



Elastifile

ECFS v3.2.1 GA

Build 3.2.1.51

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## Product Overview

The Elastifile Cloud File System (ECFS) is an all-flash, primary storage solution for Cloud Deployments and Next-Gen SDDC (Software Defined Data-Centers). By augmenting default cloud instances or commodity hardware, with intelligent software, Elastifile designed an all-flash elastic scale-out software-defined storage solution. The Elastifile Cloud File System supports both transactional and batch workloads with unparalleled efficiency. Combining the flexibility of a software-only solution with advanced all-flash storage optimizations, the Elastifile Cloud File System delivers flash performance while reducing storage costs. The Elastifile storage solution is delivered as a **software-only** (BYOH - Bring Your Own Hardware), all-Flash, **distributed file-system** serving as an enterprise-grade scale out primary storage. The Elastifile Cloud File System converges compute and storage resources scale linearly and expand elastically providing tens of millions of IOPS at consistently low latency.

Elastifile CloudConnect enables efficient on-going transport of data from on-premises file systems into S3 compatible Cloud. CloudConnect mounts any legacy file system on the source side, and sends ongoing space-efficient compressed and deduplicated data for migration and retention in the cloud as object storage.

CloudConnect identifies changes in the file system and supports versioning of stored file systems while sending only changed data between versions. Data can be kept in the cloud in object format, viewed or read in-place as a file system, restored back to the source file system, or can also be checked out on demand in the cloud into ECFS (Elastifile Cloud File System) for use as a high performance distributed file system that retains the original file structures. In version 3.2.1 CloudConnect is an integral part of the solution and is used for Object Tiering (alpha preview).

## Implementation Architecture

The Elastifile Cloud File System is deployed by placing an Elastifile controller on each cloud instance or physical server in an Elastifile cluster. Each Elastifile controller performs multiple functions, such as exposing NFS to the guests or external clients and providing metadata, control services, and/or managing physical flash resources on the server where Elastifile controller resides.

The controllers in the Elastifile cluster replicate and distribute the data. The controllers expose a unified distributed file system accessible through any of the cluster nodes. The controller is managed through a central management pane.

## Enterprise-Grade Management and Storage Feature Set

The Elastifile Cloud File System provides enterprise-grade, highly available management and storage features optimized for an all-flash deployment. Files are grouped into data containers. Each data container's attributes can be managed by policy. Advanced storage features can be assigned to data containers using policies, including data reduction functionality such as deduplication and compression, as well as system resiliency through data replication. Data containers can be exposed as NFS shares through multiple exports providing the enterprise with full flexibility to deploy Elastifile NFS shares either directly to guest VMs, containers or any bare-metal client. Logical Data protection using Read-Only snapshots and Disaster Recovery protection using Asynchronous Replication can be defined at the Data Container level.

## Integrating file storage and object storage (alpha - preview)

Most enterprise applications are designed to interface with a file system. These applications expect to see file and directory structures and they expect standard file system protocols (e.g. NFS). At the same time, however, object storage delivers the lowest cost-per-GB-per-month and has established a well-deserved reputation as the "cheap and deep" cloud storage layer.

### Copy data management

Most enterprises expect to retain periodic snapshots of data state for recordkeeping and to facilitate data restoration/recovery. In the cloud, however, the cost of the underlying storage infrastructure must be carefully considered as snapshots can rapidly accumulate. To enable retention of the desired data state, while still complying with IT budget constraints, enterprises need modern mechanisms to cost-effectively store snapshots in the cloud.

## New Key Capabilities Provided in Version 3.2.1

Elastifile Version 3.2.1 is intended for enterprise deployment and in cloud deployment providing the following key capabilities:

1. Dedicated storage with External NFS deployment model
  - a. High availability and load balancing of clients connections
  - b. Support for L2 and L3 client network
2. GCP/On-Prem deployment
3. Disaster Recovery using Asynchronous Replication between two Elastifile systems
  - a. Multi Replication services support for HA and performance
  - b. DC to DC level replication
  - c. Replication direction switch
  - d. Create a test image from a snapshot
4. Highly Available Management and monitoring system
5. Data reduction (compression and deduplication)
6. Scalability from 3 to 32 nodes
7. Read-Only Snapshot
8. Non-Disruptive Upgrade
  - Upgrading from version 3.0.1.4/3.1.0.8 is supported (GCP to GCP)
  - Earlier versions - please contact support to get the correct upgrade path
9. Hot add/remove nodes
10. 2-way internal data replication
11. Soft/hard quotas for data containers
12. A suite of enterprise-grade high availability features:
  - a. Recovery from loss of nodes
  - b. Recovery from loss of a device
  - c. NIC failures (in multipath mode)
  - d. Data recovery from complete cluster power loss
13. eMRI log collection mechanism
14. ClearTier Object Tiering (Alpha-preview)
  - a. Policy-based tiering of cold data to an object store of your choice.
  - b. "Infinite" snapshot retention in the object store
15. Multi Availability Zone support
16. Single Zone HA utilizing persistent disks protection increasing storage utilization and reducing costs.

## Supported Deployments & System Requirements

The following deployment models are supported for testing with Version 3.2.1 GA:

- **Dedicated Storage Mode<sup>1</sup>**

A designated set of dedicated storage nodes provide storage resources while exposing an external NFS interface. The NFS Virtual IP can be accessed by any external client regardless of the client deployment mode (Physical, Virtual, Container). A highly available self-load balanced mechanism ensure clients connectivity to the front end process is maintained.

