



Zadara Storage Cloud

17.11 Release Notes

October 2018

Revision 9

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1. Scope

This document describes the Zadara Storage Cloud release notes.

Section 3 describes new functionality and list of changes per release.

Section 4 lists limitations and known issues

2. Revision History

Date	Revision	Released packages	Description
November 2017	1	VPSA image: 17.11-211 SN package: 17.11-211	17.11 GA
December 2017	2	VPSA image: 17.11-224 SN package: 17.11-224	Maintenance Release
January 2018	3	VPSA image: 17.11-237 SN package: 17.11-237	Maintenance Release
February 2018	4	VPSA image: 17.11-242 SN package: 17.11-242	Maintenance Release
April 2018	5	VPSA image: 17.11-247 SN package: 17.11-247	Maintenance Release
May 2018	6	VPSA image: 17.11-250 SN package: 17.11-250	Maintenance Release
July 2018	7	VPSA image: 17.11-259 SN package: 17.11-259	Maintenance Release
September 2018	8	VPSA image: 17.11-263 SN package: 17.11-263	Maintenance Release
October 2018	9	VPSA image: 17.11-266 SN package: 17.11-266	Maintenance Release

3. New Functionality and change list

Release 17.11 is an enhancement to 16.05 (on top of SP2) with some scalability, security, and usability improvements, as well as fixes to issues that were found in 16.05-SP2.

What's New in Zadara Storage Cloud

4TB SSD

Zadara Clouds now support 4TB SSD drives for high capacity workloads that require the SSD performance.

Command Center Improvements

Many improvements to command center with more information available. For example:

- CPU, MegaRAID, NIC info in CC Storage Node Dashboard
- SN uptime
- Active VCs on each Storage Node

User Guides

Updated versions of **VPSA Storage Array User Guide** and **VPSA Object Storage User Guide** are available <http://guides.zadarastorage.com> in HTML format. Users can also download a PDF file.

What's New in VPSA Storage Array

SMB Encrypt

SMB Encryption provides end-to-end encryption of SMB data and protects data from eavesdropping occurrences on untrusted networks. It has no requirements for Internet Protocol security (IPsec tunneling) and is much easier to configure. SMB Encryption can be configured on a per share basis.

Multiple Custom Networks

It is now possible for a tenant to create single/multi custom networks when he has multiple VLANs and vice-versa. (Solves a limitation from SP2)

Snapshots Scheduling

In previous Zadara releases snapshots when taken on the hour according to the snapshots policy. If many volumes had policies like "every hour", "every day", the snapshots creation generated a heavy load on the the VPSA on the hour. Starting with 16.05-SP3 snapshots creation will be distributed at different points during the hour. "Every hour" will still create snapshots at 1 hour intervals but these may be at 1:20, 2:20, 3:20, etc... For cases where the exact time of the snapshot is important, define custom policy with the exact times.

Archive Pools

In order to support big volumes (Larger than 100TB) A new Archival Pool type was added. The main use case is for large files static data. Maximum Pool size for Archival Pool is 200TB.

Minimal Snapshot Policy creation interval for Volumes in the Archival Pool is set to 1 hour. Below table summarizes the different pools types.

	Transactional Pool	Repository Pool	Archive Pool
Use Case	Transactional Workload with Snapshots	Repository type workload Many snapshots to keep	Archives Static data Large Pools Infrequent snapshots
Size Limit	20TB	100TB	200TB

What's New in VPSA Object Storage

Availability Zones

SP3 introduces a new concept for VPSA Object Storage with enhanced redundancy \ protection design based on “Object Storage Availability Zones”. The motivation for this new design was to re-gain availability that was lost in favor of flexibility in previous releases

The new concept follows several basic guidelines:

- Entities called “Object Storage Availability Zones” are manually populated with cloud SNs
- Object Storage VCs are created in “VC-Sets” according to the desired policy protection type (2-way\3-way). Each VC in a Set is created in a different Availability Zone.
- Drives are added in sets as well.
- Drives are allocated only to VCs within the same Availability Zone.

Minimal Configuration

Small Object Storage configuration are now allowed. Until 16.05-SP2 the minimal configuration required 3 Storage Nodes and 18 drives. With 16.05-SP3 the entry point configuration is:

- 2 Storage Nodes with 4 drives for 2 way protection policy
- 3 Storage Nodes with 6 drives for 3 way protection policy

Note: Demo Object Storage is no longer supported.

