DELL EMC

UPTIME BULLETIN Q1

A Newsletter from SPE, a Division of Dell EMC

For Unity//SC/VNX/VNXe

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KB 539664 – background info & best practices on the push to install new firmware on some SSDs

Dell EMC called attention to KB 539664 in last quarter's Unity Uptime Bulletin and there are plans to proactively push out drive firmware upgrade recommendations even more aggressively in the form of a DTA or even an FCO in the near future. In this article, we will explore the underlying issue we are attempting to fix, and we will address best practices and known issues associated with deployment of the firmware fix.

Knowledge base article 539664 discusses a deficiency in the firmware for certain SSDs commonly used by Unity storage systems. The complete list of affected part numbers can be found in the KB article. Dell EMC's current drive firmware "big bundle" contains a fix for this issue, so if you are not sure if you have any of the affected SSDs, you can simply use Unity Unisphere to install the latest "big bundle" of drive firmware. The Unity Unisphere tool will determine which drives, if any, are downrev on firmware and will prompt the user to upgrade. Users will also typically get prompted to upgrade their drive firmware after a successful OE upgrading using Unity Unisphere. Reference KB solution 490700 for guidance on how to install drive firmware.

The issue that is being addressed by the new firmware: The deficiency which we fixing in the new firmware involves a premature invoking of the drive's EOL flag. This can result in a higher replacement rate than expected. It is important for customers to understand that when and if an SSD's EOL flag gets set, this does not automatically fail the drive. Rather, the drive will get marked for proactive sparing when and if hot spares are available to the system. When a drive proactively spares, the underlying RAID group is not degraded, so the process is safer in comparison to a full rebuild. For this reason, Dell EMC does not consider this a critical issue, although we do believe that it is important enough that customers should install the new firmware for these drives at their earliest convenience. It is likely that Dell EMC may issue a DTA or FCO soon that strongly advises that customers take this new disk firmware.

There is an alternative workaround discussed in KB 539664 for customers who cannot immediately apply the new firmware. Dell EMC has a script available that can be run against your storage system that will set a bit on each affected drive that turns off reporting of correctable errors. It is this particular reporting which is being incorrectly interpreted as a more serious error which would warrant the EOL flag being set. This workaround isn't meant to be a long term solution as it doesn't survive a reboot, and disabling recoverable error logging isn't an ideal solution.

Special consideration: *If a customer has a D@RE enabled storage system, in the unlikely event that a system drive in slots 0_0_0 through 0_0_3 fails during a firmware upgrade, don't try to replace the drive without opening a case with support and referencing the above KB.*

A small percentage of drive firmware upgrades for this fix may hang: Dell EMC is aware that a small percentage of systems that have applied this particular drive firmware fix (about 3%) have encountered a single drive failure which in turn causes the drive firmware upgrade process to hang. While a solution is being investigated, however, guidance remains unchanged: the value of the fix outweighs the risk that a small percentage of upgrades may hang. A new KB solution, 541103, is available which may be referenced if a customer opens a case with technical support in the event that such a problem is encountered during the firmware upgrade. The new solution presents the safest, fastest, easiest ways to recover from the hang and resume the upgrade process.

COMMENTS? IDEAS?

WE'D LIKE YOUR FEEDBACK ABOUT THE UPTIME BULLETIN. SEND US YOUR IDEAS FOR FUTURE TOPICS AT : dan.gauthier@dell.com

Customer

Documentation

- https://mydocuments.emc.com/VNX

Search the web for the *Uptime Bulletin* here:

https://support.emc.com/docu94701_VNX2,-VNXe,-Unity,-SC-Uptime-Bulletin---Current-Issue.pdf

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Microsoft Windows hosts may lose access to volumes which were Live Migrated following a host reboot

Microsoft Windows hosts that are connected to a Storage Center running versions 7.3 or 7.4 may lose access to volumes on the SC following a host reboot if the volumes were part of a Live Migrate from one system to another. A customer available workaround is detailed in article SLN320590 which you can get to by clicking on the link, or by searching for the article number on dell.com/support. An alternate workaround is available by contacting Dell technical support.

Unity hybrid arrays using FAST Cache should be upgraded to any Unity OE 5.0.x or higher

Dell EMC recently released the following DTA which discusses a rare yet very serious data integrity issue that could impact FAST Cache of hybrid systems running Unity OE versions below 5.x.