- **GCP Deployment**

Utilizing cloud resources Elastifile combines predefined compute and storage devices into a scalable, highly available file system offering the full capabilities as on-premises Elastifile File System

The following table summarizes the key capabilities and system limitations provided in this version:

Feature	Version 3.2.1
<b>Environment</b>	
Interface	NFSv3
<b>Deployment Scale and Capacity</b>	
Number of nodes supported in Dedicated Storage Mode	3 to 32 <sup>2</sup> (4 storage nodes recommended)
Number of devices (per node)	Dedicated Storage node: 12 devices <sup>3</sup> GCP: see GCP configuration table
Max device capacity	4 TB
Max capacity per node	Dedicated Storage node 48 TB
<b>Reliability &amp; Availability</b>	
Replication	Global setting at setup 2 way or 3-way <sup>4</sup> GCP: 2-ways on single availability zone 2- ways on multiple availability zone
Networking failure	Supported in DSM full multipath mode
Storage device failure	Supported <sup>5</sup>
Node failure	Any node can fail without loss of data

<sup>1</sup> Do not install or upgrade to this version in DSM unless instructed by the support team

<sup>2</sup> For deployments over 20 nodes please contact Elastifile support

<sup>3</sup> 2,4,8,12 devices were tested

<sup>4</sup> 3 Way replication requires a minimum of 5 nodes in the cluster and is not recommended for production.

<sup>5</sup> Full rebuild will initiate including the remaining node storage devices.

Cluster failure/power outage resilience	Supported
Call home	Supported
eMRI	Supported
<b>Data Reduction</b>	
Compression	Optimized
Deduplication	Not Performance Optimized
Compactization (data reduction capacity reclamation)	Supported
<b>Number of Cores Used for Virtual Controller<sup>6</sup></b>	
Dedicated storage node	Up to 20 <sup>7</sup>
<b>Minimum Memory</b>	
Dedicated storage node	128GB
<b>Local SSD for DSM Controller</b>	
Local SSD for DSM Controller	256GB
<b>EMS Requirements</b>	
Number of cores	4
RAM	8GB
SSD	64GB
<b>Replication Service Requirements (minimal)</b>	
Number of cores	4
RAM	16GB
SSD	32GB
1 bidirectional replication per core, each core requires 4GB RAM. The number of cores can be increased.	
<b>Management Model</b>	
Managed objects	System, data containers, exports, hosts, devices
Dynamic add/remove node	Supported <sup>8</sup>

<sup>6</sup> Numbers indicated supported production core counts. Additional core deployment options available in lab mode for testing only.

<sup>7</sup> The installation will use all cores available in the physical server, only dual socket 6 cores, dual socket 8 cores, and dual socket 10 cores are approved. Please contact support for any other CPU configuration.

<sup>8</sup> Multiple node additions can be requested in one operation, otherwise processed management operations (such as add node) must complete before a new operation can be started.

Soft/Hard quotas	Supported
Basic analytics and statistics	System, node, data container, client VM
<b>Max Parameters</b>	
Max number of files/folders <sup>9</sup>	2 <sup>64</sup>
Max files/subdir per folder	2 <sup>64</sup>
Max active files per node	64,000
Max number of connections per node	1000
Max number of GUI sessions	3
Max number of data containers	a. Up to 50 with snapshot scheduler or Snapshot to Object b. Up to 4 with Async DR
Max number of exports per node	1000
Max length of filename/directory name	255
Max file size	2PB
Max number of snapshots on primary tier	255
Max number of snapshots on object tier	2559

The following are the default cloud configurations supported in version 3.2.1.51

### GCP Configurations

Configuration	Instance Type	# CPUs	Total RAM (GB)	# Devices	Capacity per Node (TB)	# Min Nodes
EMS	n1-standard-4	4	15	1	0.100	1
Replication Agent	Custom	4	16	1	0.100	1
Small (Persistent-SSD)	Custom	4	32	4	0.7	3
Medium (Persistent-SSD)	Custom	4	42	4	4	3
Medium Plus	Custom	8	64	4	4	3

<sup>9</sup> Design limit. The actual number of files may be limited by cluster capacity.

(Persistent-SSD)						
Large (Persistent-SSD)	N1-highmem 16	16	104	5	20	3
Local SSD*	Custom	16	96	8	3	3
Small Local SSD*	Custom	4	42	3	1.125	3
Standard PDs*	Custom	4	64	4	4	6
Small Standard* PDs	Custom	4	32	2	1.3	3

**Note:** Starting from version 3.2.1 the minimal node configuration is enforced in the GUI.

**\*Note:** Local SSD and Standard PD are not for production

## Fixed Issues in ECFS 2.x

For fixed issues in versions before version 3.0.0 please refer to older copies of the release notes

## Fixed Issues in ECFS 3.0.x

For fixed issues in versions before version 3.1.0 please refer to older copies of the release notes

## Fixed Issues in ECFS 3.1.x

For fixed issues in versions before version 3.2.0 please refer to older copies of the release notes

## Fixed Issues in ECFS 3.2.1.8

### [EL-13159] It is possible to change capacity while the system is in lockdown

EMS allowed the user to add/remove capacity while the system is in lockdown which can cause problems during recovery attempts.

### [EL-13211] Adding RA does not add it to the UI

If all of the system's RA were deleted from the Google Console, but not from the system DB. Adding more RAs does not add them to the UI.

### [EL-13158] Performance graphs blink out of the UI

In some cases, the performance graphs in the dashboard disappear from the UI.

### [EL-13943] Dual failure of EMS and storage node might need manual reactivation

When working in a single zone HA mode failure of the EMS and one of the storage nodes will cause the system to enter a lockdown mode and require a manual reactivation

### [EL-12907] System with single zone HA does not recover from double failure

If a failure occurs during the recovery cycle the system didn't retry the recovery.



**[EL-13115] Replication agent looks like it was removed while it is still on**

The system prevents removing the last RA in case ClearTier is operational, the GUI has a false indication that the RA is removed.

**[EL-13077] Failure in a persistent disk caused the system to be in a loop without indication**

Failure in a data persistent disk, while running in single zone HA, caused the system to be in a recovery loop without any indication to the user.

**[EL-14183] ClearTier: Failed to cool a snapshot with space in the name**

Snapshot cooling failed if the snapshot had space in the name.

**[EL-13976] Multi-AZ: system with 6 nodes was installed in 4 zones**

Multi-AZ system with 6 nodes was installed in 4 zones instead of 3.

**[EL-13930] logs are not rotated correctly**

Old logs were not rotated correctly and consumed disk space on the EMS.