Major Changes & Bug Fixes in 17.11 Build 266

#	Component	Description
13459	VPSA Object Storage	Fixed an issue in which Mirroring of NAS share using WAN Optimization might results in a corrupted destination. This will happen in rare cases where the file system writes block of zeroes, that is not replicated by the mirror job. After upgrading the source VPSA the mirror will correct the potential data corruption on destination. This correction is done only once post source VPSA upgrade.
13230	VPSA Object Storage	Fixed a regression issue entered in build 17.11-263 where ZIOS creation fails

Major Changes & Bug Fixes in 17.11 Build 264

#	Component	Description
11501	VPSA Object Storage	Fixed an issue in Zadara cache which may cause corruption while processing WRITE-SAME IOs and at the same time there is some other data in the cache which was not de-staged to drive yet

Major Changes & Bug Fixes in 17.11 Build 263

#	Component	Description
13005	VPSA Object Storage	Fixed an issue in which Backup-to-object-storage snapshots are not deleted from the object storage but VPSA considered them as deleted
13157 13199	VPSA Storage Array	Fixed issues of wrong containers CPU usage metering and alerts
13212	VPSA Object Storage	Fix for Object Storage creation that might fail when there are many SNs in Object Availability Zones

Major Changes & Bug Fixes in 17.11 Build 261

#	Component	Description
13010	VPSA Storage Array	Fixed an issue in which ZSC arguments and environment variables are truncated and not all passed to container

Major Changes & Bug Fixes in 17.11 Build 259

#	Component	Description
12630	VPSA Storage Array	A security enhancement was added to let users control privileged SSH access of Zadara support to Virtual Controller
12893	VPSA Storage Array	Fixed a regression issue of DOS attributes handling in SMB folders, where hidden files & folders flag is not saved under sub-folders
12794	VPSA Storage Array	Fixed memory leak in Volume migration which might cause Virtual Controller failover

Major Changes & Bug Fixes in 17.11 Build 250

#	Component	Description
12272	VPSA Storage Array	Fixed a problem during "Reconnect Mirror" that may cause the Virtual Controller to reboots itself

Major Changes & Bug Fixes in 17.11 Build 249

#	Component	Description
12060	VPSA Storage Array	Fixed SMB panic caused when smb session is expired during file attributes processing on shares with "store dos attribute" enabled
11891	VPSA Storage Array	Fixed an issue in which "Mapped" and "Data Copies Capacity" of a volume created in legacy VPSA versions are not displayed in

		GUI. The correct information will be displayed now once those volumes are migrated into a new pool
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Major Changes & Bug Fixes in 17.11 Build 247

#	Component	Description
11754	Command Center	It's now possible to use domain names (up to 250 chars) in command center Rsyslog configuration
11817	Command Center	Fix an issue in which public IP range was not validated for collisions against FE network of existing VPSA
11888	VPSA Storage Array	SMB now works in async-mode when scanning (FIND) shares where "store dos attribute" enabled
11907	Provisioning Portal	Provisioning Portal now supports reCAPTCHA v2

Major Changes & Bug Fixes in 17.11 Build 242

#	Component	Description
11537	VPSA Storage Array	VMware VAAI XCOPY performance improvement by tuning the number of XCOPY threads per VPSA engine
11579	Provisioning Portal	Fixed an issue in which a wrong IP appears in the URL within an email that is send to the user
11619	VPSA Storage Array	Allow users to disable/enable OpLocks per share in order to tune performance. It is recommended to disable OpLocks in the following cases: <ul style="list-style-type: none"> • if you are sharing a database file between multiple clients • If the network is slow or not reliable • Many clients access the same files frequently
11621	VPSA Storage Array	Fixed an issue that might cause CA crash on Migration pause and resume
11652	Cloud Controller	Fixed an issue that might prevent launching a VPSA GUI from the Command Center
11654	Provisioning Portal	Fixed an issue of grayed out 'Add Drive' button if storage nodes are not assigned to Object Storage availability Zones
11693	VPSA Storage Array	The default read ahead of a share is set to 512KB (instead of 128K) Users can modify it per share. In most cases it recommended not to change the setting. Lower read ahead size should can improve performance for read stride access type

Major Changes & Bug Fixes in 17.11 Build 237

#	Component	Description
11555	VPSA Storage Array	Fix a race condition in which File System defrag that has been completed is not marked as completed
11583	VPSA Storage Array	Drive failure tickets are sent asynchronously in order to avoid any delay in VC failover if needed

