


# Dell VxRail 8.0.x

## Release Notes

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

Revision history.....	5
<b>Chapter 1: Introduction.....</b>	<b>6</b>
VxRail overview.....	6
<b>Chapter 2: VxRail 8.0.xxx.....</b>	<b>8</b>
VxRail 8.0.212 Package Software.....	8
What is new in VxRail 8.0.212.....	8
Fixed issues in VxRail 8.0.212.....	9
VxRail 8.0.211 Package Software.....	9
What is new in VxRail 8.0.211.....	10
Fixed issues in VxRail 8.0.211.....	10
VxRail 8.0.210 Package Software.....	10
What is new in VxRail 8.0.210.....	11
Fixed issues in VxRail 8.0.210.....	12
Known issues in VxRail 8.0.210.....	14
VxRail 8.0.120 Package Software.....	14
What is new in VxRail 8.0.120.....	15
VxRail 8.0.201 Package Software.....	15
What is new in VxRail 8.0.201.....	16
VxRail 8.0.111 Package Software.....	16
What is new in VxRail 8.0.111.....	17
Fixed issues in VxRail 8.0.111.....	17
VxRail 8.0.200 Package Software.....	18
What is new in VxRail 8.0.200.....	18
Known issues in VxRail 8.0.200.....	19
Fixed issues in VxRail 8.0.200.....	19
VxRail 8.0.110 Package Software.....	20
What is new in VxRail 8.0.110.....	20
Known issues in VxRail 8.0.110.....	21
VxRail 8.0.101 Package Software.....	21
What is new in VxRail 8.0.101.....	22
Fixed issues in VxRail 8.0.101.....	22
Known issues in VxRail 8.0.101.....	23
VxRail 8.0.100 package software.....	23
What is new in VxRail 8.0.100.....	23
Fixed issues in VxRail 8.0.100.....	26
Known issues in VxRail 8.0.100.....	28
VxRail 8.0.020 package software.....	28
What is new in VxRail 8.0.020.....	29
Fixed issues in VxRail 8.0.020.....	30
VxRail 8.0.010 package software.....	31
What is new in VxRail 8.0.010.....	31
Known issues in VxRail 8.0.010.....	32
VxRail 8.0.000 package software.....	32

What is new in VxRail 8.0.000.....	33
Known issues in VxRail 8.0.000.....	34
<b>Chapter 3: Upgrades.....</b>	<b>35</b>
Solve Online for VxRail.....	36
Direct upgrade paths.....	36
VxRail 8.0.x upgrade methods.....	37

## Revision history

Date	Revision	Description of change
June 2024	15	Updated for VxRail 8.0.212.
April 2024	14	Updated for VxRail 8.0.211.
March 2024	13	Updated for VxRail 8.0.210.
December 2023	12	Updated for VxRail 8.0.120.
December 2023	11	Updated for VxRail 8.0.201.
November 2023	10	Updated for VxRail 8.0.111.
November 2023	9	Updated for VxRail 8.0.200.
August 2023	8	Updated for VxRail 8.0.110.
July 2023	7	Updated for VxRail 8.0.101.
June 2023	6	Updated the TPM 1.2 information for VxRail 8.0.100.
June 2023	5	Updated for VxRail 8.0.100.
March 2023	4	Updated for VxRail 8.0.020.
February 2023	3	Added note for LCM upgrades with TPM 1.2 modules.
January 2023	2	Updated for VxRail 8.0.010.
January 2023	1	Updated for VxRail 8.0.000.

# Introduction

The release notes contain supplemental information about VxRail 8.0.x software.

The target audience for this document includes customers, field personnel, and partners who want to manage and operate VxRail clusters.

For the most up-to-date list of VxRail documentation, see the [Dell VxRail Documentation Quick Reference List](#).

The following software versions are in these release notes:

- VxRail 8.0.212
- VxRail 8.0.211
- VxRail 8.0.210
- VxRail 8.0.201
- VxRail 8.0.200
- VxRail 8.0.120
- VxRail 8.0.111
- VxRail 8.0.110
- VxRail 8.0.101
- VxRail 8.0.100
- VxRail 8.0.020
- VxRail 8.0.010
- VxRail 8.0.000

## Upgrades

For supported upgrade paths, see [Supported upgrade paths](#).

## Entitlement

This Dell product uses an embedded Linux distribution which is licensed to Dell. This embedded Linux is only authorized to be used to operate the Dell product and only the Dell product.

## VMware documentation

VMware provides the following release notes and additional documentation that is not specific to VxRail. For more information, see [VMware vSphere documentation](#).

## VxRail overview

VxRail uses PowerEdge server platforms and HCI system software to deliver virtualization, compute, and storage to enable deep integration across the VMware ecosystem.

The VxRail software bundle includes the following:

- VxRail Manager
- VMware vSphere, including VMware ESXi
- VMware vCenter Server
- VMware vSAN

VxRail HCI system software includes complementary applications such as RecoverPoint for VMs.

## VMware vCenter Server

VxRail can join an existing customer-managed VMware vCenter Server during initial configuration to manage multiple VxRail clusters from a single pane-of-glass.

# VxRail 8.0.xxx

This section describes VxRail version 8.0.xxx releases.

## VxRail 8.0.212 Package Software

This section lists the components of the VxRail 8.0.212 software package.

### VxRail Software

- VxRail Manager 8.0.212 build 28608598
- VxRail System 8.0.212 build 28608599
- VxRail Manager VMware vCenter Plugin 8.0.212.0

### VMware integration

- VMware ESXi 8.0 Update 2c build 23825572
- VMware vCenter Server Appliance 8.0 Update 2b build 23319993
- VMware vSAN 8.0 Update 2c build 23825572

### PowerEdge platform components

- BIOS:
  - G560/F: 2.21.0
  - D560/F: 2.21.1
  - E560/F/N, P570/F, V570/F, S570 : 2.21.2
  - P580N : 2.21.0
  - V670F, P670F/N, E660/F/N, S670: 1.13.2
  - E665/F/N, P675F/N: 2.14.1
  - VD-4510c, VD-4520c: 1.14.1
  - VD-4000w: 1.4.1
  - VE-660, VP-760: 2.1.5
- iDRAC:
  - G560/F, D560/F, E665/F/N, E560/F/N, P570/F, V570/F, S570, P580N: 7.00.00.171
  - V670F, P670F/N, E660/F/N, S670, P675F/N: 7.10.30.00
  - VD-4510c, VD-4520c: 7.10.30.00
  - VE-660, VP-760: 7.10.30.05
- iSM: 5.3.0.0.3289

## What is new in VxRail 8.0.212

VxRail 8.0.212 includes the new VMware ESXi 8.0 Update 2c, VMware vCenter 8.0 Update 2b (same as VxRail 8.0.210 and 8.0.211), updated firmware and other security fixes, and additional VxRail fixes for issues from previous releases.

For more information, see [VMware vCenter Server 8.0 Update 2b Release Notes](#) and [VMware ESXi 8.0 Update 2c Release Notes](#).



## Security fixes

VxRail 8.0.212 contains fixes that resolve multiple security vulnerabilities. For more information, see DSA-2024-244: Dell VxRail Security Update for Multiple Third-Party Component Vulnerabilities which address VxRail Manager: SUSE: Multiple Security fixes for SLES15SP4.

STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Fixed issues in VxRail 8.0.212

The following table lists the issues that are fixed in VxRail 8.0.212:

**Table 1. Fixed issues in VxRail 8.0.212**

Issue	Issue Description	Introduced in	Components
VXP-81437	VxRail UI has pseudo message for German language	8.0.210	UI

## VxRail 8.0.211 Package Software

This section lists the components of the VxRail 8.0.211 software package.

### VxRail Software

- VxRail Manager 8.0.211 build 28535496
- VxRail System 8.0.211 build 28535497
- VxRail Manager VMware vCenter Plugin 8.0.211.0

### VMware integration

- VMware ESXi 8.0 Update 2b build 23305546
- VMware vCenter Server Appliance 8.0 Update 2b build 23319993
- VMware vSAN 8.0 Update 2b build 23305546

### PowerEdge platform components

- BIOS:
  - G560/F: 2.21.0
  - D560/F: 2.21.1
  - E560/F/N, P570/F, V570/F, S570 : 2.21.2
  - P580N : 2.21.0
  - V670F, P670F/N, E660/F/N, S670: 1.13.2
  - E665/F/N, P675F/N: 2.14.1
  - VD-4510c, VD-4520c: 1.14.1
  - VD-4000w: 1.4.1
  - VE-660, VP-760: 2.1.5
- iDRAC:
  - G560/F, D560/F: 7.00.00.00
  - E560/F/N, P570/F, V570/F, S570, P580N: 7.00.00.00
  - V670F, P670F/N, E660/F/N, S670: 7.00.60.201
  - E665/F/N, P675F/N: 7.00.60.201
  - VD-4510c, VD-4520c: 7.00.60.201
  - VE-660, VP-760: 7.00.60.201

- iSM: 5.3.0.0.3289

# What is new in VxRail 8.0.211

VxRail version 8.0.211 includes VMware vCenter 8.0 Update 2b (same as 8.0.210), VMware ESXi 8.0 Update 2b (same as 8.0.210), updated BIOS for hardware models VE-660, VP-760, E660/F/N, P670F/N, V670F, S670, VD-4510c, VD-4520c, E665/F/N, P675F/N, G560/F, E560/F/N, P570/F, V570/F, S570, P580N, D560/F and other security fixes, and additional VxRail fixes for issues from previous releases.

For more information, see [VMware vCenter Server 8.0 Update 2b Release Notes](#) and [VMware ESXi 8.0 Update 2b Release Notes](#).

## Security fixes

VxRail 8.0.211 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

[DSA-2024-178](#): Dell VxRail Security Update for Multiple Third-Party Component Vulnerabilities which address:

- PowerEdge:
  - Security Update for PowerEdge Server BIOS for an Improper Parameter Initialization Vulnerability. See [DSA-2024-034](#) for more information.
  - Security Update for PowerEdge Server BIOS for an Improper SMM Communication Buffer Verification Vulnerability. See [DSA-2024-004](#) for more information.
  - Security Update for PowerEdge Server BIOS for a Time-of-check Time-of-use (TOCTOU) Vulnerability. See [DSA-2024-003](#) for more information.
  - Security Update for PowerEdge Server BIOS for an Improper SMM Communication Buffer Verification Vulnerability. See [DSA-2024-006](#) for more information.
  - Security Update for Dell PowerEdge Server for Intel March 2024 Security Advisories (2024.1 IPU). See [DSA-2024-005](#) for more information.
  - Dell PowerEdge Server Security Update for Intel Ethernet Controllers & Adapters and SPS Firmware Vulnerabilities. See [DSA-2024-001](#) for more information.
  - Security update for Dell AMD-based PowerEdge Server Vulnerabilities. See [DSA-2024-002](#) for more information.
- VxRail Manager: SUSE: Multiple Security fixes for SLES15 SP4.

STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

# Fixed issues in VxRail 8.0.211

The following table lists the issues that are fixed in VxRail 8.0.211:

**Table 2. Fixed issues in VxRail 8.0.211**

Issue	Issue Description	Introduced in	Components
VXP-78840/ VXP-73516	VxRail upgrade, deployment/ node add failure with error Cannot run the event loop while another loop is running	8.0.210	Day 1, Day 2, LCM

## VxRail 8.0.210 Package Software

This section lists the components of the VxRail 8.0.210 software package.