**[EL-13284] Add support to NDU with manually managed Load-Balancer**

NDU failed when the cluster was installed with a manually managed load-balancer.

**[EL-13626] New system is created with ECS panic in the log**

On initial system start-up ECS tried to load before the boot.conf was ready and panicked, resulting in an unnecessary log entry.

**[EL-14317] NDU didn't finish due to Java boundaries error**

NDU didn't finish and old nodes were not removed due to Java boundaries error.

**[EL-14315] Nodes were not removed at end of NDU**

The no-name-server configuration got reset causing the node removal stage of the NDU to fail.

**[EL-14313] Remove the log-collection "Auto/Manual" column in the UI**

The value is never set and the column is always empty.

**[EL-14179] Cluster reactivation failure after node removal**

In a rare case of cluster reactivation after node failure during another node removal (test procedure), the cluster failed to restart.

**[EL-13048] GUI: Window flash during EMS upgrade**

During the EMS upgrade stage of the NDU the screen keeps on flashing and not showing any progress.

**[EL-14455] NLM lock break CLI does not support IP addresses**

Lock break CLI command ("elfs-cli system break-lock") supports only MAC addresses and not IP addresses.

### **[EL-14236] NLM sub range release left orphan locks**

When a client unlocks a subrange of previously lock requests, npal\_locks does not copy the entire metadata of the lock to the new lock, which leaves an "orphan" lock, which cannot be released.

### **[EL-14029] ECS crashes when a node is turned off**

ECS crashes when trying to get the NIC status of a node that was turned off.

### **[EL-13864] Terraform deployment failed when trying to set "lb\_vip" to null**

Terraform validation failed on available VIP verification when trying to set Elastifile load balancer.

### **[EL-14046] Changes to the NLM grant request mechanism when working with a VIP**

Cluster outbound grant message was sent from the wrong IP addresses when working with a VIP and multiple clients.

### **[EL-13614] Snapshots: Multiple deletions of snapshots failed**

The system prevents multiple snapshots operations on the same DC.

### **[EL-13060] ClearTier: Actual statistics of data tiering policy appear as N/A**

If there are no files in the system or when all the files from the primary storage are cooled the statistics will be shown as N/A

### **[EL-14307] ClearTier: Object GW crashed on multiple accesses to a zero blub**

A race condition might occur if two operations are done in parallel on the same zero blub causing the object GW to crash.

### **[EL-14213] EMRI: logs do not contain the EMS logs**

Automatic EMRI logs created automatically when a node is fenced didn't contain the EMS logs.

### **[EL-13872] Stopped node deletion failed**

Trying to delete a node that was already stopped failed.

### **[EL-13090] ClearTier: System might show snapshot size while there are no snapshots**

During file creation, the system might report snapshot size while there are no snapshots in the system. The statistics are reported correctly after some time.

### **[EL-13068] ClearTier: bucket deletion didn't work**

Marking the bucket for deletion when deleting a DC didn't delete the bucket.

### **[EL-13067] ClearTier: GUI data size didn't show the object size**

Data size column in the DC list UI didn't include the object data size.

### **[EL-12989] Single Copy recovery might fail due to device error**

In rare case, auto system recovery failed due to high latency when adding a device.

**[EL-14768] ClearTier: Snapshot export can be deleted by the user**

The internal snapshot used by the cooling process can be deleted by the user

**[EL-14258] ClearTier: Snapshot deletion from the object store failed**

Snapshot deletion error was not handled correctly leaving deletion operation in progress.

**[EL-14074] Multiple events are sent to the UI**

Multiple “Calculated new data distribution map” are sent to the UI.

**[EL-14003] Performance graph misses 10 min of data after NDU**

Performance graph does not show data for about 10 min after NDU.

**[EL-13894] Async DR: failed to add RA if all other RA failed**

If all the RA in the system are in failed status, it was impossible to add a new RA.

**[EL-15641] Async DR: GUI error message hides the OK button**

In some cases when the error message is too long it hides the make active OK button.

**[EL-15505] Local disk, the system removed the wrong node**

The system failed to remove a node with failed disks and removed another node instead.

**[EL-15406] EMRI process can fill the system disk**

EMRI process was using the /tmp dir and can fill the system disk.

**[EL-15280] Async DR: all sync exceeded RPO but showed as synced**

Sometimes all DC are showed as synced even though they’ve all exceeded RPO.

**[EL-15213] ClearTier: readdir on .Object should be answered locally**

Readdir on .object was sent to the GW instead of being answered from the local file system.

**[EL-15168] Async DR: UI dialog stays open after clicking stop**

Stopping replication keeps the dialog open without disabling the button making it unclear if the button was click or not.

**[EL-15027] Async-DR: setting changes are not shown in the UI until a refresh**

Replication setting changes are not shown in the UI until it is refreshed.

**[EL-14875] System deployment failed when customer defined FW rules manually**

The system didn’t check if the FW rules were already defined.

**[EL-14874] ls on .object takes a long time**

Running metadata operations on .object takes a long time.

**[EL-15762] ClearTier: running cooling operation after lockdown failed**

Running the same cooling operation after the system recovered from a lockdown failed.

### **[EL-15972] FW rules should support elfstop ports**

Elfstop ports should be enabled by default to support debugging.

### **[EL-15840] ecs events are queued and cause system lockup**

The event suppression mechanism starts to slow when the event log is big (over 2.5M entries) and as result events are queued and can cause a node panic or even a system lockdown.

### **[EL-14684] long-running CLI commands might end with a timeout**

Running cli commands that take too long might end with a timeout and “401 Unauthorized” error message.

### **[EL-15688] Async DR: Cold upgrade fails when Async DR operations are in the background**

The cold upgrade stops the cluster causing async DR operations to fail which cause the RA to be unresponsive.

### **[EL-15703] ClearTier: failed node’s tasks are overloading another node**

When a node fails all the tasks are moved to another node instead of being redistributed.

### **[EL-13124] Cloud instances are deployed without delete protection flag**

Users are advised not to delete any Elastifile instance that is still in use by the cluster.