DTA 540332: Dell EMC Unity: FAST Cache over provisioning problem causes computational error (User Correctable)

This issue is extremely rare, and it requires that FAST Cache disks invoke a “dynamic over-provisioning” branch of code which only runs if the system determines that FAST Cache SSDs are wearing out much too quickly. Customers should be advised that Dell EMC may issue an FCO targeting impacted systems as soon as Q2 of 2020 in an attempt to remove exposure to our entire install base. It is possible that this FCO may include recommended critical disk firmware versions as well. There are many other benefits to being on Dell EMC suggested “target” code levels as a matter of best practice.

Reviewing Unity OE 5.0.2.0.5.009 which was recently promoted to the status of “Target”

There are many benefits to running the version of OE that Dell EMC declares to be the official “Target” revision for the Unity storage system. An OE version must meet a rigorous set of criteria before it can be named target. This criteria includes factors such as meeting a minimum number of installations, as well as minimum runtime hours, no unaddressed regressions, and a very strict limit on how many high severity issues may exist. In addition to the security of knowing that Unity OE 5.0.2 has met these rigorous thresholds, this particular upgrade has the following additional things to offer:

- 51 bug fixes including 4 “blocked thread” fixes
- Security enhancements
- Serviceability enhancements, most notably including “phase 2” of a three phase set of improvements targeting dump reliability, size reduction, and ease/speed of retrieval
- Includes the full fix for the .tmp file issue partially addressed in 5.0.1. See KB 537331 for more details

Did you know?

- Hosts running RHEL 7.6 connected to storage systems over NFS may hang during node reboots or IP address failovers. RHEL may have knowledge base articles of their own addressing this issue. A KB has been written for this issue for Isilon which can be found here: KB 538181. This issue is in RHEL 7.6 itself and isn’t limited to Isilon storage systems.
- The most recent officially published version of the Unity/VNX/SC Uptime Bulletin may now always be found at the following link: https://support.emc.com/docu94701_VNX2,-VNXe,-Unity,-SC-Uptime-Bulletin---Current-Issue.pdf

Dell EMC Unity/SC/VNX/VNXe target versions

DELL EMC has established target revisions for each product to ensure stable and reliable environments. As a best practice, DELL EMC recommends that you operate at target code levels or above to benefit from the latest enhancements and fixes available. Search using the term “adoption rates” in http://support.emc.com for current Dell EMC Unity/VNX/VNXe target code adoption rates.

VNXe2 OE VERSION	RELEASE DATE	STATUS
3.1.10.9946299	08/26/19	Target
3.1.11.10003441	01/22/2020	Latest Release
VNXe1600 OE VERSION	**RELEASE DATE**	**STATUS**
3.1.9.9570228	11/30/17	Target
3.1.9.9570228	11/30/17	Latest Release
Dell EMC UNITY OE VERSION	**RELEASE DATE**	**STATUS**
5.0.2.0.5.009	01/16/2020	Target
5.0.2.0.5.009	01/16/2020	Latest Release
UNIFIED VNX2 OE VERSIONS (8.1 & R33)	**RELEASE DATE**	**STATUS**
8.1.9.236 (VNX for File)	01/29/19	Target
8.1.9.236 (VNX for File)	01/29/19	Latest Release
05.33.009.5.238 (VNX for Block)	05/02/19	Target
05.33.009.5.238 (VNX for Block)	05/02/19	Latest Release
SCv20x0, SCv30x0, SC4020, SC5020, SC7020,SC8000, SC9000 SCOS VERSION	**RELEASE DATE**	**STATUS**
07.03.20	08/21/19	Target
07.04.10	02/28/20	Latest

See Product Release Notes for a full list of enhancements per new code release.