### VxRail Software

- VxRail Manager 8.0.210 build 28476224
- VxRail System 8.0.210 build 28476225

- VxRail Manager VMware vCenter Plugin 8.0.210.0

## VMware integration

- VMware ESXi 8.0 Update 2b build 23305546
- VMware vCenter Server Appliance 8.0 Update 2b build 23319993
- VMware vSAN 8.0 Update 2b build 23305546

## PowerEdge platform components

- BIOS:
  - G560/F, D560/F: 2.20.1
  - E560/F/N, P570/F, V570/F, S570, P580N: 2.20.1
  - V670F, P670F/N, E660/F/N, S670: 1.12.1
  - E665/F/N, P675F/N: 2.13.3
  - VD-4510c, VD-4520c: 1.13.3
  - VD-4000w: 1.4.1
  - VE-660, VP-760: 1.6.6
- iDRAC:
  - G560/F, D560/F: 7.00.00.00
  - E560/F/N, P570/F, V570/F, S570, P580N: 7.00.00.00
  - V670F, P670F/N, E660/F/N, S670: 7.00.60.201
  - E665/F/N, P675F/N: 7.00.60.201
  - VD-4510c, VD-4520c: 7.00.60.201
  - VE-660, VP-760: 7.00.60.201
- iSM: 5.3.0.0.3289

## What is new in VxRail 8.0.210

VxRail 8.0.210 includes the new VMware vCenter 8.0 Update 2b, VMware ESXi 8.0 Update 2b, new features, enhancements to existing features, security fixes, and additional VxRail fixes for issues from previous releases.

For more information, see [VMware vCenter Server 8.0 Update 2b Release Notes](#) and [VMware ESXi 8.0 Update 2b Release Notes](#).

This release includes the following new features:

- Platform and hardware support:
  - VxRail 8.0.210 is the first VxRail 8.x release to support 14G, 15G, and 16G VxRail platforms. The following hardware models for 14G, 15G, and 16G are supported:
    - 14G: G560/F, E560/F/N, D560/F, P570/F, V570/F, S570, P580N
    - 15G: V670F, P670F/N, E660/F/N, S670, E665/F/N, P675F/N, VD-4510c, VD-4520c, and VD-4000w
    - 16G: VE-660 (All NVMe, all flash, and hybrid), VP-760 (All NVMe, all flash, and hybrid)
  - VMware vSAN Express Storage Architecture (ESA) support on the VD-4000 platform.
- LCM enhancements:
  - Support for VMware ESXi Quick Boot enablement in VxRail Manager for vLCM mode only to reduce cluster update time.
  - Support for common API across LCM and vLCM modes for bundle upload operations.
  - VxRail dynamic node cluster support for vLCM parallel remediation to reduce cluster update time.
  - Support for vLCM staging allows you to prestage installation files before the cluster update.
- Increased flexibility:
  - Support for IPv6 and dual stack (IPv4 and IPv6) to install VxRail standard clusters running VMware vSAN OSA.
  - Support for USB capability for Node Image Management (NIM) tool.
- External storage enhancements:
  - NVMe/TCP protocol enhancements for scalability and ease of use.
  - VxRail-managed VMware vCenter Server with VxRail dynamic nodes and IP-based storage.
- Manageability

- VxRail password management UI is updated for improved password management.
  - For VxRail 8.0.210 and later versions, local plug-ins are transitioned to VMware vSphere Web Client remote plug-ins.
- Security: Support for an advanced VMware ESXi boot option to ensure that VMkernel only runs binaries that are packaged and signed as part of a VIB.

The following features from VxRail 7.0.480 are supported in VxRail 8.0.210 also:

- Supports login to VxRail when VMware vCenter is configured to require RSA SecurID two-factor authentication.
- LCM enhancements:
  - Partial cluster updates using API
  - Perform an optional sequential node reboot cycle through UI or API.
  - Fast path to release planning or update advisor report for dark sites
  - Export compliance report in HTML format
  - Update advisor report has a 30-day history.
  - View firmware versions for nonmanaged components in the update advisor report and change list report.
  - More upgrade prechecks and autoremediations to improve upgrade success rates.
  - Refined upgrade algorithm for drifted clusters to allow upgrades to proceed for positive drifts.
  - Witness node firmware upgrade support through UI for VD-4000w (API firmware upgrade for VD-4000w that is supported from VxRail 7.0.480 and later releases)
- Serviceability
  - Linux client for node image management tool
  - Incorporating more Day 2 procedures into VxRail Manager
- External Storage: Storage array reporting in VxRail Manager for Array type, Incompatible Disks, Storage Utilization
- Networking
  - IPv6 enhancements
  - RDMA for VMware vSAN with Broadcom NICs

## Security fixes

VxRail 8.0.210 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

[DSA-2024-050](#): Dell VxRail Security Update for multiple third-party component vulnerabilities which address:

- Dell PowerEdge updates for the following components:
  - Security update for TianoCore EDK2 Vulnerabilities. For more information, see [DSA-2023-357](#).
  - Security Update for Dell AMD-based PowerEdge Server Vulnerabilities. For more information, see [DSA-2023-391](#).
- VMware ESXi: [VMSA-2024-0006](#): VMware ESXi, Workstation, and Fusion updates address multiple security vulnerabilities (CVE-2024-22252, CVE-2024-22253, CVE-2024-22254, and CVE-2024-22255).
- VxRail Manager:
  - PostgreSQL: Security updates for [POSTgreSQL vulnerabilities](#).
  - SUSE: Multiple Security fixes for SLES15 SP4.

STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Fixed issues in VxRail 8.0.210

The following table lists the issues that are fixed in VxRail 8.0.210:

**Table 3. Fixed issues in VxRail 8.0.210**

Issue	Issue Description	Introduced in	Components
VXP-78322/ VXP-75240	Some VxRail ESXi nodes in the cluster have physical MAC on virtual NICs/vmks.	7.0.450	Network
VXP-78278/ VXP-73516	Upgrade from VxRail 7.0.410 to VxRail 8.0.110 failed. RKE is not starting after VxRail Manager upgrade as many images are not loaded correctly during the upgrade.	8.0.110	Infra

**Table 3. Fixed issues in VxRail 8.0.210 (continued)**

Issue	Issue Description	Introduced in	Components
VXP-78054/ VXP-74034	Node add fails at validation with error: "Failed to start the expansion job"	7.0.411	Infra
VXP-78006/ VXP-76455	Pods are unresponsive when upgrading from VxRail 7.0.452 to VxRail 7.0.480.	7.0.452	Infra
VXP-77867/ VXP-76221	VMware vCenter Server migration automation does not check deduplication and compression.	7.0.450	Network
VXP-77742/ VXP-76264	Certificate verification failed due to verify_level calculation result flapping between 2 and 0.	8.0.110	Day 2
VXP-77483/ VXP-77194	VxRail cluster upgrade from VxRail 7.0.452 to VxRail 7.0.480 failed with timeout.	7.0.451	LCM
VXP-77410/ VXP-73065	Node expansion failed on 7.0.411. VxRail Manager cannot list NIC Configuration.	7.0.411	Day 2
VXP-77409/ VXP-76375	Delete the old cached name following an ESXI Host Name Change.	7.0.452	Day 2
VXP-77135/ VXP-73480	UI error asking to update VMware 7.0.x licenses when the cluster is on 8.0.x.	8.0.110	LCM
VXP-77132/ VXP-75795	Add Micron 5300 disk drive firmware update for D3DJ008 (KT63Y)	VCF 4.5.1 on VxRail 7.0.450	Hardware SimShip
VXP-77129/ VXP-76632	Platform service on the expanded node does not work properly after IPv6 disabled.	7.0.452	Day 2
VXP-77066/ VXP-76018	VCF on VxRail LCM precheck failed due to manifest .xml file not found.	VCF 4.5.1 on VxRail 7.0.450	LCM
VXP-77064/ VXP-76697	After upgrading to VxRail 7.0.480, NIC firmware E823 is missing on VD-4520C.	7.0.482	LCM
VXP-76464/ VXP-76464	All clusters are reporting VXR308INTER0000 in VCF on VxRail .	VCF 3.11 on VxRail 4.7.541	Serviceability
VXP-76296/ VXP-71455	VxRail 2 node clusters build failed configuring Static Routes.	8.0.020 and 7.0.480	Day 1
VXP-76288/ VXP-76153	LCM failed to upload the upgrade bundle with the exception: Failed to connect to VMware vCenter Server while obtaining version information.	7.0.480	LCM
VXP-76286/ VXP-74872	Upgrade bundle upload failed at "Haven't found any record of vxrail_cluster_uuid from Global Configuration Service"	VCF 4.5.2 on VxRail 7.0.452	LCM
VXP-76285/ VXP-74250	VxRail LCM upgrade to 7.0.450 (on VCF 4.5.1) failing with error "Failed to finalize composite upgrade."	VCF 4.5.1 - VxRail 7.0.450, and 8.0.210	LCM
VXP-76284/ VXP-73629	If the composite filename contains special characters, composite bundle upload fails.	8.0.020	LCM
VXP-76283/ VXP-72826	Upgrade failed with error "A specified parameter was not correct: licenseKey. For more information about the exact cause of the failure, see the server log.	8.0.101	LCM
VXP-75888/ VXP-75657	Proactive health-check reports internal error VXR308INTER0000 due to vCenter connection issue.	7.0.450	Serviceability
VXP-75632/ VXP-74392	Add L3 node to initial segment "vxrail-initial-rack" failed with error "Network Proxy management IP error"	7.0.450	LCM

**Table 3. Fixed issues in VxRail 8.0.210 (continued)**

Issue	Issue Description	Introduced in	Components
VXP-75052/ VXP-75149/ VXP-74064	VxRail Plugin not working after upgrading to VxRail 7.0.452	7.0.452	Day 2
VXP-73283/ VXP-68281	ADC 1.5.302 collect Hardware group data timed out.	7.0.372	Serviceability
VXP-73209/ VXP-72327/ VXP-72148	Upgrade stuck at firmware staging and pending for server reboot.	8.0.200	Platform Service
VXP-71308/ VXP-71232	VxRail Platform Service on the host is not installed or ready - Occurring on every host in 20 host cluster during upgrade.	8.0.200	LCM
VXP-70948/ VXP-70305	Registration fails with error: Enable request internal error. See KB 193409.	8.0.020, and 7.0.480	Serviceability

## Known issues in VxRail 8.0.210

The following table provides known issues for VxRail 8.0.210:

**Table 4. Known issues**

Issue	Summary	Workaround
VXP-78023	VxRail 8.0.210 cluster still shows in the local plug-in VxRail dashboard list.	See <a href="#">KB 000221849</a> .
VXP-77981	LCM fails when upgrading a customer-supplied witness VM when there is another VM named "VMware vSAN Witness Appliance" under the same VMware vCenter Server.	See <a href="#">KB 000221327</a> .
VXP-76713	iDRAC reports incorrect network interface model name on PowerEdge XR4510c with Intel E823-C LOM NIC card	See <a href="#">KB 000221580</a> .
VXP-76182	Node expansion disk group creation times out in VxRail Manager when encryption with disk wipes enabled.	See <a href="#">KB 000219193</a> .
VXP-76010	Unable to add a new node to one of the VI WLD.	See <a href="#">KB 000191198</a> .
VXP-78932	While the secondary cluster of the Workload domain is being created, the primary cluster of the VxRail plug-in in VMware vCenter Server is unreachable.	See <a href="#">KB 000222740</a> .