Major Changes & Bug Fixes in 17.11 Build 228

#	Component	Description
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11515	VPSA Storage Array	Improve Raid1 drive replacement in different cases where another drive failure might cause the RAID Group to fail
11542	VPSA Storage Array	A flag of "SMB Encryption" was added to backups to Object Storage to prevent restore problems for Volumes using this option
11544	VPSA Object Storage	Fixed a regression issue in which Object Storage is not functioning after creation

Major Changes & Bug Fixes in 17.11 Build 224

#	Component	Description
11503	VPSA Storage Array	Fixed an issue in which failure of drive replacement can fail the entire RAID Group and crash the VPSA

Major Changes & Bug Fixes in 17.11 Build 223

#	Component	Description
5104	Storage Node	Fixed a false SMARTD alert about drives wear-out level
10709	VPSA Storage Array	Fixed a language error on reconnect mirror dialog
11346	VPSA Storage Array	Fixed a deadlock situation of SMB file system
11395	VPSA Storage Array	Fixed a problem when purging multiple volumes at once
11396	VPSA Storage Array	Samba was upgraded to 4.5.15 in order to address several important security vulnerabilities: CVE-2017-15275, CVE-2017-14746
11399	Command Center	A display issue of command center, showing drives incorrectly as absent, was fixed
11446	VPSA Storage Array	Fixed an issue in which Windows 10 client could not connect to VPSA SMB share if "Send LM & NTLM" is used

Major Changes & Bug Fixes in 17.11 Build 211

#	Component	Description
6185	VPSA Storage Array	Added an option to calculate expected capacity from selected Raid Groups in expand pool dialog
6460	Cloud Controller Command Center	Support of multiple Custom Networks per tenant
6754	VPSA Storage Array	Pool structure is displayed in RAID Groups tab
7421	VPSA Storage Array	Added login attempts (successful and not) to the VPSA Access logs
8597	VPSA Storage Array	It's now possible to create a new policy and add drives to existing policy from the provisioning Portal or command center in a single step
9309	VPSA Storage Array	Added support for SMB Encrypt secure protocol
9552	VPSA Object Storage	New Object Storage availability zones to better protect the objects copies

10230	Command Center	Added display of "Allocatable IP Ranges" in the Custom Networks grid
	VPSA Storage Array	Zadara Containers CPU usage chart moved to Virtual-Controller page on "Container Service CPU Usage" tab. There is an option to set custom values for CPU and Memory usage alerts.
10572	Command Center	Active VCs display added to storage nodes view
10582	VPSA Storage Array	Filter Volumes by name in volumes table and attach volume dialog
10593	Command Center	MegaRAID adaptor info added to the SN dashboard
10594	Command Center	Storage node uptime info added to the SN dashboard
10599	Command Center	CPU info added to the SN dashboard
10623	VPSA Storage Array	Identify and warn when S3 bucket used for backup has a lifecycle policy
10624	VPSA Storage Array	Snapshot Policy Creation time is distributed if too many snapshot are scheduled for the same time (like on the hour) to avoid temporary heavy load
10646	VPSA Storage Array	New pools type (Archive) for static data that can grow up to 200TB
10754	VPSA Storage Array	Added support for AIX MPIO
10761	VPSA Storage Array	Added comment (free text) field to the following objects: <ul style="list-style-type: none"> • RAID Groups • Pools • Volumes • Servers • Mirrors • Container Services - Images • Container Services - Containers
10764	VPSA Storage Array	Fix a rare Samba panic which may happen when accessing the same file from multiple clients.
10765	VPSA Storage Array	Added display of volumes connected to each snapshot policy
10845	Provisioning Portal	Chinese language is now presented correctly upon language change
10850	VPSA Storage Array	Added Active Directory exclusion list (ignore multiple domains)
11017	Storage Node	A fix in Mellanox driver prevents rare situations of Node crash
11064	VPSA Storage Array	
11060	VPSA Object Storage	Minimal configuration of Object Storage VPSA is now: 2-way: 2 VCs, 4 drives (2 drives per VC) 3-way: 3 VCs, 6 drives (2 drives per VC)
11085 10061 11223	VPSA Storage Array Storage Node	New Qlogic HBA Firmware (8.07.70) and Driver (8.07.00.24.Trunk-SCST.17.15-k-01) solve number of instability issues with Fiber Channel attached hosts
11315	VPSA Storage Array	Max number of SMB File History snapshots increase to: 64 per volume; 512 per VPSA
11359	VPSA Storage Array	It is now allowed to define TCP and/or UDP port or port range per ZCS Container