### **[EL-12941] New nodes are shown as faulty**

When adding new nodes to the system, they’ll appear as faulty until the rebalance process is done, since they do not have a full copy of the data.

### **[EL-13870] Add capacity in AWS with LB configuration might not work**

In some cases adding capacity to a system in AWS when working with network load balancer might not add the node to the cluster.

### **[EL-15490] Async DR: It is possible to create export on passive snapshot but not remove it**

It is possible to create an export on a snapshot on the passive data container but it is not possible to remove it as long as the DC is passive.

### **[EL-15727] ClearTier: DC list does not show DC size if object store is not defined**

In case the object store is not defined in a system the DC list does not show the total DC size.

### **[EL-11022] Async replication might fail if the number of files per directory is close to the max**

During replication, the Async Replication first adds new files and then delete the removed ones. If the number of files is close to the max number of files per directory the operation might exceed the max number and fail.

### **[EL-6749] Used capacity is wrong after EMS stop and start**

Stopping the EMS server can cause a used capacity drift.

### **[EL-13599] During NDU all the new nodes looks as faulty**

The system adds new nodes as part of the NDU process but marks them as faulty until the NDU is done.

### **[EL-13886] File attribute change failure**

In some rare cases changing multiple files' attributes failed.

### **[EL-14147] ECS panic during initial deployment**

Due to the deployment order, ECS started and panic since the system was not ready yet, causing an unnecessary log creation.

### **[EL-14293] NDU process does not add the cluster hash to the RA**

When upgrading from a system that was not supporting the cluster hash routing rules, the process didn't update the system RA with the new hash.

### **[EL-14298] Showmount didn't return the full list of exports**

Showmount was limited to 64KB and didn't return the full list. The new limit will be 600 exports

### **[EL-14309] GUI: rebuild look stack at 25%**

When trying to remove a node from a system with 90% utilization, the remove process fails as expected but the GUI shows the rebuild as stuck at 25%.

### **[EL-14331] Adding 4 nodes caused a system lockdown**

Trying to add 4 nodes to a system caused a system lockdown due to map distribution limitation.

### **[EL-14442] Async DR failed due to FW rule**

Even though Async DR is using TLS and port 443, it is looking for port 80 due to backward compatibility. Port 80 was missing from the automated FW rules causing Async DR to fail.

### **[EL-14653] EMS DB reached 10GB**

EMS DB size grows due to empty snapshot statistics records.

### **[EL-14711] ClearTier: Object store synchronous operation might fail**

In some cases creating a version or linking a DC to a bucket failed

### **[EL-14718] Snapshot Scheduler: changing the cooling time to 0 didn't stop cooling**

Zero value was not treated as never but as an immediate cooling. Added the option to specify "Never" in the UI

### **[EL-14757] ClearTier: RA should handle more snapshot delete operations**

As snapshot delete operations are light in resources, the RA should be able to handle more operations in parallel.

### **[EL-14759] Internal export events should be hidden from the UI**

Create and delete export for ClearTier and Async DR should not overload the GUI.

**[EL-14805] Using an invalid hash during the deployment issue multiple errors**

Using an invalid hash during the installation resulted in service account scope errors.

**[EL-14808] Insufficient service account permissions were reported as warning**

Insufficient service account permissions, that prevented deployment, were reported as warning only.

**[EL-14810] Quota validation test**

Quota validation test was removed from the first stage and is done before the cluster is deployed.

**[EL-14868] ClearTier: Allow multiple concurrent operations on a single DC**

User shall be able to delete multiple cold snapshots on a DC or delete a snapshot while another is being cooled.

**[EL-14873] NLM: Grant UDP messages didn't reach the client**

If client listening UDP port changed the NLM grant message never reached it.

**[EL-15001] ClearTier: GUI percentage has too many digits**

GUI shows too many digits after the decimal point.

**[EL-15034] Snapshot scheduler not responding**

On DSM system after EMS failover it is possible that the DC status won't be set, causing snapshot scheduler creation to hang.

**[EL-15080] EMRI: log collection should include eSync traces**

Collecting logs didn't include the eSync traces.

**[EL-15190] Disabling export does not disable cache**

Disabling an export does not invalidate the caches allowing some I/O to continue being served.

**[EL-15192] Async DR: Full replication after lockdown recovery**

The async process started full sync after lockdown recovery instead of an incremental one.

**[EL-15314] Async DR: System didn't prevent writing during role change**

The system allowed to write to the active cluster while it was being demoted to passive.

**[EL-15631] MySQL deadlock errors in the logs**

The system had multiple MySQL deadlock error in the log.

**[EL-15638] Sort by replication role was not working**

In the GUI, trying to sort by replication role didn't work

**[EL-15668] Cold upgrade failed if EMS had NFS mounts**

NFS mounts on EMS prevented the cold upgrade from running. Elastifile mounts are removed and recreated, user mounts are removed. User should not manually mount NFS from the EMS.

### **[EL-15758] Large write failure may cause node fencing**

In some rare case a large write failed and when retried caused a node to fence.

### **[EL-15787] NDU caused the name server setting to reset**

No name server settings were reset after NDU.

### **[EL-13657] ClearTier: default buckets are changed to multi-regional**

When setting ClearTier using the default one-click settings the object store bucket is created as multi-regional.

To create a regional bucket, please use the manual mode and specify the region.

### **[EL-14597] ClearTier: reduce the number of saved rotated logs**

Replication agent disk might get filled due to the number of logs being retained

### **[EL-14459] ClearTier: adjust the level of logs**

Replication agent disk might get filled due to logs using debug level settings

### **[EL-14517] ClearTier: avoid reading the stderr file if it too big**

CCWEB process in Replication Agent failed due to a large log file

### **[EL-14478] ClearTier: Change waiting period for ELCC status**

CCWEB process waiting status should be increased to 120 seconds to avoid timeout if ELCC is busy.