## VxRail 8.0.120 Package Software

This section lists the components of the VxRail 8.0.120 software package.

### VxRail Software

- VxRail Manager 8.0.120 build 28307007
- VxRail System 8.0.120 build 28307008
- VxRail Manager VMware vCenter Plugin 9.3.0.0

### VMware integration

- VMware ESXi 8.0 Update 1c build 22088125
- VMware vCenter Server Appliance 8.0 Update 1d 22368047

- VMware vSAN 8.0 Update 1c build 22088125

## PowerEdge platform components

- BIOS: VE-660/VP-760: 1.5.6
- iDRAC: VE-660/VP-760: 7.00.30.00
- iSM: 5.2.0.0

## What is new in VxRail 8.0.120

VxRail 8.0.120 is a manufacturing-only release that includes VMware vCenter Server 8.0 Update 1d (same as VxRail 8.0.111), VMware ESXi 8.0 Update 1c (same as VxRail 8.0.110/8.0.111), and support for the following hardware:

- VxRail VP-760 (All NVMe)
- VxRail VE-660 (All NVMe)


For more information, see [VMware vCenter Server 8.0 Update 1d Release Notes](#) and [VMware ESXi 8.0 Update 1c Release Notes](#).

## Security fixes

VxRail 8.0.120 contains fixes that resolve multiple security vulnerabilities, and additional VxRail fixes for issues from previous releases. For more information, see the following Dell Security Advisory (DSA).

[DSA-2023-147](#): Dell VxRail Security Update for Multiple third-party Component Vulnerabilities which address:


- VMware vCenter Server: [VMSA-2023-0023](#): VMware vCenter Server updates an OOB Write Vulnerability (CVE-2023-34048).
- SUSE: Multiple package updates for SLES are included. See the DSA for more details.

 **NOTE:** STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 or later versions.

## Upgrade information

VxRail 8.0.120 is available only on a newly manufactured VxRail VP-760 NVMe platform and VxRail VE-660 NVMe platform.

You cannot upgrade to VxRail 8.0.120 from earlier VxRail versions. Upgrades from VxRail 8.0.120 to VxRail 8.0.x will be supported in the upcoming VxRail 8.0.x releases.

 **NOTE:** If VMware NSX is already running on the VxRail cluster and you are planning to change the VxRail LCM mode to vLCM, see [KB 000190928](#). After vLCM is enabled, VMware NSX Manager performs updates independently of a VxRail cluster update.

## VxRail 8.0.201 Package Software

This section lists the components of the VxRail 8.0.201 software package.

### VxRail Software

- VxRail Manager 8.0.201 build 28354420
- VxRail System 8.0.201 build 28354422
- VxRail Manager VMware vCenter Plugin 9.3.0.0

## VMware integration

- VMware ESXi 8.0 Update 2 build 22380479
- VMware vCenter Server Appliance 8.0 Update 2a build 22617221
- VMware vSAN 8.0 Update 2 build 22380479

## PowerEdge platform components

- BIOS:
  - G560/F: 2.19.1
  - E560/F/N, P570/F, V570/F, S570: 2.19.1
  - P580N: 2.19.1
  - D560/F: 2.19.1
  - V670F, P670F/N, E660/F/N, S670: 1.12.1
  - E665/F/N, P675F/N: 2.12.4
- iDRAC:
  - G560/F: 7.00.00.00
  - E560/F/N, P570/F, V570/F, S570: 7.00.00.00
  - P580N: 7.00.00.00
  - D560/F: 7.00.00.00
  - V670F, P670F/N, E660/F/N, S670: 7.00.30.00
  - E665/F/N, P675F/N: 7.00.30.00
- iSM: 5.2.0.0.3156

## What is new in VxRail 8.0.201

VxRail 8.0.201 includes the VMware vCenter Server 8.0 Update 2a (same as VxRail 8.0.200), VMware ESXi 8.0 Update 2 (same as VxRail 8.0.200), updated BIOS for hardware models V670F, P670F/N, E660/F/N, S670, and other security fixes.

For more information, see [VMware vCenter Server 8.0 Update 2a Release Notes](#) and [VMware ESXi 8.0 Update 2 Release Notes](#).

## Security fixes

VxRail 8.0.201 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

[DSA-2023-465](#): Dell VxRail Security Update for multiple third-party component vulnerabilities which address:

- PowerEdge: Intel November 2023 Security Advisory (2023.4 IPU) (CVE-2023-23583)
- VxRail Manager: SUSE

## VxRail 8.0.111 Package Software

This section lists the components of the VxRail 8.0.111 software package.

## VxRail Software

- VxRail Manager 8.0.111 build 28310881
- VxRail System 8.0.111 build 28310882
- VxRail Manager VMware vCenter Plugin 9.3.0.0



## VMware integration

- VMware ESXi 8.0 Update 1c build 22088125
- VMware vCenter Server Appliance 8.0 Update 1d 22368047
- VMware vSAN 8.0 Update 1c build 22088125

## PowerEdge platform components

- BIOS:
  - G560/F: 2.19.1
  - E560/F/N, P570/F, V570/F, S570: 2.19.1
  - P580N: 2.19.1
  - D560/F: 2.19.1
  - V670F, P670F/N, E660/F/N, S670: 1.11.2
  - E665/F/N, P675F/N: 2.11.4
- iDRAC:
  - G560/F: 6.10.80.00
  - E560/F/N, P570/F, V570/F, S570: 6.10.80.00
  - P580N: 6.10.80.00
  - D560/F: 6.10.80.00
  - V670F, P670F/N, E660/F/N, S670: 6.10.80.00
  - E665/F/N, P675F/N: 6.10.80.00
- iSM: 5.1.1.0.3080

## What is new in VxRail 8.0.111

VxRail 8.0.111 includes the new VMware vCenter Server 8.0 Update 1d, VMware ESXi 8.0 Update 1c (same as VxRail 8.0.110), security fixes, new BIOS firmware, and additional fixes for issues from previous releases.


For more information, see [VMware vCenter Server 8.0 Update 1d Release Notes](#) and [VMware ESXi 8.0 Update 1c Release Notes](#).

## Security fixes

VxRail 8.0.111 contains fixes that resolve multiple security vulnerabilities and additional VxRail fixes for issues from previous releases. For more information, see the following Dell Security Advisory (DSA).

[DSA-2023-407](#): Dell VxRail Security Update for multiple third-party component vulnerabilities which address:

- VMware vCenter Server: [VMSA-2023-0023](#): VMware vCenter Server updates an OOB Write Vulnerability (CVE-2023-34048).
- VxRail Manager: Spring Framework update to remediate a potential security bypass vulnerability (CVE-2023-20860).
- SUSE: Multiple package updates for SLES have been incorporated. See the DSA for more details.

 **NOTE:** STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 or later versions.

## Fixed issues in VxRail 8.0.111

The following table lists the issues that are fixed in VxRail 8.0.111:

**Table 5. Fixed issues in VxRail 8.0.111**

Issue	Issue Description	Release found	Category
VXP-74082 /	VxRail Manager plug-in is slow after upgrading to VxRail 7.0.45x.	7.0.450	UI/IX

**Table 5. Fixed issues in VxRail 8.0.111 (continued)**

Issue	Issue Description	Release found	Category
VXP-72863 / VXP-73633			
VXP-74309 /VXP-75031	Error encountered in vLCM service request exchange during the LCM for VxRail 7.0.400 through 8.0.11x.	8.0.110	LCM
VXP-73879 /VXP-71512	LCM upgrade from VxRail 7.0.010, 7.0.100, 7.0.101 to VxRail 7.0.480 failed.	7.0.010	Infra

## VxRail 8.0.200 Package Software

This section lists the components of the VxRail 8.0.200 software package.

### VxRail Software

- VxRail Manager 8.0.200 build 28314728
- VxRail System 8.0.200 build 28314729
- VxRail Manager VMware vCenter Plugin 9.3.0.0

### VMware integration

- VMware ESXi 8.0 Update 2 build 22380479
- VMware vCenter Server Appliance 8.0 Update 2a build 22617221
- VMware vSAN 8.0 Update 2 build 22380479

### PowerEdge platform components

- BIOS:
  - G560/F: 2.19.1
  - E560/F/N, P570/F, V570/F, S570: 2.19.1
  - P580N: 2.19.1
  - D560/F: 2.19.1
  - V670F, P670F/N, E660/F/N, S670: 1.11.2
  - E665/F/N, P675F/N: 2.12.4
- iDRAC:
  - G560/F: 7.00.00.00
  - E560/F/N, P570/F, V570/F, S570: 7.00.00.00
  - P580N: 7.00.00.00
  - D560/F: 7.00.00.00
  - V670F, P670F/N, E660/F/N, S670: 7.00.30.00
  - E665/F/N, P675F/N: 7.00.30.00
- iSM: 5.2.0.0.3156

## What is new in VxRail 8.0.200

VxRail 8.0.200 includes the VMware vCenter Server 8.0 Update 2a, VMware ESXi 8.0 Update 2, updated Samsung PM1735a/1733a drive firmware, security fixes, and additional VxRail fixes for issues from previous releases.

For more information, see [VMware vCenter Server 8.0 Update 2a Release Notes](#) and [VMware ESXi 8.0 Update 2 Release Notes](#).

## New features

The following new features are added:

- RSA SecurID two-factor authentication is required for Support to log in to VxRail after the VMware vCenter Server is configured.
- VMware vLCM enablement through VxRail API
- Automation for Day1 HCI Mesh for VxRail dynamic node clusters

## Security fixes

VxRail 8.0.200 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA).

**DSA-2023-408:** Dell VxRail Security Update for multiple third-party component vulnerabilities which address:

- VMware vCenter Server: [VMSA-2023-0023](#): VMware vCenter Server updates an Out-of-Bounds Write Vulnerability (CVE-2023-34048).
- VMware Tools: [VMSA-2023-0019](#): VMware Tools updates address a SAML Token Signature Bypass Vulnerability (CVE-2023-20900).
- PowerEdge: [DSA-2023-206](#): Security update for the PowerEdge server for Intel August 2023 Secure Advisories (2023.2 IPU).
- VxRail Manager: SUSE
- STIG: STIG hardening on VxRail 8.0.020 or later versions is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Known issues in VxRail 8.0.200

The following table provides known issues for VxRail 8.0.200:

**Table 6. Known issues**

Issue	Summary	Workaround
VXP-74326	When VxRail cluster with satellite node running between VxRail versions 7.0.300-7.0.401 is upgraded to VxRail 8.0.200, the upgrade of the satellite node fails.	See <a href="#">KB 000219121</a> .
VXP-75045	Inaccurate Target Version displayed in the VxRail Update Advisor report for customer-managed VMware vCenter Server configurations since VxRail 8.0.100.	See <a href="#">KB 000219119</a> .

