graceful shutdown takes longer than expected	In rare occurrences, a customer-initiated reboot may cause a kernel reboot on the active controller. This will cause a longer reboot cycle.	Not applicable

Known Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-105612	System Management	Controller failover may be triggered by delayed shutdown of an internal array process	The arrays Data Service may restart under certain conditions in order to maintain data availability. In some cases, the restart of this process takes longer than expected, resulting in an unexpected timeout and a controller failover. The controller experiencing the timeout will reboot and become the standby controller. This event is non-disruptive.	There is no workaround for this issue. Controller failover will maintain data availability.
AS-92379	System Management	Unable to Filter volumes using Synchronous Replication	There is currently no way to filter volumes using Synchronous Replication within the array GUI.	Use volume collections to check syncRep volumes, or use other filters to meet the needs
AS-97968	System Management	Page footer in GUI may fail to update after bulk update operation	After performing a bulk update operation from the Manage > Data Storage > Volumes > volume-name > Data Protection tab in the GUI, the page footer may not update and previous button may be unavailable.	Refresh the page to restore button functionality.
AS-69561	System Internals	Data Service can restart unexpectedly during shutdown process	Due to a race condition, the Data Service can crash during a graceful shutdown causing unexpected Data Services restart messages to be generated. This should not cause any I/O impact because the Data Service is already in the process of shutting down.	Not applicable

## Resolved Critical Issues

Resolved Critical Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-109126	System Management	Array Management Service restarts when attempting to write to the internal database	In rare cases, when an array is not able to transition to out-of-sync when the Backup Group Leader database is unresponsive, the Group / Array Management Service may restart unexpectedly. This occurs if the array experiences a health check timeout when the Management Service is attempting to write to the internal database.	Not applicable

## Resolved Issues

Resolved Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-109163	Platform	Interfaces on Quad Port 10GbE BaseT and 10GbE SFP cards using VLAN tagging may become unresponsive	When a subnet on the array is configured to use VLAN tagging, Quad Port interfaces in that subnet may become unresponsive. As a result, hosts connected to an unresponsive interface, on that VLAN, may experience communication interruption. Over time, this condition may occur on every interface within that subnet, causing instability with that subnet.	Before an interface is in state, gracefully remove VLAN tagging from the Quad Port interface. After an interface is in state, perform controller failover to recover the condition. However, with VLAN tagging still enabled, subsequent events can occur. Therefore, consider the aforementioned workaround to minimize chance of a re-occurrence.
AS-109019	SAN	HP-UX cannot access nimble volume if mapped LU ID is greater than 255	Due to a NimbleOS software defect, invalid LUN information response for LU IDs greater than 255 prevents connection for HP-UX hosts.	Not applicable

## Known Issues

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-81863	Data Service	Data Service may restart unexpectedly when RAID is in degraded mode	When RAID is degraded, IO needs to be reconstructed by reading from multiple disks, and an internal buffer may exhaust its allocated resources. In rare cases when multiple disks are degraded, the Data Service may restart unexpectedly.	If RAID is degraded for an extended period and Data Service restarts occur, contact HPE Nimble Storage to assess adjusting allocated buffer resources.
AS-102001	Data Service	Data Service may restart unexpectedly due to internal database communication	In rare instances, the Data Service may restart when internal database communication between services is not available. The service restarts to restore the communication between services.	Not applicable
AS-102881	Data Service	Data Service Restart due to a race condition during metadata sync	During NimbleOS metadata sync, in rare instances, the data service may restart unexpectedly. The metadata sync operation itself won't be affected and the restart will reset the race condition; the data service will stabilize after the restart.	Data service will be available after restart.
AS-108981	Data Service	Data Service may restart during Dedupe Domain Upgrade	After software update, during a dedupe domain upgrade, there is a chance of process thread deadlock causing the service to restart. Upgrade is a one time process so it would result in a single Data Service restart.	Not applicable
AS-96703	Data Service	Data Service may restart due to volume manager health check failure during generation deletion	Generation delete loads a large number of ondisk metadata blocks which may prevent block index operation checkpoint from finishing. This causes the volume manager health check to fail which results in Data Service restart.	Not Applicable, the Data Service will resume normal operation after restart.



Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-96779	Data Service	Data Service may restart unexpectedly due to race condition	When a read op finds partial data in-core, it issues a media read to get remaining data. By the time, media read returns, the in-core data is synced, and tree is reopened for deletion. The read does not expect tree to be in delete state and causes the Data Service to restart.	Not applicable
AS-94473	Data Service	Data Service may restart when running out of buffers	When flash cache Garbage Collection copies forward live data of a fragmented segment, it could consume more buffers than provisioned and cause the Data Service to restart to recover.	Contact Nimble Storage Support.
AS-108519	Data Service	File system restart to recover from stalled replication	Due to issues in communicating with the partner array during replication, there are few cases where the operation is not able to make progress. As a result, the file system may restart to correct this condition.	Not applicable.
AS-98979	Data Service	Data service may restart due to a race condition	While committing internal transactions, Data Service may hit a rare race condition. To recover from this Data Service might restart	Not applicable
AS-92170	Data Service	Data Service can restart unexpectedly during shutdown process	Due to a race condition, the Data Service may restart during a graceful shutdown causing unexpected Data Services restart messages to be generated. This should not cause any I/O impact because the Data Service is already in the process of shutting down.	Not applicable
AS-106924	Data Service	Data Service may restart due to network errors	In rare cases, Data Service may restart during snapshot replication due to the failure of checksum algorithms to detect all network errors.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-97038	Data Service	Disabling encryption may cause Synchronous Replicated volumes to remain out of sync	Disabling encryption might cause NVRAM data to fill up with data waiting for master passphrase, which can cause Synchronous Replicated volumes to go out of sync.	Enabling encryption will resolve the issue
AS-105714	Data Service	Data Service may restart if network issue is encountered between Group Leader and Backup Group Leader arrays	A network issue between upstream and downstream could abruptly stop operations running downstream causing them to exit prematurely, resulting in Data Service restart.	Contact HPE Nimble Storage Support
AS-86720	Data Service	Unassigning and reassigning array to a pool within 5 minutes will fail	Assigning an array to a pool immediately after unassigning it from the same pool will fail with the following error - Failed to assign arrays to the pool: A service is not running or is not reachable	Retry operation after a few minutes to reassign array to pool.
AS-101386	Data Service	Data Service restart due to a race condition	A rare scenario can result into a race condition between clone creation and I/O operations on an encrypted volume; during this time while fetching the encryption keys Data Service may restart and resume normal I/O operations.	None. The Data Service Restart would resume normal I/O operations.
AS-98217	Data Service	Data service may restart during array shutdown	Volume manager does not reset internal callbacks during the shutdown phase causing the Data service to restart.	The array will continue to shutdown after the Data service restart.
AS-94196	Data Service	Data Service may restart during array shutdown	The Data Service may restart during array shutdown when jobs related to the Data Service are unable to be gracefully shutdown. The restart should not have any impact as the array is in shutdown process.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-108647	Host Integration	Cimserver stops when memory limit is exceeded.	In some instances the cimserver service will exceed its memory limit and no longer be able to start.	Contact HPE Nimble Storage Support to increase the memory limit for the service.
AS-31268	Host Integration	NPIV feature is not supported for VMs on ESX	N-Port ID Virtualization (NPIV) feature with VMs using RDM luns on ESX hosts is not supported.	Not applicable
AS-90096	Platform	Data Service restarts due to slow IO to one of the disks	In rare instances due to slow IO to one of the disks, the Data Service may hit a timeout and restart unexpectedly. This issue may occur during a NimbleOS software update.	Please contact HPE Nimble Storage Support so the problematic drive can be replaced.
AS-103802	Platform	Data Service restart due to resource allocation failure.	The Data Service may restart due to a transient resource allocation failure. This happens when the service cannot complete a disk IO due to transient memory allocation failure. This does not cause a service outage as Data service continues normally after a restart.	Not applicable
AS-107299	Platform	Replacement controller fails to boot to NimbleOS	During controller boot, firmware update may fail to complete causing the controller to boot to maintenance mode.	Contact HPE Nimble Storage Support
AS-100088	Platform	Controller does not power on following a power cycle.	In rare incidents, controllers do not power on following power cycle.	Please contact HPE Nimble Storage Support

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-90455	Platform	IPMI software may not handle command exchange correctly with BMC leading to unexpected reboots of AFx/HFx controllers	In rare cases, out of order commands being sent to the Baseboard Management Controller (BMC) may return out of order responses that are not handled in the correct order by Intelligent Platform Management Interface (IPMI) software. In this instance, the IPMI message queue loses track of message order. The IPMI message queue not being able to return IPMI Watchdog messages to the watchdog thread causes the watchdog thread to timeout leading to an automatic reboot. While this BMC Watchdog timeout issue is specific to the AFx/HFx systems, this is not a hardware issue. Therefore, hardware replacement is unnecessary.	After the controller reboots, BMC firmware is restarted and is functional again automatically.
AS-99567	Platform	Data Service may restart if a controller is low on memory	Data Service may restart in the rare case when a controller is low on memory.	The restart of the service will clear the low memory condition, no further action is needed.
AS-108793	Platform	Data Service may restart if the array has multiple bad drives	In rare instances, the Data Service may restart if the array has multiple bad drives which make IO handling very slow.	Contact HPE Nimble Storage Support to review disks for replacement.
AS-96053	Platform	NDER process may lead to host reconnects	The Nimble Drive Error Recovery (NDER) is activated for drives failing I/O in an attempt to recover the drive. In rare cases, the process surpass the typical SCSI timeout of 60 seconds, causing host I/O inaccessibility.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-98885	Platform	Unexpected Group Management Service restart due to receive buffer exhaustion	The Group Management Service may restart unexpectedly due to receive buffer exhaustion on the management network interface. No visible impact has been reported because of this issue.	Not applicable
AS-101570	Platform	Delay with Data Service starting during shelf state change	On rare occasions, the array groups Data Service may fail to initialize if a shelf state change occurs simultaneously.	No workaround is required. The array will recover itself automatically by restarting the Data Service.
AS-91522	Platform	SSD has reached its endurance limit (wear leveling) but the disk is not marked failed.	In rare cases, an SSD may reach its endurance limit but continues to pass Nimble Drive Error Recovery algorithm. This causes a never-ending process of off-lining and on-lining the drive. This may occur for Intel and Toshiba SSDs.	Not applicable
AS-99428	Platform	Replacement disk reports foreign for disk state in GUI/CLI	Disk will report foreign for disk state in the GUI Hardware page or in the output of disk --list from the CLI. This typically occurs if diagnostic data may not have been removed after testing.	Add the disk from the CLI using the disk add command and output from disk list: 1. Run disk --list 2. Note the slot number, and shelf location for the disk labeled foreign. 3. Add the disk: disk --add &lt;slot number> --array &lt;array-name> --shelf_location &lt;shelf location> Note: the --force option may be required Contact HPE Nimble Storage Support if the disk does not move to resynchronizing state after completing the commands.