4. Known Issues and Limitations

#	Component	Description
455	VPSA Storage Array	VPSA GUI is not support on IE-8
542	VPSA Storage Array	Failure of both active controller and a drive at the same time may result in a temporary failure of RAID5 group. To recover, either wait for the drive to come back online, or issue "Force Recover" from the VPSA GUI.
661	VPSA Storage Array	Linux Server LVM limitation: It is required to de-activate LV before issuing iSCSI logout. Failing to do so will result in a failure to re-login to a VPSA iSCSI Target.
867	VPSA Storage Array	Enabling IPsec may affect IO throughput in some Windows machines
1186	VPSA Storage Array	The option to replace a drive in a 'rebuild' state is blocked Workaround: Replace the drive once rebuild completed
1257	VPSA Storage Array	"Server Connect" requires open-iscsi initiator on Linux-based Servers
1614	VPSA Storage Array	Servers behind a NAT are not supported (for NFS or iSCSI connectivity).
1795	VPSA Storage Array	For a proper NFS functionality, need to run Server Connect after NFS client is installed on the Server
2048	VPSA Storage Array	Multiple drives removal through VPSA GUI may fail if one or more of those drives store VPSA Boot data. Workaround: Remove the drives one by one
2273	Storage Node	When adding a first drive of a new drive type to the Zadara Cloud (HDD, SSD or Cache SSD), you must wait 1 minute before allocating such a drive type to a VPSA. Please note that removing the last drive of a given drive type removes this drive type from the Cloud.
2382	VPSA Storage Array	IO onto an NFS share may be suspended up to 2 min following a VC failover or shutdown due to slow retry logic on the NFS client side.
2409	VPSA Storage Array	Microsoft Limitation: If you are creating a clone of a Microsoft cluster volume/disk resource through the VPSA GUI and assign the clone to the same cluster nodes, the disk will come online as Reserved on both nodes. Hence, you will not be able to access the disk or add it as a new disk resource. Workaround: To prevent this from happening you can change the disk id from within diskpart. Please follow the steps below: <ol style="list-style-type: none"> 1. Assign the clone to a non-clustered server. 2. Login to the server and online the drive through Disk Management utility. 3. Open a command line and type "diskpart" 4. Now follow the next diskpart commands: DISKPART> list disk DISKPART> select disk [type here the disk number of your clone] DISKPART> uniqueid disk id=[type here a unique ID, should be 8 digits] 5. Goto VPSA GUI, detach the clone from the non-clustered servers and attach it to your clustered servers. 6. Now you can use the clone as a cluster disk resource.
2593	VPSA Storage Array	If a RAID-5 rebuild of a new or replaced Drive is aborted, when it is resumed - it will restart from the beginning.

2920	VPSA Storage Array	VPSA GUI is presenting wrong metering values for controller's cache and system if Read or Write chart are disabled
3350	VPSA Storage Array	If a VPSA does not expose LUN 0 and LUN 1 (but exposes other LUNs), Linux iscsiadm will not present any other VPSA LUNs. Windows Hosts will not present VPSA LUNs greater than 7.
4363	ALL	Moving from local license server to public license server and vice versa is not supported
4916	Command Center	"Add Drive" operation (via Command Center) can be performed only against VPSA with software version 14.11 or newer.
5033	SN	Maximum 11 VCs are supported on a Storage Node with Mellanox NICs
5578	Storage Node	Disk is not removed from SN drives list upon ejection if previously it was moved between different slots
5639	VPSA Storage Array	VC failover may fail if HB network is down
5851	VPSA Storage Array	IOs from Containers are not counted in Volume's performance metering
6501	VPSA Object Storage	Customers using external Load Balancer, should upload a custom certificate generated for the matching IP\domain name, or they will get SSL warning when connecting to the ZIOS.
7051	VPSA Object Storage	It takes few minutes for ZIOS account capacity to update
7067	VPSA Object Storage	When an account member is connected to the GUI, and the zios admin switches between SSL termination on-off, the member does not see the updated REST URL until she logged out and in again
7169	VPSA Object Storage	SSL Certificate trust warning when using Public IP for Object Storage. Customers are advised to bring their
7616	VPSA Object Storage	Account is created with no permissions when untrusted custom SSL certificate is used
7795	VPSA Object Storage	Setting container permissions via S3 browser is partially supported
7806	VPSA Storage Array	Can't mirror encrypted volumes from 16.05 VPSA to a remote VPSA running 15.07 or earlier versions
8104	VPSA Storage Array	SMB File History snapshot cannot be deleted if Restore is in progress or snapshot is in use
8125	Provisioning Portal	When creating VPSA 15.07 over Cloud 16.05, must set Extended cache bar to Zero
8142	Provisioning Portal	After upgrading the cloud, the option to create new ZIOS will be missing for few minutes...
8186	VPSA Storage Array	NAS Quota Limitations: <ul style="list-style-type: none"> - Changing the default quota limit does not affect existing users/groups - Cannot monitor users consumption without setting quota - User's consumption is taken in account only for her primary group, even if the user belongs to multiple groups - Quota limits might not be effective for users defined in trusted domains
8377 8786	VPSA Object Storage	Some GUI functions do not work if GUI was opened via Command Center: ZIOS Console, Account Permissions tab
8423	VPSA Storage Array	Explicit ALUA mode is not supported in FC host connectivity
8496	VPSA Object Storage	Metadata policy expansion is not supported when the first 3 VCs are fully populated with drives
8471	Cloud Manager	If FC HBA is removed from an SN that hosts VPSA with FC enabled, the VC's will fail to start. All VCs of VPSAs with FC support should be evacuated or deleted before removing the FC HBA.