## Fixed issues in VxRail 8.0.200

The following table lists the issues that are fixed in VxRail 8.0.200:

**Table 7. Fixed issues in VxRail 8.0.200**

Issue	Issue Description	Release found	Category
VXP-73765/ VXP-73478	UI wording enhancement to create a new VxRail management account when upgrading to VxRail 8.x.	8.0.110	UI/UX
VXP-72578/ VXP-72704/ VXP-74388	VxRail upgrade gets stuck on the credentials page before starting the upgrade.	8.0.020	LCM

# VxRail 8.0.110 Package Software

This section lists the components of the VxRail 8.0.110 software package.

## VxRail Software

- VxRail Manager 8.0.110 build 28169412
- VxRail System 8.0.110 build 28169413
- VxRail Manager VMware vCenter Plugin 9.3.0.0

## VMware integration

- VMware ESXi 8.0U1c build 22088125
- VMware vCenter Server Appliance 8.0 Update 1c build 22088981
- VMware vSAN 8.0U1c build 22088125

## PowerEdge platform components

- BIOS:
  - G560/F: 2.18.1
  - E560/F/N, P570/F, V570/F, S570: 2.18.1
  - P580N: 2.18.1
  - D560/F: 2.18.1
  - V670F, P670F/N, E660/F/N, S670: 1.10.2
  - E665/F/N, P675F/N: 2.11.4
- iDRAC:
  - G560/F: 6.10.80.00
  - E560/F/N, P570/F, V570/F, S570: 6.10.80.00
  - P580N: 6.10.80.00
  - D560/F: 6.10.80.00
  - V670F, P670F/N, E660/F/N, S670: 6.10.80.00
  - E665/F/N, P675F/N: 6.10.80.00
- iSM: 5.1.1.0.3080

## What is new in VxRail 8.0.110

VxRail 8.0.110 includes the new VMware vCenter Server 8.0 Update 1c and VMware ESXi 8.0 Update 1c, and security fixes.

For more information, see [VMware vCenter Server 8.0 Update 1c Release Notes](#) and [VMware ESXi 8.0 Update 1c Release Notes](#).

## Security fixes

VxRail 8.0.110 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA).

[DSA-2023-276](#): Dell VxRail Security Update for Multiple third-party Component Vulnerabilities which address:

- VMware: VMware has remediated several security issues and defects in this release. See the following release notes for more information:
  - [ESXi 8.0 U1c Release Notes](#)
  - [vCenter 8.0 U1c Release Notes](#)
- SUSE: Multiple package updates for SLES have been incorporated. See the DSA for more details.

- STIG: STIG hardening on VxRail 8.0.020 or later versions are not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Key Differences

The key differences for the VxRail 8.0.110 release are the same as [VxRail 8.0.100 Key Differences](#).

## Upgrades

Upgrading VxRail clusters with GPUs is supported with VxRail 8.0.110 and later.

All VxRail 8.0.x customers running VMware vSAN 8.0 ESA are strongly recommended to upgrade to VxRail 8.0.110 (with VMware vSphere 8.0 U1c/P02) and apply the workaround steps as described in [KB 93657](#).

Do not upgrade to VxRail 8.0.110 if your system contains a node with both a Mellanox CX-5 and a Broadcom 57414 NIC card. For more information, see [VXP-72148](#). A validated upgrade path will be communicated when available.

## Known issues in VxRail 8.0.110

The following table provides known issues for VxRail 8.0.110:

**Table 8. Known issues in VxRail 8.0.110**

Issue	Summary	Workaround
VXP-72148	LCM upgrade fails when upgrading nodes with both Mellanox CX-5 and Broadcom 57414.	See <a href="#">KB 216607</a> .

## VxRail 8.0.101 Package Software

This section lists the components of the VxRail 8.0.101 software package.

### VxRail Software

- VxRail Manager 8.0.101 build 28122295
- VxRail System 8.0.101 build 28122296
- VxRail Manager VMware vCenter Plugin 9.3.0.0

### VMware integration

- VMware ESXi 8.0U1a build 21813344
- VMware vCenter Server Appliance 8.0 Update 1b build 21860503
- VMware vSAN 8.0U1a build 21813344

### PowerEdge platform components

- BIOS:
  - G560/F: 2.18.1
  - E560/F/N, P570/F, V570/F, S570: 2.18.1
  - P580N: 2.18.1
  - D560/F: 2.18.1
  - V670F, P670F/N, E660/F/N, S670: 1.10.2
  - E665/F/N, P675F/N: 2.11.4
- iDRAC:

- o G560/F: 6.10.80.00
  - o E560/F/N, P570/F, V570/F, S570: 6.10.80.00
  - o P580N: 6.10.80.00
  - o D560/F: 6.10.80.00
  - o V670F, P670F/N, E660/F/N, S670: 6.10.80.00
  - o E665/F/N, P675F/N: 6.10.80.00
- iSM: 5.1.1.0.3080

## What is new in VxRail 8.0.101

VxRail 8.0.101 includes the VMware vCenter Server 8.0 Update 1b and VMware ESXi 8.0 Update 1a (same as VxRail 8.0.100), security fixes and additional fixes for issues from previous releases.

For more information, see [VMware vCenter Server 8.0 Update 1b Release Notes](#) and [VMware ESXi 8.0 Update 1a Release Notes](#).

## Security fixes

VxRail 8.0.101 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA).

[DSA-2023-243](#): Dell VxRail Security Update for Multiple third-party Component Vulnerabilities which address:

- VMware ESXi: An out-of-bounds read vulnerability in the TPM 2.0 Module Library (CVE-2023-1017, and CVE-2023-1018).
- VMware vCenter Server: VMSA-2023-0014: Multiple memory corruption vulnerabilities in DCERPC protocol implementation.
  - o Heap overflow vulnerability (CVE-2023-20892).
  - o Use-after-free vulnerability (CVE-2023-20893).
  - o Out-of-bounds read vulnerabilities (CVE-2023-20894, and CVE-2023-20896).
  - o Memory corruption vulnerability (CVE-2023-20895).
- STIG: STIG hardening on VxRail 8.0.020 or later versions are not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Key Differences

The key differences for the VxRail 8.0.101 release are the same as listed in the [VxRail 8.0.100 Key Differences](#).

## Upgrades

Do not upgrade to VxRail 8.0.101 if your system contains a node with both a Mellanox CX-5 and a Broadcom 57414 NIC card. See VXP-72148.

## Fixed issues in VxRail 8.0.101

The following table lists the issues that are fixed in VxRail 8.0.101:

**Table 9. Fixed issues in VxRail 8.0.101**

Issue	Issue Description	Release found	Category
VXP-70240 / VXP-70315 / VXP-71027	Upgrade from 4.5.x/4.7.x to 7.0.450/7.0.451 or 8.0.100 fails at VxRail Manager migration step with "Error in migration, removed new VxRail Manager: lockbox execute_remote_lockbox_script error in migration."	7.0.450	LCM

# Known issues in VxRail 8.0.101

The following table provides known issues for VxRail 8.0.101:

**Table 10. Known issues in VxRail 8.0.101**

Issue	Summary	Workaround
VXP-72148	LCM upgrade fails when upgrading nodes with both Mellanox CX-5 and Broadcom 57414.	See <a href="#">KB 216607</a> .

## VxRail 8.0.100 package software

This section lists the components of the VxRail 8.0.100 software package.

### VxRail Software

- VxRail Manager 8.0.100 build 28093094
- VxRail System 8.0.100 build 28093095
- VxRail Manager vCenter Plugin 9.3.0.0

### VMware integration

- VMware ESXi 8.0U1a build 21813344
- VMware vCenter Server Virtual Appliance 8.0U1a build 21815093
- VMware vSAN 8.0U1a build 21813344

### PowerEdge platform components

- BIOS:
  - G560/F: 2.18.1
  - E560/F/N, P570/F, V570/F, S570 : 2.18.1
  - P580N: 2.18.1
  - D560/F: 2.18.1
  - V670F, P670F/N, E660/F/N, S670: 1.10.2
  - E665/F/N, P675F/N: 2.11.4
- iDRAC:
  - G560/F : 6.10.80.00
  - E560/F/N, P570/F, V570/F, S570 : 6.10.80.00
  - P580N: 6.10.80.00
  - D560/F: 6.10.80.00
  - V670F, P670F/N, E660/F/N, S670: 6.10.80.00
  - E665/F/N, P675F/N: 6.10.80.00
- iSM: 5.1.1.0.3080

## What is new in VxRail 8.0.100

VxRail 8.0.100 includes VMware ESXi 8.0 Update 1a and VMware vCenter Server 8.0 Update 1a, VxRail features, enhancements, fixes, and rollups from previous releases.

For VMware vSphere specific information, see [VMware ESXi 8.0 Update 1a Release Notes](#) and [VMware vCenter Server 8.0 Update 1a Release Notes](#).

## New features

- Hyperconverged Infrastructure Mesh:
  - Added support for cross-VxRail-managed VMware vCenter Server remote data stores.
  - Added support for VMware vSAN OSA (stretch clusters).
  - Added support for VMware vSAN ESA (nonstretched clusters only).
- Added TPM to the host physical view page, enabling customers to check the TPM status and version from the UI.
- Added support for getting the TPM status and version from the API.
- Dynamic AppsON with VxRail and PowerStore:
  - Run PowerStore LCM from VxRail Manager.
  - Report the code version of PowerStore.
- VxRail dynamic nodes support the PowerMax 2500 and 8500 storage arrays.
- LCM enhancements:
  - Enhanced the frequency of LCM precheck updates in VxRail.
  - Improved and streamlined upgrade planning and precheck remediation.
  - Added support for smart bundle download.
  - Added information to compliance reports.
- Tighter integration of GPUs for LCM and operations
  - Upgrade the NVIDIA VIBs using the UI and API during cluster updates.
  - The VxRail Manager physical view page displays the NVIDIA GPU.
- VxRail-managed VMware vCenter Server manages satellite nodes for edge or remote sites.
- Added LACP two-port and management traffic support with VxRail-managed VMware VDS for networking.
- Serviceability:
  - Automated preupgrade backups to reduce service and resolution time.
  - Added support for new iDRAC events.
  - Added support for dial-home NIC101 or NIC up event.

## Security fixes

VxRail 8.0.100 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

[DSA-2023-200](#): Dell VxRail Security Update for Multiple third-party Component Vulnerabilities which address:

- VMware ESXi:
  - The Module Library in TPM 2.0 contains an out-of-bounds write vulnerability.
  - MIT Kerberos 5 enables unbounded recursion through an ASN.1 encoded Kerberos message.
- PowerEdge security updates include:
  - Out-of-bounds write vulnerability for BIOS.
  - Multiple OpenSSL vulnerabilities.
  - Tianocore EDK2 vulnerability.
  - Intel May 2023 Security Advisories (2023.2 IPU).
- VxRail Manager:
  - Cilium: Escalated privileges to cluster administrator.
  - SUSE: Multiple package updates in SLES. See the DSA.
- STIG: STIG hardening on VxRail 8.0.020 or later is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Key Differences

- VxRail 8.0.xxx does not provide VMware vRealize Log Insight (VMware Aria Operations for Logs) licenses or software. If you use or plan to use VMware vRealize Log Insight, see [KB 212617](#) before upgrading or installing VxRail 8.0.xxx.
- VxRail 8.0.100 does not support the Quanta hardware platform and VxRail E460/F, P470/F, S470, V470.
- VMware discontinued support for TPM 1.2 in VMware vSphere 8.0. The upgrade behavior to VxRail 8.0.100 for hosts with TPM 1.2 modules is different from past releases. VxRail Manager prevents upgrades to VxRail 8.0.000 and 8.0.020 if TPM 1.2 modules are present and enabled. While upgrading to VxRail 8.0.100, the VxRail Manager allows upgrades to proceed with a warning if TPM 1.2 modules are present and enabled. The **TPM Security** setting is turned **Off** in the BIOS as part of the



VxRail 8.0.100 upgrade because TPM 1.2 modules are not supported by VMware ESXi 8.0 and do not function, even when turned on in the BIOS. If you require TPM functionality and want to upgrade to a TPM 2.0 module or manually disable the TPM 1.2 module, see [KB 204703](#).