### **[EL-13623] ClearTier: Trying to cool/warm a large directory can cause OOM**

Directory scan was held in memory and failed if number of files was very large (around 2M files)

## **Fixed Issues in ECFS 3.2.1.19**

### **[EL-16601] ClearTier: Warm DC left files on the cold tier**

Warming a full DC using the warm DC command left some file on the cold tier due to limitation in number of open files per Replication Agent

**Note:** If during the warm DC command, the user performs move on existing data it may cause files to be left on the cold tier.

### **[EL-16591] ClearTier: unaligned big writes over cold data caused a system lockdown**

Large unaligned writes, over 1.5MB, over cold data caused a system lockdown.

### **[EL-16584] FW rules missing local subnet**

Automatic FW rules during system deployment didn't open the local subnet for all traffic, forcing the user to add NFS client tag to all clients.

**Note:** If this FW rule is too open, you can remove it and use tags instead.

### **[EL-16561] Create Snapshot command during node failure should be blocked**

In single zone HA mode, any operation should be blocked if a node failed, until the system recovers

### **[EL-16543] NDU failed if password had special characters**

Temp password created for the service included special characters that failed the EMS upgrade.

### **[EL-16601] ClearTier: Warm DC task failed**

In some rare cases the task to warm DC failed when trying to warm a DC with high number of files

### **[EL-16467] ClearTier: Colling files faild**

Cooling files that ended with backslash “\” failed.

### **[EL-16466] ClearTier: large DC scanning was very slow**

Scanning a large DC with over 2M files was very slow.

### **[EL-16458] ClearTier: Change Default Policy**

Default cooling policy is set to be based on files’ access and modify time and not on system utilization percentage.

### **[EL-16628] Async DR: failed to replicate a DC when cluster size is over 20 nodes**

When the cluster size is larger than 20 nodes trying to replicate a DC got an error in the replication agent.

### **[EL-16828] ClearTier: failed to delete a cold snapshot**

When a file appeared in several directories in a cold snapshot, deleting this snapshot may fail.

### **[EL-16817] NDU: NDU failed if replication agent was patched manually**

In some cases if the RA is patched manually the NDU process may fail.

### **[EL-16812] ClearTier: All logs were saved in a single folder**

All the replication agent logs were saved in the same folder.

### **[EL-16808] eMRI: process didn't collect RA logs**

RA logs were not collected during the eMRI log collection process.

### **[EL-16675] EMS recovery process didn't work**

EMS recovery process didn't work and could result in node deletion

## **Fixed Issues in ECFS 3.2.1.20**

### **[EL-16974] Async DR: ECS restart can load tasks that can't run**

In case of multiple background tasks, an ECS restart can reload tasks that has other dependencies and cannot be completed, thus preventing other tasks from running.



### **[EL-16941] Upgrade logs are not published to stackdriver**

Upgrade logs are not pushed to stackdriver even if configured.

### **[EL-16935] Failed to add RA after upgrade**

The RA host and availability zone were not stored in the internal file system and become empty after upgrade, thus preventing adding additional RAs.

### **[EL-16934] RA is not deleted from internal filesystem**

Deletion of RA only removed it from the EMS and not the internal file system and can cause an upgrade process to fail.

### **[EL-16923] ClearTier: Snapshot cooling failed on unsupported filename encoding**

If a snapshot had files with non UTF-8 characters the snapshot cooling failed with not clear error. Non UTF-8 files will be added to the exception list.

### **[EL-16883] Unmanaged LB VIP was not persistent**

If a storage node in a system with an unmanaged load balancer was rebooted the VIP configuration was removed the node got stuck in a fence loop.

## **Fixed Issues in ECFS 3.2.1.30**

### **[144984164] ClearTier: Snapshot cooling failed during directory scan**

During a scan of a large directory the cooling processed timed out and failed to cool the snapshot

### **[144678963] DSM: Unclear error during deployment**

If the deployer failed to install the EMS YUM repository the error was not informative enough

### **[146419901] Upgrade - UI does not show indication of running upgrade**

### **[144134099 EL-15758] Large write failure may cause node fencing**

In some rare case a large write failed and when retried caused a node to fence.

### **[145965357] EMS froze due to 500k log entries**

Log entries that were collected for the datadog service (now deprecated) caused the EMS to freeze

## **Security Fixed Issues in ECFS 3.2.1.30**

The following are security fixes included in this release. While there are no known exploits, customers are advised to upgrade.

**[144613366] Remove obsolete private keys from the image**

**[144128707 EL-16334] Remove internal users from image**

**[145898615] UI does not work after MacOS upgrade**

After upgrading macOS to Catalina, the UI stopped working due to unsupported configuration of the self signed certificate

**[145383065] Potential buffer overflow in XDR**

**[145740602] Potential denial of service in XDR due to wrong state of a packet**

**[145388559] Potential out of boundaries in NLM server**

**[146534086] Sun RPC crashed as result of fuzzing test**

**[146533207] Potential overflow condition**

**[144206263, 144481370, 144206484] Outdated jquery module in web UI**

## **Fixed Issues in ECFS 3.2.1.37**

**[148434422] Checkpoint version\_id advanced too fast**

An improvement implemented to prevent checkpoint version\_id collision in case of node fencing cause the unique\_id service to advance the version too fast and cross the 4 billion threshold. In some rare cases this can cause issues in the system during and after upgrade.

**[148342150] Snapshot: added validation to the snapshot external ID**

Overlap between a read only snapshot ID and the read/write snapshot ID caused a problem when trying to delete a data container

**[148340057] Delete Data Container (DC) failed but the DC was marked as valid**

A DC deletion failed due the bug 148342150 but the role-back operation marked the DC as valid.

**[148323840] Snapshot: rollback process didn't clean up the created objects**

When a snapshot creation failed the rollback process didn't clean up all the objects.

**[147185896] Internal load balancing was set to core and not to node**

Default internal load balancing was set to core affinity and not to node affinity, causing a core overload and performance impact.