Dell EMC Unity OE enhancements in release 5.0.2.0.5.009

- Provides full/final relief to an issue introduced in 5.0.0 that could cause some Microsoft Office application file saves to delete the original save file and result in an earlier copy of the file with a .tmp extension
- This release focuses on key serviceability fixes and enhancements such as phase 2 of a series of improvements designed for more reliability and speed in getting dumps and reducing dump sizes
- Adds support for new SB-327 compliance (California) as well as Lot 9 EU+ requirements
- Resolves an issue where a file system could go offline due to a stale file handle

Dell SCOS OE enhancements in release 07.04.10

- **Enhancement:** Added Mac OS X 10.x MPIO and VMware ESXi 7.0 to the Server operating system list in Storage Center
- **Enhancement:** Space reporting improvements in the Storage Manager Client and Unisphere web interface
- **Fixed:** After updating to Storage Center 07.04.02, an SCv3000 series or SC5020 storage system with 1378 W low-line PSUs might see an alert stating that the PSUs are reporting an incorrect wattage
- **Fixed:** A storage system with SEDs might fail to initialize after a complete system power cycle
- **Fixed:** When new drives are installed in a Storage Center, the drives might report an incorrect Power On time of 136 years
- **Fixed:** A controller might reset because of a null pointer error that occurs during replication after updating to Storage Center 7.4.2

Dell SCOS OE enhancements in release 07.04.02

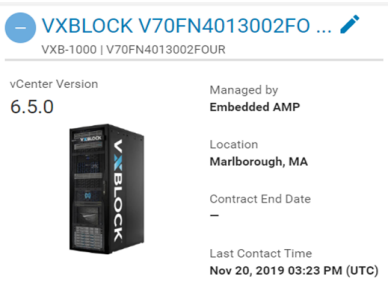
All SC models started shipping from the factory in mid-December 2019 with SCOS 07.04.02.

- Features expanded CloudIQ support
- Offers Veeam Snapshot integration
- Supports Microsoft Windows server 2019
- Supports vSphere 6.7 server
- Offers HTML 5 WebUI initial configuration

Dell SCOS Disk FW updates scheduled for release

Disk firmware updates for SCOS 07.03.20 and 07.04.10 are scheduled for release by the end of March 2020. Please refer to the Storage Center Drive Firmware Updates 2020 release notes on dell.com/support for specific disk FW updates.

Recent enhancements in CloudIQ

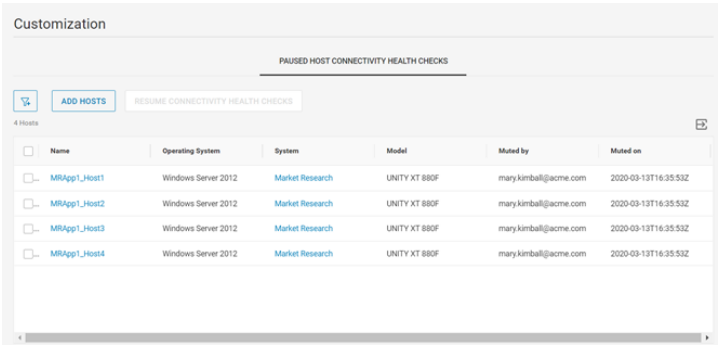


Converged System Support

We have added support for Converged Infrastructure platforms (Vblock and VxBlock Systems). You can now view the Converged System inventory details in CloudIQ. VxBlock Central Version 2.5 (or later) needs to be installed. SRS and CDP must be enabled for collecting and sending data.

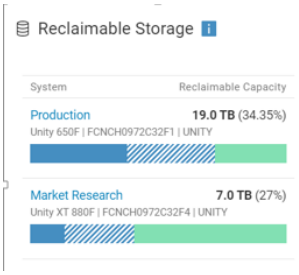
Consolidated Advisor Access

CloudIQ has consolidated Dell EMC Advisors and Partner Advisors to a single grouping, which as a side benefit means Partners need only be invited by Customers entering their email address.



Mute Host Health checks

We've added the ability to temporarily pause, and then resume, the Host Health Checks for hosts that do not require high availability, or hosts that are in maintenance. Use the new Customization page under the Admin Tab to pause and resume Host Health Checks. When hosts are paused, a system's Host and Host Details pages identify the hosts whose health checks are in a paused state. This feature applies to Unity and SC Series Hosts only.



View a Summary of Reclaimable Storage from the Overview page

We've added a new tile to the bottom of the Overview page that summarizes the reclaimable capacity of your systems. The tile will show Used, Reclaimable and Free capacities of a system in a bar chart. The summaries are sorted by the reclaimable capacity.