- Do not upgrade to VxRail 8.0.x if RecoverPoint for VM is configured. RecoverPoint for VM version 6.0 will be available soon but will support new deployments only.
- VMware vSphere 8.0 does not support CloudLink 8.0. If you are using VMware vSAN Data Store Encryption with CloudLink, do not upgrade to VxRail 8.0.100 until support for CloudLink 8.0 is available.
- If you are running SmartFabric (SFS) with VxRail, do not upgrade to VxRail 8.0.100.
- Before you upgrade to VxRail 8.0.x, review the following details for your connectivity configuration:
  - Upgrade to a secure connect gateway if connected to an external Secure Remote Services gateway.
  - The minimum gateway version is 5.00.07.10, and for gateways that are deployed as VM on ESXi 8.0.x, the minimum version is 5.16.000.14. If you are already connected to a secure connect gateway, ensure that the minimum gateway version meets these requirements, or upgrade the gateway accordingly.
  - See [KB 196945](#) and [Secure Remote Services 3.52 Upgrade to Secure Connect Gateway](#) for more information.
- Before you upgrade to VxRail 8.x, SFS with VxRail installations that were deployed with VxRail 4.7.xxx or 7.0.000 through 7.0.3xx require decoupling. SFS with VxRail installations that were deployed with VxRail 7.0.400 through 7.0.411 require decoupling only if **Automated VxRail Switch Configuration** was set to **Enabled** during deployment. If set to **Disabled** during deployment, decoupling is not required. See [New Deployment Option for SmartFabric Services with VxRail](#) for information about this setting. For VxRail 7.0.x, decoupling procedures are available on [SolVe Online for VxRail](#) under **VxRail Procedures > Miscellaneous > 'How To' Procedures > Change other VxRail cluster settings**.
- To enhance security, VxRail Manager does not accept insecure SHA1 certificates. See [KB 213499](#) for more information.
- VxRail 8.0.100 does not support the following VxRail models:
  - VD-4510c
  - VD-4520c
  - VD-4000r
  - VD-4000z
  - VD-4000w
- Upgrades beyond 8.0.100 triggers VxRail LCM to automatically retrieve the latest precheck file from Automatic Catalog Generator (ACG) for internet-connected upgrades. VxRail runs the latest available LCM precheck and eliminates the need to perform VxVerify before updates. You can manually download and upload the VxRail precheck file for unconnected clusters. For more information, see [KB 19890](#).
- Internet updates show real-time upgrade readiness for the recommended update. The latest VxRail prechecks are downloaded and run daily to determine the clusters update readiness. The new Update Advisor Report contains all update insights, including VxRail LCM precheck results. For more information, see [KB 213039](#).
- The **Update Advisor Report** is comprehensive and exportable and enhances update planning and increases success rates by providing the following features:
  - Cluster update readiness status
  - Direct link to release notes.
  - Recommendations for resolving issues before updating
  - Analysis of component-level drift
  - Custom component information
- Smart bundle capabilities reduce VxRail bundle download size by up to sixty percent for Internet-connected, customer-managed VMware vCenter Server.
- Non-VxRail managed components (GPUs, FC HBAs, and VMware NSX Installation Bundles) can be updated with a single maintenance cycle or reboot during the LCM update workflow.
- The compliance view applies standardized column labels and displays version mismatch to indicate drift from Continuously Validated State (CVS). VMware ESXi also displays the VMware ESXi build number along with its version.
- VxRail LCM prechecks ensure that the witness nodes have enough space and warn about high VMware vSAN utilization impact on cluster update times.
- iDRAC restart is introduced at the beginning of LCM execution to improve update success rates.

## Upgrades

- Do not upgrade to VxRail 8.0.100 if your system contains a node with both a Mellanox CX-5 and a Broadcom 57414 NIC card. See [VXP-72148](#).
- To run a cluster on VMware vSphere 8.0, you need VMware vSphere 8.0 license keys:
  - The life cycle management precheck does not stop you from upgrading without VMware vSphere 8.0 license keys.
  - The nodes operate on sixty-day evaluation license keys in the absence of VMware vSphere 8.0 license keys. See [VMware Customer Connect](#) to obtain the necessary license keys and determine if your clusters require them.

- Due to the delay in GPU driver availability, do not upgrade VxRail clusters with GPUs to VxRail 8.0.100.
- Verify that the multicast filtering mode is set to `Basic` before initiating VxRail LCM to a later version of 7.0.x or 8.0.x from version 4.x or 7.0.x. During the upgrade, VMware VDS may reset the multicast filtering mode to the default IGMP or MLD snooping. For more information, see [KB 196307](#).
- After upgrading from VxRail 8.0.x to VxRail 8.0.100, PowerPath does not recognize or detect NVMe devices. See [KB 214327](#) for more information.

## Fixed issues in VxRail 8.0.100

The following table lists the issues that are fixed in VxRail 8.0.100:

**Table 11. Fixed issues in VxRail 8.0.100**

Issue	Issue description	Release found	Category
VXP-69381/ VXP-67724	Multiple cluster upgrades in parallel failed due to conflicts of the new VxRail Manager IP address.	7.0.400	LCM
VXP-69142/ VXP-68800	Node unresponsive during upgrade from VxRail 7.0.x to 8.0.x due to Citrix VDI VMs having <code>flat.vmdk</code> files on the vSAN datastore.	8.0.000	Core Service
VXP-68870/ VXP-67755	The secure connect gateway connectivity issue post upgrade - the secure connect gateway keeps restarting.	7.0.372	Day2
VXP-68380/ VXP-67207	Deployment on VxRail 7.0.410 Resouce not found VMware vCenter Server Appliance.	7.0.410	Day1
VXP-68379/ VXP-67255	Disable of secure connect gateway failed with Failure happened in disable remote connector error message.	7.0.400	Serviceability
VXP-68378/ VXP-67889	Radar vxtil_check failure.	7.0.410	Serviceability
VXP-68341/ VXP-68030	Upgrade to VxRail 7.0.410 stuck at the loading screen and <code>vmware-marvin</code> service fails to run with an exit code result.	7.0.410	LCM
VXP-68337/ VXP-68230	Failed to validate temp IP address during a major upgrade with L3 network topology.	8.0.020	LCM
VXP-67972 VXP-67196	Manifest xml loading failed during the LCM process	7.0.370	LCM
VXP-67970/ VXP-67524	Cluster migration failed in wrap-up stage with error <code>Cannot authenticate with provided SourceVCAAdminAccount</code> .	7.0.372	Network
VXP-67969/ VXP-67632	Node expansion failed at validation error The given hosts have different types of disk groups and host with hybrid disk types is not compatible with existing all-flash or all-NVMe cluster.	7.0.400	Storage
VXP-67963/ VXP-67651	VxRail Manager plug-in not showing cluster information about system page due to certificates (cache).	7.0.411	LCM
VXP-67719/ VXP-65299	VXR500PSU0003 event handling results in unexpected call-homes G560F and P570F.	7.0.401	Serviceability
VXP-67718/ VXP-66792	Failed disk drive event notification not sent.	7.0.320	Infra
VXP-67716/ VXP-67463	Upgrade failed due to <code>system.operation_status</code> table extension filed has none-json format string.	7.0.400	LCM
VXP-67715/ VXP-67635	VxRail 7.0.350 node expansion failed on the NIC Configuration step, cluster-hosts return error: 500.	7.0.350	Day2
VXP-67442/ VXP-67130	LCM failed at VMware vCenter Server upgrade step: Failed to perform task <code>PscEnableSSTask</code> .	8.0.020	LCM

**Table 11. Fixed issues in VxRail 8.0.100 (continued)**

Issue	Issue description	Release found	Category
VXP-67360/ VXP-67133	Parallel cluster upgrades failed due to different cluster VxRail Manager VMs under the same VM folder.	4.7.536	LCM
VXP-67359/ VXP-67228	Enhance vxt-gennodeconfig script to contain disk_group_type information in vxnode.config.	7.0.210	Platform Service
VXP-66945/ VXP-64560	VxRail 7.0.410 LCM issue upgrading SKHynix SSD Firmware.	7.0.410	Platform Service
VXP-66916/ VXP-64367	LCM precheck stuck at VxRail Manager System precheck has timed out on VxRail Manager.	7.0.401	LCM
VXP-66915/ VXP-65490	Disable M2M not working during 7.0.371 to 7.0.400 LCM.	7.0.400	Day2
VXP-66712/ VXP-66595	Node expansion failed at host_ips_validation.	7.0.371	Day2
VXP-66561/ VXP-65554	Unable to extract host profiles of any host after upgrading to 7.0.410.	7.0.410	Day2
VXP-66560/ VXP-66466	2-Node Deployment Error: Unable to verify the network connection between witness node and data node. The witness traffic connectivity among hosts appears down.	7.0.410	Day1
VXP-66502/ VXP-65176	Cannot add multiple nodes at a time.	7.0.320	Network
VXP-66501/ VXP-66246	P670F has two default VMware vSAN disk group types in 7.0.410 which causes node discovery issue.	7.0.410	Storage
VXP-66299/ VXP-65954	VXR034020 event sent before the retry of the connectivity status check.	7.0.410	Serviceability
VXP-65852/ VXP-65297	Ambiguous or misleading error message when failed to log in to VxRail Manager support account.	7.0.401	Day2
VXP-65844/ VXP-63774	vLCM - Upgrade fails on every node.	7.0.401	LCM
VXP-65736/ VXP-65444	VxRail 4.7.560 LCM to VxRail 7.0.410 failed due to precheck missing psc_root_user in the request spec.	7.0.410	LCM
VXP-65659/ VXP-65657/ VXP-64910	Time wasted calling ptagent when PTAgent does not exist on nodes.	7.0.400	Day2
VXP-65569/ VXP-65568	LCM fails because multiple vNICs exist on the VxRail-managed VMware vCenter Server.	7.0.401	LCM
VXP-65563/ VXP-65430/ VXP-65135	racs-service direct connectivity test fails if proxy settings have null.	7.0.410	Serviceability
VXP-65558/ VXP-65450	System data migration failure when upgrading VxRail Manager.	7.0.410	LCM
VXP-65548/ VXP-64964/ VXP-65045	The dc.log file does not contain all steps when collecting the VxRail Manager log bundle for the first time.	7.0.400	Day2
VXP-65009/ VXP-64678	Update success dial home MYSTIC10C112 with upgrade source version.	7.0.410	Serviceability

# Known issues in VxRail 8.0.100

The following table provides known issues for VxRail 8.0.100:

**Table 12. Known issues in VxRail 8.0.100**

Issue	Summary	Workaround
VXP-72148	LCM upgrade fails when upgrading nodes with both Mellanox CX-5 and Broadcom 57414.	See <a href="#">KB 216607</a> .
VXP-67692	No protocol type for VxRail dynamic node with nvmeoFC vVol API.	There is no workaround for this issue.
VXP-70240/ VXP-70315/ VXP-71027	Upgrade from 4.5.x/4.7.x to 7.0.450/7.0.451 or 8.0.100 fails at VxRail Manager migration step with "Error in migration, removed new vxm: lockbox execute_remote_lockbox_script error in migration."	See <a href="#">KB 214346</a> .