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-107489	Platform	Limited thermal monitoring policy for PCIe components	The current thermal policy has a limitation where individual PCIe components are not monitored on card-by-card basis. As a result, the high level temperature policy that is current implemented, is sometimes incapable of regulating the temperatures of individual cards.	Not applicable
AS-33725	Platform	Unexpected controller takeover due to incorrect state of the SAS HBA	When the SAS HBA detects faulty states, to recover, the array needs to reset the SAS HBA's firmware. The SAS HBA firmware reset can block disk I/Os significantly longer than our High Availability monitoring timeouts allow. Instead, a controller reboot is triggered immediately if this state is detected, resulting in an unexpected takeover event.	The controller reboot should restore SAS HBA to normal state. HPE Nimble Support may contact customer to collect additional diagnostics if required.
AS-93296	Platform	Data service may restart if maximum cache exceeded for CS215, CS235, CS300, CS500, CS700 arrays	ES2 and AFS2 expansion shelves contain additional slots for upgrading cache capacity of the array. Older array models have a maximum cache limit that can be handled by the array. If ES2 or AFS2 expansion shelves are added to an array and the cache exceeds the max cache limit for the array type, the data service may restart due to running out of data pages.	Review the array configuration matrix for the array model: <a href="https://infosight.hpe.com/InfoSight/media/local/active/34/CSxxx%20Config%20Matrix.pdf">https://infosight.hpe.com/InfoSight/media/local/active/34/CSxxx%20Config%20Matrix.pdf</a> Remove any additional cache from the expansion shelf that exceeds the max cache limit based on array model.
AS-95995	Platform	Software update may fail if array is configured with proxy server	If the array is configured with a proxy server and the configuration includes a username or password that includes special characters such as \$, the update may fail.	Configure the proxy server with a username that does not include a special character in the username or password.

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-103315	Not applicable	dHCI update workflow can fail if /var mount-point on the host is full.	As part of the dHCI update workflow which involves the ESXi server update, some commands need to be run on the server. Running these commands fails with error Error: A general system error occurred: Internal error. if the /var is full. This is a known issue with 6.7 builds running with Emulex driver which has been fixed as part of ESX 6.7 U2. <a href="https://docs.vmware.com/en/VMware-vSphere/6.7/rn/vsphere-es-xi-67u2-release-notes.html#resolvedissues">https://docs.vmware.com/en/VMware-vSphere/6.7/rn/vsphere-es-xi-67u2-release-notes.html#resolvedissues	Free up /var disk space by deleting unwanted log files (/var/log/EMU/mili/mili2d.log) and rebooting the host.
AS-103247	Not applicable	An in-progress dHCI update fails if the group leader fails over	When the dHCI unified update feature is used to update the dHCI stack, the update will fail if a Group Leader Failover occurs during the process.	The only way to resume the update would be to failover to the original group leader array and then resuming the update through the dHCI vCenter plugin.
AS-97685	Not applicable	Nimble Add ProStack server task may hang if array failover occurs	If an array failover occurs while Nimble Add ProStack server task is running from vCenter, the process may hang and not complete.	After confirming the array has returned to Active/Standby status, stop the hung task and run the Nimble Add ProStack server task again.
AS-103769	Not applicable	The update page on the dHCI plugin takes 4 hours to refresh	When an ESXi server is added to dHCI cluster, the update page does not get updated to include the newly added ESXi server. This refresh happens every 4 hours. After the next refresh, the new ESXi servers version will be included and accounted for on the update page.	Not applicable
AS-95054	Not applicable	Addition of a server with expired ESXi license fails	When adding a server with an expired ESXi license to the dHCI cluster, through the vCenter plugin, you may see an error saying - Failed to submit a task to add server.	A valid ESXi license must be assigned to the server.

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-101915	Not applicable	dHCI update fails when Admission Control is enabled	For ESXi server update, DRS is used to migrate VMs running on the server. If admission control is enabled on the dHCI cluster, DRS is not able to migrate VMs off a server.	Admission Control should be disabled on a dHCI cluster for the update to proceed.
AS-86843	SAN	Data Service may hit assert when host sends writes to read-only snapshot and snapshot creation is in progress.	When host sends write requests to read-only snapshots, the writes will fail with SCSI Check Condition with additional status SCSI_ASC_ASCQ_LU_SOFTWARE_WRITE_PROTECTED. But if Volume Manager is creating snapshot at the same time, the Data Service may hit an assert and restart to recover automatically.	Offline the read-only snapshots where the hosts is sending write requests.
AS-100197	SAN	Data Service restart during shutting down FC service on the standby controller	During a controller reboot, due to resource contention between new Fibre Channel (FC) connection attempts and shutdown of the FC module, the Data Service on the array may restart unexpectedly.	Not applicable.
AS-107345	SAN	NimbleOS services may restart unexpectedly due to memory leak in login path	Logins to CHAP authentication enabled volumes could leak a small amount of memory by repeated failed login attempts to offline volumes or stale targets. Over a period of days and weeks, this leak can result in one or more of the NimbleOS processes running out of memory. As a result, NimbleOS services may restart unexpectedly.	Identify the offline volumes or stale targets and initiate a host side cleanup/rescan to avoid repeated login attempts and failure to the offline or stale targets.



Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-109412	SAN	NimbleOS services may restart unexpectedly due to slow leak with CHAP logins	Logins to CHAP authentication enabled volumes could leak a small amount of memory the size of CHAP username. Over a period of days and weeks, this leak can result in one or more of the NimbleOS processes running out of memory. As a result, NimbleOS services may restart unexpectedly. The issue is exacerbated by repeated failed login attempts to offline volumes or stale targets.	Identify the offline volumes or stale targets and initiate a host side cleanup/rescan to avoid repeated login attempts and failure to the offline or stale targets.
AS-98042	SAN	The Data Service restarts unexpectedly during shutdown	When the active controller is being shutdown, the Data Service runs into an internal error condition that causes the service to restart unexpectedly. Since the process is already being shutdown, there is no impact to user data availability.	Not applicable
AS-101325	SAN	Data Service may restart unexpectedly while removing member array	Under certain conditions, the Data Service on the Group Leader array may restart unexpectedly while removing member array. This is due to a race condition when processing SCSI RTPG (REPORT TARGET PORT GROUPS) commands. The service should stabilize on its own shortly following the restart.	Not applicable
AS-94761	SAN	File System service may restart when an invalid write request is received	This scenario is rare to happen but presently not handled gracefully leading to a File System restart for recovery. The issue is triggered when a write request with valid length is received in SCSI Command Descriptor Block but invalid (zero) value in Data-Out Buffer.	Not Applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-103766	System Management	Group Management Service may restart due to race condition	Group Management Service may restart unexpectedly as one thread has taken a ReadWrite lock which has another writer thread, which is waiting for Scale-Out Database (SODB) transaction to be completed. The service restarts due to the SODB transaction exceeding the expected timeout.	Not applicable
AS-105431	System Management	Alarm IDs in alarm list may appear out of order.	Due to the multi-threaded nature of the Alerts and Alarms Service, it is possible for an event with a later id to be posted prior to an event with an earlier id. Therefore it will have an earlier timestamp even though its ID is higher. This can cause the IDs to appear out of order. However, the alarms in the list are ordered correctly by timestamp.	Not applicable
AS-94398	System Management	Alarm may not clear as expected	Due to a race condition it is possible for an alarm to remain uncleared on the system even when the alarm condition it is reporting is no longer the case. This can happen if the onset alert and recovery alert were generated at close to the same time.	The problematic alarm can be manually deleted through the CLI command: <code>alarm --delete &amp;lt;alarm_id&amp;gt;</code>
AS-106124	System Management	Member array alarms are still visible after array is removed from group	Alarms raised by a member array are visible when issuing <code>alarm --list</code> even after the member array is removed from the group.	Run the following command via the array CLI: <code>alarm --delete alarm_id</code>
AS-99679	System Management	Eventd process may restart due to exceeding memory limit	The eventd process may restart unexpectedly in systems with larger configurations due to exceeding memory limit. The service will recover after the restart.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-50821	System Management	Alerts and Alarms processing service may restart unexpectedly	Alerts and Alarms processing service may restart unexpectedly when certain operation surpass the designated health check timeout. The process will stabilize following the restart.	Not applicable
AS-46024	System Management	Eventd process may restart intermittently	The Eventd process may infrequently crash, due to a bug in an external library used by the DNS resolver. The restart will not impact data connections to the array and the process will recover after the restart.	Not applicable
AS-101273	System Management	Event Management service restart when two folders in different pools have the same name	When an alert is raised on one of two folders having the same name but are located in two separate pools, the Event Management service may restart repeatedly.	Rename the folders to be unique. If the Event Management service continues to restart or remains unavailable, contact HPE Nimble Storage Support.
AS-71090	System Management	No Audit Log entry is created if user does not have the privilege to create user	If a user tries to create a new user account, but the user doesn't have the privilege to do so, the user creation will fail. However, an audit log entry is not created.	Not applicable
AS-104640	System Management	Group Management Service restarts following volume creation timeout	The Group Management Service on the array may restart unexpectedly when a SOAP timeout is encountered after trying to create a volume. This occurs due to a race condition where the array attempts to delete the volume after the creation attempt fails.	Not applicable
AS-107980	System Management	Purge inactive encrypted keys appears in audit log.	Every night, when inactive keys for deleted encrypted volume are deleted by the array, it creates an audit log entry with root as the user performing the action.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-104185	System Management	Group Management service may restart when performing Autosupport Validation	When autosupport configuration validation is performed, internal process tracking may abort causing the Group Management Service to restart.	Perform the Autosupport validation process again.
AS-109127	System Management	Group Management service may restart when connections to Scale-Out Database exceeds threshold value	Connection to the Scale-Out Database can not be reinitialized when a transaction is in progress. The Group Management Service will restart to restore connection.	Not applicable
AS-108146	System Management	Group Management service may restart due to key value metadata handling	During key value metadata handling, the process may delete primary keys in one table of the Scale-Out Database (SODB) and then try to reference the deleted primary key as foreign key in another table in SODB. This causes foreign key violations in Postgres and eventually leads the Group Management service to restart.	Not applicable
AS-98792	System Management	Group Management service may restart due to internal database timeout	During internal database processing stale table entries are cleaned up. The Group Management service may restart if the array is under heavy load while this clean up is performed and internal processing times out. The service restarts to recover from the condition and resumes processing.	Not applicable
AS-99704	System Management	group --status CLI output shows incorrect Failover Mode during network connectivity issues	If there is a network connectivity issue between the witness and Group Leader array, the group status CLI output will update the Failover Mode from Automatic to Manual until the connection is reestablished. It also displays the Witness Status as N/A as opposed to Unreachable.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-98953	System Management	Array Management Service restarts during Backup Group Leader discovery	The arrays database system may become unavailable for a limited time when there is a failure in setting up the Backup Group Leader. When attempting to discover a new Backup Group Leader, the Array Management Service may restart due to a race condition.	This restart is non-disruptive to the data on the array, and the Array Management recovers after the restart occurs.
AS-106539	System Management	Array Management Service may restart during array shutdown	Due to a race condition, the Array Management service may restart when the array is in the process of shutting down all services as part of the array shutdown. An alert and a process core could be generated as a result but there is no impact to functionality. Once the array powers back on, all services start up normally.	None.
AS-94683	System Management	Network isolation of the Group Leader and Backup Group Leader array may lead to Automatic Switchover service restarts	In Automatic Switchover environments, in rare instances, network isolation of the Group Leader and Backup Group Leader may cause the service that handles the automatic switchovers to restart unexpectedly.	No workaround is needed. The service recovers on its own.
AS-94649	System Management	Peer Persistence Automatic Switchover (ASO) is disabled during software update	During software update of array group with Peer Persistence configuration, Automatic Switchover (ASO) is disabled. If an array goes down (both controllers down) during the software update process, due to a power failure or other unexpected event, hosts could lose access to data until the failed array recovers, or a manual switchover of the affected volumes is done.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-101342	System Management	Group limits command lists internal identifiers	The array group CLI command with limits option (group --list-limits) displays numeric internal identifiers as part of the information listed for the volume information. These numeric identifiers are used by the array only and can be ignored.	Not applicable
AS-87749	System Management	Max limit of 120 nics in netconfig alarm does not get cleared	When alarm for number of nics in array net config reaching 120 is triggered, it doesn't get cleared even when the number of nics goes down.	The workaround would be to delete the alarm using the alarm --delete CLI.
AS-104812	System Management	Array Management service restarts due to memory allocation issue	The Array Management service may restart unexpectedly due to a memory allocation failure when attempting to synchronize configuration with a member array. The restart of the Array Management service clears the situation.	Not applicable
AS-74242	System Management	Force deletion of user defined performance policy should not be supported	There is a --force switch available when deleting a performance policy via the HPE Nimble Storage Array CLI. This --force switch does not work and will fail with the following: ERROR: Failed to delete performance policy. Resource busy. The --force command is not supported since the specified performance policy should not be removed without first checking its volume or folder associations.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-101832	System Management	Volume Migration estimates may be inaccurate when multiple volumes are being migrated	Volume move operations copy both data and associated metadata from the source array to destination array. For groups with multi-array pools, copying the metadata can take a significant amount of time, and the estimate calculation may be inaccurate initially. These estimates will auto-correct themselves by using feedback mechanisms.	Not applicable
AS-101420	System Management	Array Management Service restarts unexpectedly under high load	The Array Management service may restart unexpectedly when the array is under high workload.	The service will stabilize on its own following the restarting.
AS-108299	System Management	Group Management service may restart unexpectedly	When internal process communication fails between processes the Group Management service may restart to recover.	Not applicable
AS-97327	System Management	Group Management service may restart due to communication timeout exceeded	If communication between Group Management and Postgres services does not complete within expected timeout, the Group Management service may restart. The restart will resume the communication and try the transaction again.	Not applicable
AS-105702	System Management	Group Management Service restarts due to memory allocation issue	The Group Management service may restart unexpectedly if there is a memory allocation error involving the arrays database management system.	Not applicable
AS-94835	System Management	Array Management process may restart during automatic failover	Array Management services may be unavailable for a short time due to restart during automatic failover.	Not applicable
AS-97697	System Management	Group Management Service may restart unexpectedly	Group Management service may restart due to health check timeout exceeded. The service will recover after the restart.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-98434	System Management	After group leader migration, quorum is not removed after witness disconnection	After Group migration is performed, backup group leader becomes group leader. If witness is disconnected for more than five minutes, the new leader will not remove quorum.	Disable automatic failover and remove witness from configuration.
AS-98650	System Management	Alert for aborted handover does not specify reason	In the case where the downstream array is reaching its snapshot rate limit and the user performs the volume collection handover, the handover will be abort if the limit is surpassed. An alert will be raised but the alert message may be missing the reason for aborting handover.	Not applicable
AS-99520	System Management	Both upstream and downstream may claim the volume collection ownership when excessive handovers are performed	If a user performs multiple volume collection handovers between two arrays during a short time span, this may cause a situation where both upstream and downstream array may claim volume collection ownership. This is due to a race condition in the workflow.	Not applicable
AS-90286	System Management	volcoll --info output lacks pool/folder qualifications for associated volumes	For the volcoll --info output for sync replication volume collections, the Associated volumes: and Associated pinned volumes: fields lack pool/folder qualification for the associated volumes.	vol --list can be used to determine pool/folder attributes of these volumes.
AS-89124	System Management	Synchronous Replication Volume Count Limit	The group --list_limits CLI command does not list the Synchronous Replication volume count Limit. Synchronous Replication on 5.1.0.0 and later can protect up to 128 volumes.	Not applicable



Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-59470	System Management	Group management process my restart due to a deadlock when replicating	A deadlock can occur between two management processes when updating the replication bandwidth throttle. The Management Process will restart and clear the condition. There is no disruption to data services and replication will continue automatically without intervention.	Not applicable
AS-90649	System Management	Configuration of deduplication volumes for sync replication might fail	If the Default Deduplication setting differs for upstream and downstream pools, the configuration of deduplication volumes for replication might fail with the following error Deduplication not allowed since no application category is assigned to the performance policy	Update the downstream pools Deduplication setting to match the upstream pool.
AS-98378	System Management	Error No message received after issuing CLI command to disassociate volume from collection	Under system busy conditions, when an excessive amount of operations are being issued in parallel or too many internal retries are occurring to perform tasks, you may receive a No message received error after issuing a CLI command.	Please reissue the command. If the operation was already performed by the earlier command, an appropriate message will be returned.
AS-96241	System Management	Group Management service may restart due to high memory usage	When the system has a high number of objects, the Group Management service may restart while running REST query or CLI command.	Not applicable
AS-96143	System Management	Group management service may restart due to assertion failure	NimbleOS uses a defined state machine for the replication workflow. At the end of the execution of each step defined in the state machine, it moves to the next step. If it leads to any unexpected step throughout the workflow then it will lead to assertion failure which results in Group Management service restart.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-85198	System Management	Downstream group management service process restarts during snapshot replication	During snapshot replication there is an increase of load on the downstream group. This burst of replication activity may trigger a restart of the downstream group management service when there are a lot of snapshots scheduled for replication.	Reduce the total data the upstream group is trying to sync with the downstream group by doing the following: 1) Reduce the total number of volumes in the upstream protection policy. 2) Reduce the snapshot frequency of the upstream protection policy. 3) Reduce the number of snapshots retained between the downstream and upstream.
AS-90633	System Management	Error No message received after issuing CLI command to associate volume to volume collection	Under system busy conditions, when an excessive amount of operations are being issued in parallel or too many internal retries are occurring to perform tasks, you may receive a No message received error after issuing a CLI command.	Please reissue the command. If the operation was already performed by the earlier command, an appropriate message will be returned.
AS-88308	System Management	Cloud Volumes replication does not support group merge	If two on-premise array groups configured with a Nimble Cloud Volumes (NCV) partner are merged, the Cloud Volume replication will stop working.	Not applicable
AS-105064	System Management	Group management service may restart unexpectedly	Internal workflow processing related to the replication partner object may cause the process to deadlock, resulting in Group management service restart.	Not applicable
AS-106490	System Management	Group management service may restart due to race condition	While syncing the config changes on the downstream array, group management service may restart due to a race condition between protection policy deletion and adding the volume to the protection policy.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-98155	System Management	Group management service may restart unexpectedly	Arrays with volumes that have large branch structures may cause internal command processing time-out to be exceeded. This will cause the Group Management service to restart due to health check failure.	Contact HPE Nimble Storage Support.
AS-95610	System Management	Group Management Service restarts during bulk volume update	Due to a rare race condition, the Group Management Service may restart unexpectedly during a bulk volume update operation.	Retry the command for the failed volumes.
AS-91638	System Management	Group Management Service restarts due to packet loss in network	If the network response to a REST request takes more than 5 minutes, a thread performing the REST request times out and as a result Group Management Service restarts. The service stabilizes itself and as long as the network is serving the requests faster. A single instance of the Group Management service restart should not cause any disruptions.	Please review the network and see if there is a consistent packet loss and fix any network glitches. If you need any assistance, please reach out to HPE Nimble Storage Support.
AS-108765	System Management	Group Management service restarts during the array shutdown	During a planned array shutdown, the Group Management service may restart due a race condition. There is no data or management interruption since the service is already shutting down.	Not applicable
AS-105944	System Management	Time to Live (TTL) expiry date on last replicated snapshots can be negative	NimbleOS protects the last replicated collection, in some cases, the TTL expiry date on those snapshots can become negative when the snapshots exist beyond TTL.	The TTL can be updated on the snapshots which have a negative value to a current value. The snapshot may also be removed if it has been confirmed it is no longer needed.
AS-93113	System Management	Unmanaged snapshots remain after cleanup is enabled	If clones are created using an unmanaged snapshot, then this unmanaged snapshot will not be deleted even if cleanup is enabled.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-23891	System Management	Changing replication partner in a volume collection with multiple schedules reports the following error: The request could not be processed by the server	A volume collection can currently replicate to only one replication partner. In case of multiple schedules in a volume collection, editing single protection schedule to different replication partner violates this constraint.	Set downstream partner on all schedules in the volume collection to none and thereafter change replication partner on desired schedules to the new partner.
AS-105291	System Management	Group Management Service may restart due to a race condition	Due to a race condition, the Group Management Service on a downstream group may restart while updating volume collections from the upstream group.	Not applicable
AS-97899	System Management	Group Management service may restart due to communication timeout exceeded	If communication between Group Management and Postgres services does not complete within expected timeout, the Group Management service may restart. The restart will resume the communication and try the transaction again.	Not applicable
AS-94517	System Management	Group Management service may restart due to memory exhaustion	Group Management service may restart due to memory exhaustion in configurations that approach 10,000 volumes and 300,000 snapshots.	Not applicable
AS-105432	System Management	Deletion of a volume is not completed due to the presence of stale ACLs associated with it	In certain scenarios, a volume deletion will not complete due to the existence of a stale ACL associated with it. This stale ACL is associated with a snapshot of the volume that was previously deleted. These volumes will not show up in the CLI/GUI as they are in a hidden state.	Contact HPE Nimble Storage Support to identify ACLs in forced-delete/create-retry state, verify these ACLs are associated with snapshots that no longer exist, and delete these ACLs from the internal NimbleOS database.