**[149199363] DSM: Error in parsing the CPU interrupt file**

DSM deployment may fail since there was an error parsing the CPU interrupt file

**[149459186] Snapshot: create a directory inside a read/only snapshot caused a SW panic**

System panicked when a copy process tried to create a directory inside the ./snapshot directory

### **[149359301] A failed autorecovery prevented the system from running a second recovery**

System auto-recovery failed after the first attempts but a second one didn't run

### **[151030251] Disable incremental rebuild for versions that do not support version\_id leapfrog**

### **[151030468] Don't use the leapfrog version\_id if version is not updated to supported version**

In a rare case, after upgrading the version didn't flip to the new version but the version\_id service was using leapfrog and progressed too fast.

## **Security Fixed Issues in ECFS 3.2.1.37**

The following are security fixes included in this release. While there are no known exploits, customers are advised to upgrade.

### **[146622155] Potential SQL injection in data\_containers API via order argument**

## **Fixed Issues in ECFS 3.2.1.39**

### **[153237966] NLM operation impact cluster performance**

Excessive use of NLM operation from over 500 clients caused an increase in create\_file operations and resulted in high latency and impaired cluster performance

### **[155580201] File locks might leak and caused a DB lockout**

As a result of a race on the nlm aux-file the lock operations on the aux-file are not performed in the same order as sent to the sunrpc nlm server from one client machine and might lead to lock leak.

### **[155686622] Non-Disruptive Upgrade didn't flip the version when upgrade is done**

Due to a timeout on the remove node process, the Non-Disruptive Upgrade (NDU) didn't flip the version at the end of the NDU

### **[155539308] Race condition when adding a node can cause data integrity issue**

A rare race condition in the initial phase of adding a node can cause a data integrity issue.

### **[148993626] Inconsistent node list after Snapshot Officer failure**

If the node hosting the Snapshot Officer process is fenced the SO node list becomes inconsistent since it contains the fenced node.

## **Fixed Issues in ECFS 3.2.1.47**

### **[163170091] Cloud configuration is overwritten by upgrade**

Custom cloud configuration is overwritten after upgrade by the default configuration

### **[163067937] Separate between tasks types in ECDB**

If cluster was stuck on too many logical tasks there was no option to run physical tasks (such as shutdown)

### **[162624866] ADR failed with too many open tasks**

ADR failed when target site was not available and replication continued to create tasks

### **[162210421] Snapshot cooling failed due to version mismatch**

ELCC working dir was not upgraded and had the wrong version

### **[161226715] Fencing algorithm is too sensitive to cloud networking issues**

Storage node fencing happened too frequently.

### **[161113456] System in read/only mode reported healthy state**

System entered a read only mode due to space issue but continue to report healthy state

### **[161042639] Internal bucket overflow prevented additional writes**

Due to snapshots reusing the same internal object ID an internal bucket overflowed and the system changed to read only mode.

### **[160855745] ADR: always create link when creating a new file**

If for some reason ADR is running twice on the same snapshot (ADR recovery) links to files were not recreated even if the file is rewritten.

### **[160855744] ADR: Allows DIR removal to fail if DIR is replaced with a file**

If DIR is replaced with a file and ADR is running twice on the same snapshot (ADR recovery) the attempt to remove the missing DIR will fail the ADR operation

### **[160645647] EMS disk is full due to Snapshot statistics**

Snapshot statistics filled the EMS disk preventing management and SSH access

### **[159380996] ADR: Allows file removal to fail if file is replaced with a DIR**

If a file is replaced with a DIR and ADR is running twice on the same snapshot (ADR recovery) the attempt to remove the missing file will fail the ADR operation

### **[155686622] Upgrade: NDU didn't flip the version due to node removal timeout**

Node removal failed on time out and as result the Non Disruptive Upgrade process didn't finish and flipped the version.

### **[155539308] Cluster didn't recover from lockdown after adding capacity**

Increasing capacity increased the internal ownership parameter and as result the cluster could not recover after entering a lockdown state.

**[154991108] Image name is not updated after cold upgrade**

Cold upgrade does not update the image name in the cloud provider configuration and as result adding a storage node fails.

**[152679689] ClearTier: Data ILM is not stable enough for production**

Data Information Lifecycle Management is not stable enough for production and will be disabled in this version. Cold data should be manually moved back to the primary tier.

**[151912763] Cloud API calls failed due to authentication scheme change**

Cloud API failed due to scheme changes, a better error handling mechanism was implemented.

**[150869640] Security: NFS mount server crashed on corrupted input**

A corrupted input to the mount server crashed the server and impacted the service.

**[150546291] Log Collection failed on wrong log size**

A wrong log size caused the log collection to fail.

**[165788268] DC aggregated statistics filled the EMS DB**

Aggregated DC statistics filled the EMS DB causing management performance issues and disk full issues.

**[163771239] ADR: Snapshot deletion took a long time**

The snapshot delete algorithm took too long to decide on the merge direction where it should already be clear which direction to use.

**[163445411] Upgrade failed due to snapshot delete issue**

NDU failed since the number of snapshots in the system was over the limit

**[157405367] Add the ownership parameter setting in the call home report**

**[163445411] Upgrade failed due to snapshot delete issue**

NDU failed since the number of snapshots in the system was over the limit

**[150549544] Log collection didn't include the EMS logs**

Log collection didn't collect the EMS and RA logs

**[163249110] NDU failed due to EMS restarts**

EMS restarted several time during NDU and as result the upgrade process failed on timeouts

**[164864223] Snapshot aggregated statistics filled the EMS DB**

Snapshot statistics filled the EMS DB causing management performance issues and disk full issues.

**[163767151] Snapshot delete performance improvement**

**[170327600] Terraform Deployment failed on ECP error**

Transient errors in GCP API failed the deployment, retry mechanism was added

**[170278705] System name could not be changed**

Changing the system name via CLI failed.

**[170191421] Disk usage should include inode count**

Inode count was added to disk usage output

**[169636737] Replication Agent should use SSD boot device**

To improve performance of snapshot shipping RA should use SSD boot devices

**[169241598] Security: Disable internal DNS to remove known vulnerabilities**

Several vulnerabilities discovered in EMS bind version 9.9.4-61, bind service disabled and package removed.

**[168732131] Replication Agent disk full due to log**

CC-Web log filled the RA disk, impacting replication and snapshot shifting.