## VxRail 8.0.020 package software

This section lists the components of the VxRail 8.0.020 software package.

### VxRail Software

- VxRail Manager 8.0.020 build 27949999
- VxRail System 8.0.020 build 27950000
- VxRail Manager vCenter Plugin 9.2.1.0

### VMware integration

- VMware ESXi 8.0b build 21203435
- VMware vCenter Server Virtual Appliance 8.0b build 21216066
- VMware vSAN 8.0b build 21203435

### PowerEdge platform components

- BIOS:
  - G560/F: 2.17.1
  - E560/F/N, P570/F, V570/F, S570 : 2.17.1
  - P580N: 2.17.1
  - D560/F: 2.17.1
  - V670F, P670F/N, E660/F/N, S670: 1.9.2
  - E665/F/N, P675F/N: 2.10.2
- iDRAC:
  - G560/F : 6.10.30.00
  - E560/F/N, P570/F, V570/F, S570 : 6.10.30.00
  - P580N: 6.10.30.00
  - D560/F: 6.00.30.00
  - V670F, P670F/N, E660/F/N, S670: 6.10.30.00
  - E665/F/N, P675F/N: 6.10.30.00
- iSM: 4.3.1.0.19

# What is new in VxRail 8.0.020

VxRail 8.0.020 includes VMware ESXi 8.0b, VMware vCenter Server 8.0b, security fixes, VxRail fixes for issues from previous releases.

For information about the VMware ESXi 8.0b release and VMware vCenter Server 8.0b release, see [VMware ESXi 8.0b Release Notes](#) and [VMware vCenter Server 8.0b Release Notes](#).

## New features

VxRail 8.0.020 includes the following new features from VxRail 7.0.410:

- Serviceability enhancements
- Life Cycle Management (LCM) enhancements:
  - Increased insights to the customer during maintenance mode entry.
  - Enhanced LCM precheck.
- Miscellaneous:
  - You can expand an existing 2-socket VxRail P670F cluster with 1-socket VxRail P670F nodes and vice versa.
  - Added local support for VxRail-managed VMware vCenter Server Appliance on 2-node cluster configurations.
  - Added VMware vSAN RDMA support for Mellanox CX-6 100 GbE DX Dual Port NIC cards for 4.21.71.101 (asynchronous driver) and 22.32.20.04 (FW).

## Security fixes

VxRail software 8.0.020 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

[DSA-2023-065](#): Dell VxRail Security Update for multiple third-party component vulnerabilities which address:

- VMware vCenter Server: [VMSA-2021-0025.6](#). See *VMware vCenter Server IWA privilege escalation vulnerability (CVE-2021-22048)*.
- VMware ESXi: [VMSA-2022-033](#). See *VMware ESXi heap out-of-bounds write vulnerability in the USB 2.0 controller (EHCI), (CVE-2022-31705)*.
- Dell PowerEdge: Server Security Update for Intel February 2023 Security Advisories (2023.1 IPU)
  - [INTEL-SA-00700](#): Insufficient granularity of access control in OOB in some Intel Atom and Intel Xeon Scalable Processors may allow a privileged user to enable escalation of privilege using adjacent network access.
  - [INTEL-SA-00717](#): Improper access control in the BIOS firmware for some Intel Processors may allow a privileged user to enable escalation of privilege using local access.
  - [INTEL-SA-00718](#): Active debug code in some Intel SPS firmware before version SPS\_E5\_04.04.04.300.0 may allow an authenticated user to enable escalation of privilege using local access.
  - [INTEL-SA-00730](#): Incorrect calculation in the microcode keying mechanism for some Third-Generation Intel Xeon Scalable Processors may allow a privileged user to enable information disclosure using local access.
  - [INTEL-SA-00738](#): Incorrect default permissions in some memory controller configurations for some Intel Xeon Processors when using Intel Software Guard Extensions which may allow a privileged user to potentially enable escalation of privilege using local access.
  - [INTEL-SA-00767](#): Improper isolation of shared resources in some Intel Processors when using Intel Software Guard Extensions may allow a privileged user to enable information disclosure using local access.
- VxRail Manager: SUSE—Multiple package updates in SLES. For more information, see the DSA.
- STIG: STIG hardening on VxRail 8.0.020 or later is not supported. If STIG hardening is applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.020 and later versions.

## Key Differences

- VxRail 8.0.x no longer provides VMware vRealize Log Insight (VMware Aria Operations for Logs) license or software. See [KB 212617](#) for details before upgrading or installing VxRail 8.0.x and if you are using or intend to use VMware vRealize Log Insight.
- VxRail 8.0.020 does not support the Quanta hardware platform and VxRail E460/F, P470/F, S470, V470.

- VMware does not support for TPM 1.2 in VMware vSphere 8.0. VxRail does not allow the upgrade for clusters containing nodes with active TPM 1.2 modules. To upgrade to VxRail 8.0.x, disable TPM 1.2 or replace the TPM 1.2 modules with TPM 2.0. To upgrade to VxRail 8.0.x with active TPM 1.2 modules, see [KB 204703](#).

**NOTE:** If your environment requires TPM, do not upgrade until you obtain TPM 2.0 modules for each node.

- RecoverPoint for Virtual Machines is not supported on VMware vSphere 8.0. Do not upgrade to VxRail 8.0.000 if you are using RecoverPoint for Virtual Machines.
- VxRail models with DPUs require the approval of RPQ to deploy with or upgrade to VxRail 8.0.020 release. For more information, see the [KB 210758](#).
- The CloudLink version 8.0 is not available for VMware vSphere 8.0. If you are using VMware vSAN data store Encryption with CloudLink, do not upgrade to VxRail 8.0.020 until CloudLink 8.0 is available.
- Before you upgrade to VxRail 8.x, SmartFabric Services (SFS) with VxRail installations that were deployed with VxRail 4.7.xxx or 7.0.000 through 7.0.3xx require decoupling. SFS with VxRail installations that were deployed with VxRail 7.0.400 through 7.0.411 require decoupling only if **Automated VxRail Switch Configuration** was set to **Enabled** during deployment. If set to **Disabled** during deployment, decoupling is not required. See [New Deployment Option for SmartFabric Services with VxRail](#) for information about this setting. For VxRail 7.0.x, decoupling procedures are available on [SolVe Online for VxRail](#) under **VxRail Procedures > Miscellaneous > 'How To' Procedures > Change other VxRail cluster settings**.

## Upgrades

- VxRail clusters using any application that creates flat.vmdk files (including Citrix) should not upgrade to VxRail 8.0.x now. See [KB 212825](#) for more information.
- A cluster requires VMware vSphere 8.0 license keys to run on VMware vSphere 8.0:
  - The life cycle management precheck does not stop you from upgrading without VMware vSphere 8.0 license keys.
  - Without VMware vSphere 8.0 license keys, the nodes run on 60-day evaluation license keys. To determine whether your clusters need VMware vSphere 8.0 license keys and to acquire the license keys, see [VMware Customer Connect](#).
- Due to the delay in availability of GPU drivers, do not upgrade VxRail clusters with any GPUs to VxRail 8.0.020.
- If you updated the multicast filtering mode to Basic, VMware VDS upgrade resets the multicast filtering mode to the default IGMP or MLD snooping during VxRail LCM from 4.x or 7.0.x to a later version of 7.0.x or 8.0.x. Verify this setting before initiating VxRail LCM to 7.0.x or 8.0.x. For more information, see [KB 196307](#).

## Fixed issues in VxRail 8.0.020

The following table lists the issues that are fixed in VxRail 8.0.020:

**Table 13. Fixed issues in VxRail 8.0.020**

Issue	Issue description	Release found	Category
VXP-64842	LCM issue upgrading SKHynix SSD Firmware 7.0.410.	7.0.410	LCM
VXP-64433	RASR failed with "ERROR: script 30_convert_ese_key.sh execution error"	7.0.372	Platform Service
VXP-64387	VxRail Manager log bundle collection is blocked by curl command testing.	7.0.400	Serviceability
VXP-64335	7.0.131 to 7.0.320 upgrade failing with the error message, "Failed to update hosts certificate in the VxRail Manager."	7.0.320	LCM
VXP-64122	Node add host_ips_validation timed out.	7.0.371	Day 2
VXP-64120	LCM process fail at 94% with the error message, "recover drs timed out."	7.0.372	LCM
VXP-64117	7.0.320 L3 node add failed with error "Node failed to check the compatibility."	7.0.320	Day 2
VXP-64113	The Internet Updates tab under the Updates view is displaying the message "No Available	7.0.372	Day 2

**Table 13. Fixed issues in VxRail 8.0.020 (continued)**

Issue	Issue description	Release found	Category
	System Updates <sup>®</sup> and also the Market view in the VxRail plug-in is blank.		
VXP-63931	Does psql upgrade need free space on /var/?	7.0.400	LCM
VXP-63924	Ansible based upgrade experienced possible issue during LCM from 7.0.370 to 7.0.372.	7.0.372	LCM
VXP-63874	Update page displays 404 error after upgrade to 7.0.400.	7.0.320	LCM
VXP-63864	LCM from 4.7 to 7.0.401 failed due to do-host is not ready.	7.0.401	LCM
VXP-65126	False Radar warning occurring when attempting to upgrade from 7.0.401 to 8.0.000 .	8.0.000	LCM

## VxRail 8.0.010 package software

This section lists the components of the VxRail 8.0.010 software package.

### VxRail Software

- VxRail Manager 8.0.010 build 27816828
- VxRail System 8.0.010 build 27816828
- VxRail Manager vCenter Plugin 9.2.0.0

### VMware integration

- VMware ESXi 8.0 GA build 20513097
- VMware vCenter Server Virtual Appliance 8.0 GA build 20519528
- VMware vSAN 8.0 GA build 20513097

### PowerEdge platform components

- BIOS: E660F, P670N, V670F: 1.8.2
- iDRAC: E660F, P670N, V670F: 6.00.30.00
- iSM: 4.3.1.0.19

## What is new in VxRail 8.0.010

VxRail 8.0.010 is a manufacturing-only release that includes VMware ESXi 8.0 GA and VMware vCenter Server 8.0 GA. Support is added for Data Processing Units (DPU) when used with VMware vSAN Original Storage Architecture (OSA).

See [VMware vSphere 8.0 Release Notes](#) for detailed information.

### Upgrade information

VxRail version 8.0.010 is a manufacturing-only release and DPUs are only available on E660F, P670N, and V670F.

You cannot upgrade to VxRail version 8.0.010 from earlier VxRail software versions. You can upgrade from VxRail 8.0.010 to later versions of VxRail software releases.