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-104965	System Management	Group Management service may restart during array shutdown	During planned service stop, such as array shutdown, the Group Management service may restart due to a race condition. There is no data or management interruption since the service is already shutting down.	Not applicable
AS-99615	System Management	Array Management Service restarts unexpectedly following automatic Group Leader Failover	The Array Management Service restarts unexpectedly following automatic Group Leader Failover (AFO). The restart is non-disruptive.	Not applicable
AS-101392	System Management	Services may not start on the array after it is powered on and off several times	When the array is powered on and off excessively, services may fail to start on the array.	Please contact HPE Nimble Storage Support
AS-100382	System Management	Group Management Service restarts unexpectedly following automatic Group Leader Failover	The Group Management Service may restart unexpectedly when the array is under heavy load, has many snapshots scheduled, has performed a group merge in the past, and has recently performed an automatic Group Leader Failover.	Not applicable
AS-98504	System Management	Group Management service may restart unexpectedly	If internal database processing for array statistics exceeds the expected timeout, the Group Management service will restart due to health check failure to recover.	Not applicable
AS-103982	System Management	Group Management Service may restart unexpectedly due to network connectivity	In rare instances, the Group Management Service may restart unexpectedly when the Group Leader and Member array have lost connectivity due to network outage. The service restart recovers GUI and CLI access, data services are not impacted by the restart.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-105453	System Management	Group Management service may restart unexpectedly	The Group Management service may restart when service communication for internal database processing is terminated. The service restarts to restore connections between the services.	Not applicable
AS-105804	System Management	Group Management service may restart unexpectedly when performing high snapshot activity	Group Management service may restart on the array when there is a high amount of snapshot activity being performed. The service restart will recover from the condition and the snapshot operations will resume.	Scheduling snapshots to occur at different times instead of all at once may help alleviate this issue.
AS-95132	System Management	Process Management service may restart during software upgrade	In rare instances, the Process Management service restart may occur during software update. The system recovers after the restart of the service.	Not applicable
AS-98694	System Management	Snapshot limit warning alarms persist after update to 5.1.x.x or later	After the update to 5.1.x.x or later, the Snapshot limit warning alarm is no longer used. This presents a situation where stale alarms are present on the array and they will not be cleared even if the space situation is rectified. The alarm follows the following format: WARNING Mon DD YYYY HH:MM:SS Acknowledged - Volume &lt;volume name>; snapshot space usage is over the configured warning limit.	The alarms can be deleted manually either in the GUI or on the CLI.
AS-108432	System Management	Group management service may restart when there are many REST requests for volume statistics values	High concurrent REST volume reads with statistics may cause Group Management service to restart. Current REST requests will fail, GUI and CLI will be unavailable. The system will recover after the restart of the service.	Not applicable