**[168729911] ClearTier: RA GW resources isolation**

In some rare cases RW GW resources were depleted causing internal I/O to hang as well.

**[168539126] Add monitor to ensure traces are logged**

Alert in case the traces are not being collected over the last 24 hours

**[168094949] Ensure log collection includes RA logs**

**[168021908] Grafana stopped showing data after upgrade**

prometheus-agent service was not restarted after upgrade and stopped showing data

**[167916538] provisioner role didn't have provisioning permissions**

Provisioner role was acting as read/only user

**[167331248] ClearTier: cold snapshot deletion failed**

Snapshot deletion failed due to "unknown version" error.

**[167024768] upgrade should upgrade the Grafana nodes and services**

**[165940736] ClearTier: Replication Agent reported as missing for a short period of time**

Continued error reporting on RA losing connection flooded the UI and the logs.

**[164019231] Add a CLI command to deploy the Grafana node**

**[161611334] ClearTier: Scheduler requested to delete an already deleted snapshot**

Scheduler requests to delete an already deleted snapshot created a stuck task that could not be cleared.

**[153902338] API is blocked and cluster can't access GCP metadata server**

API proxy support is required for GCP API access

#### **[171580269] Call Home failed to send cluster status**

SSH pool prevented the Call Home function from sending cluster status.

#### **[170734125] Ensure log collection includes EMS DB**

#### **[169699459] Send call home notification for missed operations**

Operations that take too long or miss their scheduled time should be reported in the call home notification.

#### **[144129957] ClearTier: Task retry occurred before failed task is reported**

Task retry is performed before the failed task is reported resulting in wrong snapshot status, even though the operation was successful.

#### **[172558871] EMS recovery: RA's are reported in init state**

RA's are reported in init state after EMS recovery procedure even if they are running ok.

#### **[169650014] ClearTier: ELCC failed to umount**

Snapshot deletion failed due to ELCC mount on the snapshot after the cooling operation is finished.

#### **[175687627] EMS disk full**

Record deletion process was ineffective and didn't clear enough records causing the disk to fill up.

#### **[178496366] Disable local ECS cache**

Disable local ECS cache to ensure that internal mapping status is updated before any internal remapping operation

#### **[178707405] Fencing decision timeout change**

Timeout for fencing decision was extended to allow longer underlying migration operations

#### **[164165367] Storage node was added without external IP**

When adding a node using Terraform the new node was created without an external IP.

#### **[177226895] Grafana node installation failed on wrong subnet**

Manual Grafana node installation failed due to wrong subnet in the installation script

### **Fixed Issues in ECFS 3.2.1.51**

#### **[178105752] Send Pstore\_Bucket\_Overflow event to call home**

Pstore\_Bucket\_Overflow should be sent as critical event to call home

#### **[178707390] Create critical events when Pstore Containers are imbalanced**

Create a critical event when Pstore Containers are imbalanced.  
Create a critical event when Pstore containers are approaching imbalance.  
Both events are sent periodically as long as the status is ongoing.

## [178105752] events are only sent from core 0

Internal event mechanism was only working for Core 0, other cores detecting an issue could not send out an event.

## Known Bugs & Limitations

Elastifile deploys a version based on a roadmap for the addition of functions and features to the Elastifile Cloud File System. Certain functions and features of the Elastifile Cloud File System may be scheduled for upcoming releases and not included in Elastifile Version 3.2.1. The Elastifile roadmap is subject to change without notice.

**The following section lists known limitations in Elastifile Version 3.2.1.**

### General Limitations

- Hyper-Converged mode is not tested in this version and it is not approved for production or upgrades
- Version 3.2.1 assumes homogeneous configurations. In the dedicated storage mode, all storage nodes must be identical.
- Elastifile clusters in Version 3.2.1 are limited to 96 nodes (testing limitation) for in cloud deployment of over 32 nodes please contact Elastifile support.
- Force-Reset should not be used in production, if you need to do force-reset in your testing, please ensure to unmount all the client and re-mount after the reset is done.

### High Availability Limitations

- Failure domains are not supported in the Dedicated Storage Mode and AWS deployments, in GCP multi availability zones are supported.
- Failure to tolerate = 2 is not supported in GCP deployments
- If a system that is configured with Failure To Tolerate = 2 is down to 4 controllers (due to previous failures or intentional removal) the FTT will be changed to 1
- Pulling a device from a live controller might result in a controller failure and not a device failure due to the underlying OS limitations.
- When working in GCP using Round Robin DNS, new clients will not be able to resolve the NFS service name if the EMS is not available. Please do not change the EMS VM auto-restart settings
- When working in GCP using Single Zone HA the service recovery time will change according to the system utilization and change rate, customers are encouraged to test this feature before moving to production



## Asynchronous Disaster Recovery

- RPO depends on the replicated data set, amount of changes and the throughput of the connection between the two sites. Minimal support RPO is 30min
- Bi-directional replication is supported but may impact the minimal possible RPO.
- Concurrent replications are limited to one bidirectional replication per replication service core. I.e. the minimal server configuration can support up to 4 concurrent replications. There is no enforcement of this limitation. Users are advised to add more replication services or increase the core count and RAM in case more concurrent replications are needed.
- Async DR creates two snapshots per RPO, if the snapshot shipping time is longer than half the RPO time, momentary RPO miss will be reported.
- If snapshots deletion takes a long time and the async replication process has a backlog of 10 snapshots to delete, per DC, it will pause the replication. This can happen in a very high change rate such as loading data to the cluster.
- Timestamps in the UI are translated to the local time of the user's browser. Snapshots names are using UTC timestamps

## Protocol Limitations

- NFS v3 is the only protocol supported for Version 3.0.1 (SMB and Object are not supported).
- LDAP integration is not implemented.

## Datapath Limitations

- Replication (protection level) can be configured system-wide on setup only.
- Only replication levels 2 and 3 are supported.
- Dedup has a performance impact in Version 3.1.0

## Backend Store Limitation

- Hot addition or removal of devices (SSDs) are not supported.