## Key Differences

- VxRail 8.0.x does not provide VMware vRealize Log Insight (VMware Aria Operations for Logs) license or software. See [KB 212617](#) for details before upgrading or installing VxRail 8.0.x if you are using or intend to use VMware vRealize Log Insight.
- Do not apply STIG hardening to an 8.0.010 cluster. STIG hardening on VxRail cluster versions 8.0.000 or later is not supported.
- Before you upgrade to VxRail 8.x, SmartFabric Services (SFS) with VxRail installations that were deployed with VxRail versions 4.7.xxx or 7.0.000 through 7.0.3xx require decoupling. SFS with VxRail installations that were deployed with VxRail versions 7.0.400 through 7.0.411 require decoupling only if **Automated VxRail Switch Configuration** was set to **Enabled** during deployment. If set to **Disabled** during deployment, decoupling is not required. See [New Deployment Option for SmartFabric Services with VxRail](#) for information about this setting. Decoupling procedures are available on [SolVe Online for VxRail](#) under **VxRail Procedures > Miscellaneous > 'How To' Procedures > Change other VxRail cluster settings**.

## Known issues in VxRail 8.0.010

The following table provides known issues for VxRail 8.0.010:

**Table 14. Known issues in VxRail 8.0.010**

Issue	Summary	Workaround
VMware PR 3154255	VxRail nodes with DPU may have issues with VMware NSX configuration due to "ESXi on DPU" license expiration.	See <a href="#">KB 212259</a> .
VMware--3039159	VMware vSphere vMotion of VMs with an interface in Uniform Passthrough (UPT) mode and with high number of flows might cause the host to PSOD.	Avoid VMware vSphere vMotion of UPT-based VMs. For more information, see <a href="#">KB210758</a> .
VXP-58887	Unable to find VMware vSphere HA agent using IPv6 single stack.	The HA would be resumed automatically after 30–60 minutes.
VXP-60155	Do First-run with T1 network failed at 99% "Failed to do vLCM remediation for cluster".	Retry after few minutes.

## VxRail 8.0.000 package software

This section lists the components of the VxRail 8.0.000 software package.

### VxRail Software

- VxRail Manager 8.0.000 build 27839057
- VxRail System 8.0.000 build 27839058
- VxRail Manager vCenter Plugin 9.2.1.0

### VMware integration

- VMware ESXi 8.0 GA build 20513097
- VMware vCenter Server Virtual Appliance 8.0 GA build 20519528
- VMware vSAN 8.0 GA build 2051309

## PowerEdge platform components

- BIOS:
  - G560/F: 2.16.1
  - E560/F/N, P570/F, V570/F, S570: 2.16.1



- P580N: 2.16.1
  - V670F, P670F/N, E660/F/N, S670: 1.8.2
  - E665/F/N, P675F/N: 2.9.3
- iDRAC:
  - G560/F: 6.00.30.00
  - E560/F/N, P570/F, V570/F, S570: 6.00.30.00
  - P580N: 6.00.30.00
  - D560/F: 6.00.30.00
  - V670F, P670F/N, E660/F/N, S670: 6.00.30.00
  - E665/F/N, P675F/N: 6.00.30.00
- iSM: 4.3.1.0.19

## What is new in VxRail 8.0.000

VxRail 8.0.000 is a new generation of VxRail HCI system software. The considerations and restrictions described throughout this release note should be reviewed by customers of VxRail 4.7.x and VxRail 7.0.x before attempting to upgrade to VxRail 8.0.000.

## VMware vSphere 8.0

VMware vSphere 8.0 is the enterprise workload platform that brings the benefits of cloud to on-premises workloads.

## New features

VxRail 8.0.000 includes VMware vSphere 8.0. VxRail version 8.0.000 supports VMware vSAN Original Storage Architecture (OSA) and VMware vSAN Express Storage Architecture (ESA).

VxRail 8.0.000 includes the following features:

- VMware vSphere 8.0. See [VMware vSphere 8.0 Release Notes](#) for more information.
- VMware vSAN 8.0. See [VMware vSAN 8.0 Release Notes](#) for more information.


## Security fixes

VxRail 8.0.000 contains fixes that resolve multiple security vulnerabilities. For more information, see the following Dell Security Advisory (DSA):

- [DSA-2022-336](#): Dell VxRail Security Update for Multiple Third-Party Component Vulnerabilities which addresses: VxRail Manager: SUSE: Multiple package updates in SLES. See the DSA for more information.
- STIG: STIG hardening on VxRail cluster versions 8.0.000 or later is not supported. If STIG hardening was applied to a VxRail cluster, you cannot upgrade to VxRail 8.0.000 and later.

## Key Differences


- VxRail 8.0.x does not provide VMware vRealize Log Insight (VMware Aria Operations for Logs) license or software. See [KB 212617](#) before upgrading or installing VxRail 8.0.x and if you are using or intend to use VMware vRealize Log Insight.
- Internet upgrades to VxRail 8.0.000 are not supported. Only local upgrades are supported. Use [SolVe for VxRail](#) to generate a procedure to execute the upgrade.
- VxRail 8.0.020 does not support the Quanta hardware platform and VxRail E460/F, P470/F, S470, V470.
- VMware discontinued support for TPM 1.2 in VMware vSphere 8.0. VxRail does not allow the upgrade for clusters containing nodes with active TPM 1.2 modules. To upgrade to VxRail 8.0.x, disable TPM 1.2 or replace the TPM 1.2 modules with TPM 2.0. Disable TPM 1.2 temporarily to perform the upgrade. For steps to upgrade to VxRail 8.0.x with active TPM 1.2 modules, see [KB 204703](#).
 

 **NOTE:** If your environment requires TPM, do not upgrade until you obtain TPM 2.0 modules for each node.
- RecoverPoint for Virtual Machines is not supported on VMware vSphere 8.0. Do not upgrade to VxRail 8.0.000 if you are using RecoverPoint for Virtual Machines.

- DPU's are not supported in VxRail version 8.0.000.
- Cloudlink version 8.0 is not available for VMware vSphere 8.0. If you are using VMware vSAN Data Store Encryption with CloudLink, do not upgrade to VxRail 8.0.000 until CloudLink 8.0 is available.
- Before you upgrade to VxRail 8.x, you must decouple SmartFabric Services (SFS) with VxRail installations that were deployed with VxRail versions 4.7.xxx or 7.0.000 through 7.0.3xx. SFS with VxRail installations that were deployed with VxRail versions 7.0.400 through 7.0.411 require decoupling only if **Automated VxRail Switch Configuration** was set to **Enabled** during deployment. If set to **Disabled** during deployment, decoupling is not required. See [New Deployment Option for SmartFabric Services with VxRail](#) for information about this setting. Decoupling procedures are available on [SolVe Online for VxRail](#) for VxRail 7.0.x under **VxRail Procedures > Miscellaneous > 'How To' Procedures > Change other VxRail cluster settings**.

## Upgrades

- VxRail clusters using any application that creates flat.vmdk files (including Citrix) should not upgrade to VxRail 8.0.x. See [KB 212825](#) for more information.
- You can only upgrade to VxRail 8.0.000 using the local upgrade option:
  - Before the upgrade, generate the appropriate VxRail upgrade in SolVe for the software update bundle.
  - The Internet upgrade option where VxRail Manager acquires the software update bundle using an internet download is disabled.
- Customer-managed VMware vCenter Server plugin:
  - If you are using a customer-managed VMware vCenter Server environment, upgrade the VMware vCenter Server environment to VMware vSphere 8.0 before upgrading to VxRail 8.0.000.
  - If you are using a customer-managed VMware vCenter Server environment, see [KB 000204712](#) after updating your VMware vCenter environment to VMware vSphere 8.0 to resolve a known issue with the VxRail plugin failing to deploy.
- VMware vSphere 8.0 license keys are required for a cluster to run on VMware vSphere 8.0:
  - The LCM precheck does not stop a user from upgrading without VMware vSphere 8.0 license keys.
  - Without VMware vSphere 8.0 license keys, the nodes run on 60-day evaluation license keys. Go to [VMware Customer Connect](#) to determine if VMware vSphere 8.0 license keys are required for the clusters and to obtain them.
- Because the Internet download of the VxRail 8.0.000 software update bundle is not supported, CloudIQ does not support the upgrade path to VxRail 8.0.000. Users cannot run LCM features on CloudIQ. Remote communication between the cluster and CloudIQ does not use an internet connection, but CloudIQ relies on the internet upgrade to download the update bundle from the VxRail software repository.

 **NOTE:** Due to limited availability of GPU drivers for VMware ESXi 8.0, the GPU is validated after the VxRail 8.0.000 release. Clusters with GPUs should not be upgraded to VxRail 8.0.000 until they are confirmed.

## Known issues in VxRail 8.0.000

The following table provides known issues for VxRail 8.0.000:

**Table 15. Known issues in VxRail 8.0.000**

Issue	Summary	Workaround
VXP-65477	P670N nodes with VxRail 7.0.360 to 7.0.372 may fail LCM to VxRail 7.0.400 and later.	See <a href="#">KB 209959</a> .
VXP-61513	Enabling vLCM fails on limited network environments.	The recommended VxRail network bandwidth should be greater than 3 Mbps. When network use is low or idle, retry enablement of the vLCM. The retry task can be executed multiple times.

# Upgrades

Notes and considerations for upgrading VxRail are provided.

## Upgrade Notes

- VxRail 8.0.210: You cannot upgrade directly from VxRail 4.7.x to VxRail 8.0.210 and later.
- VxRail 8.0.120: You cannot upgrade to VxRail 8.0.120 from earlier VxRail versions. VxRail 8.0.120 is available only on a newly manufactured VP-760 NVMe platform and VE-660 NVMe platform.
- VxRail 8.0.111: You cannot upgrade directly from VxRail 4.0.x or 4.5.x to VxRail 8.0.111.

If VMware NSX is running on the VxRail cluster and you are planning to change the VxRail LCM mode to vLCM, see [KB 000190928](#). After vLCM is enabled, VMware NSX Manager performs updates independently of a VxRail cluster update.