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-110123	System Management	Group Management service may become unavailable when shut down	Infrequently the Group Management service may encounter an error while shutting down. If the service is being restarted it may take a few more seconds to start. GUI and CLI will be unavailable for a few seconds.	Not applicable
AS-93469	System Management	Group Management service may restart while collecting member array statistics	The Group Management service may restart while collecting statistics from member array. This can occur when the request from the group leader to member array exceeds timeout, causing the service to restart to recover.	Not applicable
AS-106848	System Management	Arrays with Automatic Switchover enabled fail software update with generic message	Software updates to 5.1.4.200 are not allowed when Automatic Switchover (ASO) is configured. If a software update to 5.1.4.200 fails for this reason, a generic software update failure message is returned in the GUI. The cause of the failure would need to be determined by looking at the system configuration and determining if ASO is configured.	The ASO checkbox is enabled by default, however ASO is not enabled until a witness has been configured. In the GUI, navigate to Administration > Availability. If witness is configured and the ASO check box is checked, disable ASO by unchecking the box and clicking save. Perform the array software update again. If the update continues to fail with generic messaging, contact HPE Nimble Support.
AS-72559	System Management	Group management service may restart during software update	Group management service may restart during software update due to race condition involving unlocking the download lock file.	Not applicable
AS-40516	System Management	Timeouts during software update	Under rare conditions, a software update may report an error even though the actual update has completed successfully. This occurs when software update takes longer than 4 hours.	Running the software --resume_update command from the console will clear this condition.



Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-91962	System Management	Volume management operations may fail with unrelated error messages while handover is in-progress	While the volume ownership is being changed, any management operation involving that volume could fail. This is expected behavior. Depending on the progress of that handover operation, management operation is failing with different errors.	Ignore the error message and retry the management operation
AS-92209	System Management	Group Management Service may restart unexpectedly during creation of Peer Persistent Snapshot	Group Management Service might restart unexpectedly while creating Peer Persistent snapshot during Daylight Saving Time adjustment window.	Not applicable
AS-95212	System Management	HPE Nimble Storage array compatibility issues with MIT Kerberos trust types	When the HPE Nimble Storage array is configured to use Active Directory integration, the array is joined to one specific domain, as a domain member. Under normal circumstances, users in trusted domains will also be able to authenticate to the array. If one or more trusted domains are joined to the forest using an MIT Kerberos type trust relationship, users and groups in any trusted domain (e.g. not the domain the array is joined to) will be unable to authenticate to the array.	Not applicable
AS-104512	System Management	Active Directory authentication in some cases, may lead to a Group Management service restart	Active Directory Authentication causes the arrays Group management service to wait for a response from the Active Directory. If this response is delayed, the Group Management Service may restart unexpectedly.	Not applicable



Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-109549	System Management	Group Management service may restart due to Active directory communication taking too long.	When logging in with a Active directory (AD) user, delayed responses from AD may lead to Group Management service restart.	Not applicable
AS-109805	System Management	Group Management service may restart due to health check timeout	The Group Management service may restart when internal database processing exceeds the expected timeout value. The service restarts to recover from the condition.	Not applicable
AS-102893	System Management	Enabling synchronous replication fails upon reaching volume limit	Following operations will fail upon reaching the volume limit: -adding Synchronous replication schedule to a volume collection &nbsp;- associating a volume to a volume collection with Synchronous Replication enabled -editing a Volume Collection schedule to add Synchronous Replication partner	Delete unused clones or volumes to bring down the volume count.
AS-86545	System Management	Unable to create dedupe enabled volumes on a new install	After a CSx000 array is installed, it takes one minute for the array to determine its deduplication capability. If a volume is created prior to this, it will not have dedupe enabled even if the array is dedupe capable.	Once the array is able to determine its deduplication capability, all newly created volumes will have dedupe enabled, if specified. In order to enable dedupe on the previously created volumes, you may run the following command via the HPE Nimble Storage Array CLI: vol --edit <vol_name> --dedupe_enabled yes
AS-101535	System Management	Group Management Service is temporarily unavailable after deleting volumes	Enabling and disabling the dedupe setting on volumes and concurrently deleting volumes can cause the Group Management Services to become temporarily unavailable on the array.	The Group Management Service will eventually restart itself

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-92157	System Management	No CLI support for changing the Witness Port	Currently, there is no CLI support for changing the witness port. The nimble-witnessd.service file needs to be edited manually.	Not applicable
AS-99431	System Management	Array Management Service restarts or Takeover occurs unexpectedly following automatic Group Leader Failover	In rare circumstances, following an Automatic Failover (AFO) a race condition may cause the Array Management Service to restart or an unexpected controller takeover.	Not applicable
AS-98177	System Management	Setting alarm reminder frequency to the same value from GUI does not change next reminder time	When updating an alarm from the Events & Alarms page in GUI, selecting an alarm and clicking CHANGE REMINDER button, without changing the reminder frequency time, and clicking SAVE button, does not change next reminder time. This behavior is different from CLI. Setting alarm reminder frequency to the same value from CLI resets the next reminder time based on the current time.	To keep the same reminder frequency and reset the next reminder time based on the current time, change the reminder frequency to a different value, save it, and change it back and save it, or use CLI to make the change.
AS-87701	System Management	Incorrect information on hardware page displayed when controller is down	When a controller is down, the user may see incorrect representation of physical ports within the Hardware Page of the array GUI. This is due to the lack of information from the missing controller.	When the controller is back up, all the information is displayed correctly on hardware page.
AS-102299	System Management	GUI Error when entering a valid folder overdraft limit value	The Array GUI incorrectly returns an error when a valid value for the folder overdraft limit has been entered. This happens only in Internet Explorer and Microsoft Edge browsers.	Use Google Chrome or Mozilla Firefox browser.

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-77372	System Management	Group Merge via GUI unable to process large amount of conflicts	Currently within the HPE Nimble Storage Array GUI, when performing a group merge, if there is a large amount of group merge conflicts (1000 or more), the GUI is unable to process and resolve all of them.	To work around this issue: 1. Log into the destination array to resolve the conflicts. 2. Attempt the group merge again.
AS-87886	System Management	GUI may show Successful message when group merge fails	During group merge, the GUI might show Successful message even though the group merge backend processing fails.	Not applicable
AS-94575	System Management	Unable to edit a storage pool and assign an array at the same time	When attempting to edit a storage pool and assign an array at the same time, you receive the following error: Cannot update array list and name or description simultaneously.	Edit the pool name and assign / un-assign the array a in separate steps.
AS-95591	System Management	Incorrect ordering of pool merge error messages when Synchronous Replication and Witness are configured	Pool merge is not allowed if Synchronous Replication is enabled and pool merge is not allowed when a witness configured. If an array group has a witness configured for Automatic Switchover and has Synchronous Replication configured, when a user tries to perform a pool merge, the following error is generated: "pool merge is not allowed when witness is configured". In this case, if the user removes the witness and then re-attempts the pool merge, the following error is then generated: "Pool merge is not allowed when involved in sync replication". This error should supersede the previous error.	

Known Issues in NimbleOS version 5.2.1.200				
ID	Component	Title	Description	Workaround
AS-104099	System Management	Volume collection association for a volume can fail due to a name conflict on the downstream array	When associating multiple volumes to a volume collection from, the volume association for all volumes can fail due to a name conflict for one of the volumes on the downstream.	Fix the name conflict on the downstream array.
AS-93157	System Management	Array GUI does not specify which snapshots are unmanaged	The Array GUI does not specify which snapshots are unmanaged and no longer belong to a volume collection.	Run the following command via CLI: <code>snap --list --all --unmanaged</code>
AS-92634	System Management	Volume performance numbers may report invalid values after software update	The volume performance numbers displayed in the GUI under Manage > Data Storage > Volumes > Performance Tab may display invalid values temporarily after an array software update.	The values should report correctly within 24 hours after the update has completed.
AS-104567	System Internals	Array Management Service restarts when Group Leader cannot reach Backup Group Leader	When the Group Leader attempts to complete the Backup Group Leader promotion, if there is not a healthy data path, the Backup Group Leader promotion fails. Despite the network error, the Backup Group Leader promotion goes into a loop and ultimately leads to an unexpected restart of the Array Management Service.	Not applicable