8535	VPSA Object Storage	If an account is created during the first minutes after VPSA Object Storage creation (while policies are in "Not Ready" state) it will have no permissions set. Permissions will have to be set later
8540	VPSA Object Storage	When uploading a custom certificate, it is used for objects operations (REST API) however GUI keeps using the default certificate
8789	VPSA Object Storage	When creating an account via ZIOS API, the default account permissions (allow all members) is not automatically assigned to it, as it is when the account is created via the GUI.
8841	Storage Node	Link failure and recovery ticket is sent only for the primary interface of the bebond for Case-B (back-to-back BE connection)
8901	VPSA Storage Array	B2S3 uses its own mechanism to maintain its backups, do not delete any of the objects stored by the B2S3 service, nor archive them to Glacier
8915	VPSA Object Storage	Policy metering shows wrong display of GET operations
8941	VPSA Storage Array	User may get a warning message which says that Destination share has newer data than source following to break and reconnect
9087	VPSA Storage Array	File system quotas: Import of quota CSV file does not work
9089	VPSA Storage Array	User or Group hard limit inherits the value of the last updated default limit of user or group in case the hard limit of the user or group is set to 0
9146	VPSA Storage Array	A volume with file history enabled can't be a mirror destination. As a result, one cannot reconnect a mirror job in the opposite way if file history is enabled on the original source volume.
9165	Command Center	Site domain name will be lost on every CC failover in 15.07 cloud, and on cloud upgrade from 15.07 to 16.05 or 16.05-sp1.
9248	VPSA Object Storage	Policy/Account metering shows wrong units (B instead of TB)
9249	VPSA Object Storage	There is a 30 GB difference between the "used capacity" displayed in Policy and Account
9288	VPSA Object Storage	Evacuation of a VC out of an offline (down) SN is not possible. VC will recover once the SN is replaced and up again. Drives can be evacuated if required
9240	VPSA Storage Array	A Block volume cannot be attached to iSCSI and FC servers at the same time
9406	VPSA Object Storage	Constant high CPU usage might be experienced when Object Storage is out of space
9652	VPSA Object Storage	UTF-8 containers\objects names cannot be handled via S3 interface. Swift interface must be used for multi byte characters support
9759	VPSA Storage Array	SMB client will continue to have access to a share after it was detached if this share is attached to other SMB clients
9822	Storage Node	When upgrading Fiber-Channel enabled SN, if SCST needs to be restarted, it will cause all the SN drives to go offline for a short period of time
9886	VPSA Object Storage	zios_admin account is created with no member permissions
9959	VPSA Object Storage	It takes 5 minutes to the new container\account permissions to take effect
10075	VPSA Storage Array	Cannot select a primary SMB group on NAS user creation when NFS & SMB option are checked
10240	VPSA Storage Array	NAS Project Quota - Impossible to add a directory with space to the project
10405	VPSA Storage Array	SMB File History policy cannot be detached from a volume as long as Server is attached
10407	Command Center	Command Center can't reboot a Storage Node as long as there is CCmaster active on it

11164	Command Center	Docker containers moves to a fail state after 'restoring' a VPSA with a different custom network than it was created with initially
11173	Command Center	AD authentication: AD users with post-win-2000 login name that is different from their pre-win-2000 login name, can login into Command Center only using their pre-win-2000 login name