## Considerations

- Do not upgrade nodes containing DPUs to VxRail 8.0.200 and 8.0.201 due to firmware and driver requirements.
- Upgrades to VxRail 8.0.210 and 8.0.211 are supported for nodes containing DPUs. If your nodes contain NVIDIA Mellanox DPUs, contact Dell Technical Support and also see [KB 221120](#) before initiating an upgrade.
- Do not upgrade clusters running VxRail 8.0.111 to VxRail 8.0.200. For more information, see [VxRail 8.0.x upgrade methods](#). Fixes in VxRail 8.0.111 that are not in VxRail 8.0.200 are lost following the upgrade.
- For VxRail 8.0.000 and later, the RecoverPoint for Virtual Machines splitter VMware Installation Bundle (VIB) is incompatible with vLCM mode that is enabled on VxRail. If you are using RecoverPoint for Virtual Machines with vLCM mode enabled, contact Dell Support before the next upgrade cycle.
- Third-party VIB updates can only be added in **customize components** in the VxRail LCM workflow when VxRail has vLCM mode enabled. Other methods for updating third-party VIBs outside of VxRail Manager are highly discouraged and can result in subsequent updates to fail.
- VxRail clusters using any application that creates flat.vmdk files (including Citrix) should not upgrade to VxRail 8.0.x. See [KB 212825](#) for more information.
- If the Multicast filtering mode is set to **Basic**, the VMware VDS upgrade resets the mode to the default IGMP/MLD snooping during VxRail LCM from 4.x or 7.0.x to a later version of VxRail 7.0.x or VxRail 8.0.x. Verify this setting before initiating VxRail LCM to VxRail 7.0.x or VxRail 8.0.x. For more information, see [KB 196307](#).
- VMware vSphere 8.0 does not support TPM 1.2. Upgrading to VxRail 8.0.000, 8.0.010, and 8.0.020 for 14G servers with enabled TPM 1.2 modules is not permitted by VMware and VxRail Manager. The LCM precheck fails in such cases. VMware and VxRail Manager allow users to upgrade to VxRail 8.0.100 and later versions using the LCM tool. After the upgrade, the TPM 1.2 modules become nonfunctional as VxRail Manager turns off the TPM security setting in the BIOS. VxRail Manager sets the TPM security to **Off** in the BIOS as part of the upgrade.
  - If you require TPM functionality and want to upgrade to a TPM 2.0 module or manually disable the TPM 1.2 module, see [KB 204703](#) for more information.
  - If your environment requires TPM, before you upgrade, you must obtain TPM 2.0 modules for each node.
- VxRail uses Dell Technologies next-generation consolidated connectivity solution to connect to the Dell Cloud. This solution allows VxRail to establish a direct connection using a connectivity agent that runs within VxRail or the secure connect gateway 5.0.
- VxRail 8.0.000 does not support Secure Remote Services. Before you upgrade to VxRail 8.0.x, review the following:
  - See [KB 196945](#) and the [Secure Remote Services 3.52 Upgrade to Secure Connect Gateway Supplement Documentation](#).
  - If you are connected to a secure connect gateway, verify that the minimum gateway version is 5.00.07.10.
  - If you are connected to an external Secure Remote Services gateway, upgrade to a secure connect gateway.
  - The firewall may require an update. For internal Secure Remote Services configurations, VxRail performs a seamless internal Secure Remote Services upgrade to establish a direct connection during the VxRail upgrade process.
- For clusters running VxRail 7.0.130 and later, you can use multipart bundles for local upgrades to 8.0.000 and later. You must download multiple files before beginning the upgrade.

- VxRail supports VMware vSphere Quick Boot and Suspend-to-Memory. Do not use Quick Boot or Suspend-to-Memory when updating from previous versions of VxRail to VxRail 8.0.x and later.
- If you are running VMware solution software that is integrated with VxRail, check the specific solution release notes before upgrading to a later version of VxRail to ensure support and compatibility.
- VxRail 8.0.x does not support the 13G platform and Quanta hardware platform.
- The VMware PSC must be embedded in the VMware vCenter Server VM:
  - For clusters with a VxRail-managed VMware vCenter Server deployment, the VxRail LCM upgrade to 8.0.x automatically converges the customer-managed VMware PSC to a VxRail-managed VMware PSC embedded with the VMware vCenter Server VM.
  - For clusters with a customer-managed VMware vCenter Server, the customer is responsible for manually converging the customer-managed VMware PSC into an embedded PSC within the VMware vCenter Server VM before upgrading to VxRail 8.0.x.
  - Use a VMware procedure to complete the conversion, and then run a VxRail provided script to update the PSC information into the VxRail database. See [KB 21166](#) for more information.
- VMware vSphere 8.0 license keys are required for a cluster to run VMware vSphere 8.0:
  - The LCM precheck does not stop a user from upgrading without VMware vSphere 8.0 license keys.
  - Without VMware vSphere 8.0 license keys, the nodes run on 60-day evaluation license keys.
  - Go to [VMware Customer Connect](#) to access VMware vSphere 8.0 license keys.
  - Do not upgrade VxRail clusters with any GPUs to VxRail 8.0.020. This recommendation results from delays in drivers for GPUs.
- If clusters are using VxRail ecosystem solutions (such as marketplace solutions), check with the ecosystem vendor or the [VxRail Simple Support Matrix](#) for VMware vSphere 8.0 compatibility before upgrading to VxRail 8.0.x.
- For VxRail on PowerEdge platforms running VxRail 4.7.2xx and later with Secure Boot enabled, you do not need to manually disable or enable upgrades to VxRail 8.0.000 before and after an LCM upgrade. The upgrade runs while keeping secure boot enabled on the host. Verify that no unsigned VIBs are in the node to prevent adverse effects during a host boot.
- VxRail LCM bundle does not include updates to GPU firmware or drivers, VMware vRealize Log Insight, VMware NSX, customer-managed VMware vCenter Server software, or add-on software such as VMware Horizon or the full VMware vRealize Suite. Such third-party firmware and VIBs can be added or upgraded as part of the customize components in the VxRail LCM workflow.

## Solve Online for VxRail

Solve Online for VxRail contains complete information about VxRail upgrade procedures.

### About this task

If your VxRail cluster has a customer-managed VMware vCenter Server, see [KB 543028](#) to run a manual convergence script.

If you are upgrading from a VxRail version earlier than 4.7.301 or at 4.7.400, see [KB 157746](#) to run a manual expansion script for the `/data/store2` drive.

### Steps

1. Go to [Solve Online for VxRail](#) and select **VxRail Procedures**.
2. Click **Upgrade > Software Upgrade Procedures**.
3. Select your hardware version, starting software version, and target upgrade version. Click **Next**.
4. Answer questions about your VxRail environment and click **Generate**.
5. Follow the steps in the generated Solve procedure to upgrade your VxRail.  
The generated procedure includes the location of the upgrade bundle files.

## Direct upgrade paths

This section lists the supported direct upgrade paths.

The following table lists the direct upgrade paths to VxRail 8.0.212:

**Table 16. Direct upgrade paths**

<b>VxRail 8.0.x</b>	<b>VxRail 7.0.x</b>
<ul style="list-style-type: none"> <li>• 8.0.000 -&gt; 8.0.212</li> <li>• 8.0.010 -&gt; 8.0.212</li> <li>• 8.0.020 -&gt; 8.0.212</li> <li>• 8.0.100 -&gt; 8.0.212</li> <li>• 8.0.101 -&gt; 8.0.212</li> <li>• 8.0.110 -&gt; 8.0.212</li> <li>• 8.0.111 -&gt; 8.0.212</li> <li>• 8.0.120 -&gt; 8.0.212</li> <li>• 8.0.200 -&gt; 8.0.212</li> <li>• 8.0.201 -&gt; 8.0.212</li> <li>• 8.0.210 -&gt; 8.0.212</li> <li>• 8.0.211 -&gt; 8.0.212</li> </ul>	<ul style="list-style-type: none"> <li>• 7.0.010 -&gt; 8.0.212</li> <li>• 7.0.100 -&gt; 8.0.212</li> <li>• 7.0.101 -&gt; 8.0.212</li> <li>• 7.0.130 -&gt; 8.0.212 (only local upgrades are supported)</li> <li>• 7.0.131 -&gt; 8.0.212 (only local upgrades are supported)</li> <li>• 7.0.132 -&gt; 8.0.212</li> <li>• 7.0.200 -&gt; 8.0.212</li> <li>• 7.0.201 -&gt; 8.0.212</li> <li>• 7.0.202 -&gt; 8.0.212</li> <li>• 7.0.203 -&gt; 8.0.212</li> <li>• 7.0.210 -&gt; 8.0.212</li> <li>• 7.0.240 -&gt; 8.0.212</li> <li>• 7.0.241 -&gt; 8.0.212</li> <li>• 7.0.300 -&gt; 8.0.212</li> <li>• 7.0.320 -&gt; 8.0.212</li> <li>• 7.0.350 -&gt; 8.0.212</li> <li>• 7.0.360 -&gt; 8.0.212</li> <li>• 7.0.370 -&gt; 8.0.212</li> <li>• 7.0.371 -&gt; 8.0.212</li> <li>• 7.0.372 -&gt; 8.0.212</li> <li>• 7.0.380 -&gt; 8.0.212</li> <li>• 7.0.400 -&gt; 8.0.212</li> <li>• 7.0.401 -&gt; 8.0.212</li> <li>• 7.0.405 -&gt; 8.0.212</li> <li>• 7.0.410 -&gt; 8.0.212</li> <li>• 7.0.411 -&gt; 8.0.212</li> <li>• 7.0.420 -&gt; 8.0.212</li> <li>• 7.0.450 -&gt; 8.0.212</li> <li>• 7.0.451 -&gt; 8.0.212</li> <li>• 7.0.452 -&gt; 8.0.212</li> <li>• 7.0.453 -&gt; 8.0.212</li> <li>• 7.0.460 -&gt; 8.0.212</li> <li>• 7.0.480 -&gt; 8.0.212</li> <li>• 7.0.481 -&gt; 8.0.212</li> <li>• 7.0.482 -&gt; 8.0.212</li> <li>• 7.0.483 -&gt; 8.0.212</li> <li>• 7.0.484 -&gt; 8.0.212</li> </ul>

## VxRail 8.0.x upgrade methods

This section lists the available upgrade methods for each supported upgrade target version available for VxRail 8.0.x.

The following table lists the VxRail 8.0.x upgrade methods:

### Table 17. VxRail 8.0.x upgrade methods

[illegible]

**Table 17. VxRail 8.0.x upgrade methods (continued)**

Installed version	Target version												
	8.0.212	8.0.211	8.0.210	8.0.201	8.0.200	8.0.120	8.0.111	8.0.110	8.0.101	8.0.100	8.0.020	8.0.010	8.0.000
7.0.480	Local and internet	L/U	L/U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
7.0.460	Local and Internet	L/U	L/U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
7.0.453	Local and internet	L/U	L/U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
7.0.452	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	N/S	N/S	N/S	N/S	N/S
7.0.451	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	N/S	N/S	N/S
7.0.450	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	N/S	N/S	N/S
7.0.420	Local and internet	L/U	L/U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
7.0.411	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	N/S	N/S	N/S
7.0.410	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	N/S
7.0.405	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.401	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.400	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.380	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.372	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.371	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.370	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U

Table 17. VxRail 8.0.x upgrade methods (continued)

Installed version	Target version												
	8.0.212	8.0.211	8.0.210	8.0.201	8.0.200	8.0.120	8.0.111	8.0.110	8.0.101	8.0.100	8.0.020	8.0.010	8.0.000
7.0.360	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.350	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.320	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.300	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.241	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.240	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.210	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.203	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.202	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.201	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.200	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.132	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.131	L/U	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.130	L/U	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.101	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.100	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
7.0.010	Local and internet	L/U	L/U	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U



**Table 17. VxRail 8.0.x upgrade methods (continued)**

Installed version	Target version												
	8.0.212	8.0.211	8.0.210	8.0.201	8.0.200	8.0.120	8.0.111	8.0.110	8.0.101	8.0.100	8.0.020	8.0.010	8.0.000
4.7.560	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.550	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.542	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.541	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.540	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.536	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.535	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.533	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.532	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.531	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.530	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.527	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.526	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.525	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.521	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.520	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.515	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.512	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.511	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.510	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.500	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.411	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.410	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.400	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.301	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.300	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U

Table 17. VxRail 8.0.x upgrade methods (continued)

Installed version	Target version												
	8.0.212	8.0.211	8.0.210	8.0.201	8.0.200	8.0.120	8.0.111	8.0.110	8.0.101	8.0.100	8.0.020	8.0.010	8.0.000
4.7.212	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.211	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.210	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.200	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.111	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.110	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.100	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.001	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U
4.7.000	N/S	N/S	N/S	L/U	L/U	N/S	L/U	L/U	L/U	L/U	L/U	N/S	L/U

N/S=Not supported

L/U=Local upgrade