## Networking Limitation

- NIC failure support and multipathing is supported as a global setting only either every node are configured for multipath or none are configured.
- No RDMA support.

## ClearTier Limitation

- Only one object store is supported
- There is no option to disconnect the object store if there is a DC connected to it.
- Upon enabling the service the system will reconnect the DC to the object store automatically.

- Data Information Lifecycle Management is disabled in this version even if the UI shows it as enabled. Snapshot cooling is still supported.
- The cooling policy is global but it is possible to disable it per DC
- ClearTier require two replication agents to ensure data accessibility
- In DSM installing the replication agents for ClearTier requires a management network.
- Deleting the associated object tier buckets, via the cloud console, without moving the data back to the primary storage will result in data loss.
- Concurrent deletion or creation of snapshot in the object store is not supported and will result in an error.
- If there are not enough replication agent resources a manual cooling operation might fail

### Snapshot Limitation

- Snapshots per DC are limited to 255 on the primary storage
- Snapshots per DC are limited to 2559 on the object store
- If snapshot limit is reached newer snapshot will not be created unless older snapshot are deleted either manually or by the scheduler
- There is no automatic snapshot rotation

### Management & Control Limitations

- Deploying two EMS instances for High Availability is required in DSM (Cloud deployment requires only one). Control and management console VM must be running to initiate a rebuild process during failure and must remain running during the rebuild process.
- Correction of errors during setup requires manual intervention.
- Graceful shutdown does not provide a progress indication.
- Management supports English only (internationalization/Unicode is not supported).
- Data containers and export names are limited to 80 characters.
- Only Chrome, Firefox, and EDGE browsers are supported for the web management interface.
- Progress indication of long tasks is progressing according to the performed tasks and not according to the tasks length.
- During In Cloud NDU the cluster resources will double, please ensure your project has enough quota before starting the NDU.

## Known limitations

In addition to the above, Elastifile Version 3.2.1 includes the following known bugs:

### [EL-2592] The system status is reported incorrectly during a graceful shutdown

After the user requests a graceful shutdown, the management console indicates the system as “shut down” before the actual shutdown process is completed. Review the system logs to confirm the graceful shutdown has completed before physically powering off any node.

### **[EL-3081] Data displayed for certain drives in the management console may be incomplete**

In certain environments, not all drive parameters may appear in the drive display on the management console. In particular, NVMe drive capacity may not appear in the display. The missing information can be found using the vCenter management console.

### **[EL-2909] Deployment will fail to complete if network disconnections occur during the deployment process**

If network connectivity fails during the deployment process, the deployment will not correctly complete. Full network availability is required during the deployment process.

### **[EL-3138] Deployment may fail when using the drive TRIM feature**

If a new deployment is attempted on drives that have previously used the TRIM feature, the deployment may fail. Contact Elastifile support before deployment if you intend to use the drive TRIM feature.

### **[EL-3060] System statistic is incorrect in case of time sync issues**

If the server and browsers times are not in sync, the system statistics might be incorrect or missing.

### **[EL-3869] Switching from lab to production deployment require re-deploy**

Switching from lab configuration to production configuration is not supported and requires re-deployment of the Elastifile System.

### **[EL-3993] E-mail notifications are not sent over secure SMTP (port 465)**

E-mail notifications are not working when configured to be sent over secure SMTP (port 465). Port 25 and Port 587 are working correctly.

### **[EL-3083] Deploying a system while a host is still being installed might fail**

Running the deployment while one of the hosts is still being installed might fail. Wait for all hosts installations to finish before deploying the system.

### **[EL-4685] It is not possible to remove the / export if another export was created**

When creating a new export a directory is created under the root export, removing the export does not remove the directory thus leaving the root with data. Please remove the directory via NFS interface before deleting the root export.

### **[EL-4993] Statistics and Events gap during EMS failover**

In the case of EMS failover, there will be a short gap in the statistics and events due to the asynchronous sync mechanism in the current version

### **[EL-4591] The system does not prevent installing second EMS on the same node**

The system does not prevent or alert if the user is trying to install the second EMS on the same ESXi as the first EMS. Please ensure to install EMS on different physical hosts

### **[EL-5521] EFI boot devices are not supported**

Do not select an EFI boot device or system partition as the node target boot device.

**[EL-5471] ECDB device failure will prevent future use of the node as ECDB target**

If an ECDB device fails the node will not be used as ECDB target. If the system size is close to the minimal nodes number required per installation, future failures might interrupt service. Please remove the node, fix the device and add the node back to the system

**[EL-5219] When using DSM deployment please ensure to format any other boot device**

A node might boot from another boot device if exists and not rejoin the system automatically

**[EL-5339] NDU event is missing**

There is no event when DNU starts and finish

**[EL-7683] Reported compression is less than expected**

When testing compression rate with VDBANCH, the reported compression is slightly less than expected due to internal metadata overhead

**[EL-9892] Adding a replication service give a false error**

When adding a replication service via the UI there is a false indication that the operation failed but the replication service is added

**[EL-8587] When switching replication direction status is not updated**

When switching the replication direction the status will be shown as down until the next RPO cycle.

**[EL-8281] Async Replication might copy a redundant moved file**

A file move is not identified at the source and the replication service will copy it to the remote site and delete it afterward.

**[EL-8280] Async Replication might copy a redundant linked file**

A hard link is not identified at the source and the replication service will copy it to the remote site and delete it afterward.

**[EL-8279] Async Replication can only replicate up to 1M hardlink per DC**

Over 1M hard links in a DC will fail the replication

**[EL-8278] The max directory tree depth of the Async Replication is 1024**

The replication will fail if the directory tree depths is over 1024

**[EL-8266] Trying to add a controller and removing one in the same operation might fail**

In some rare cases trying to add a controller and removing one in the same operation might result in the removed operation staying in a “pending removal” status.

**[EL-7898] EMS failure hides the progress of “Remove Node” operation**

An EMS failure during remove node operation will hide the progress of the operation.

**[EL-7683] Compression values of ECFS and VDbench are not aligned**

VDBench numbers do not take into consideration the differences in the compression algorithms

### **[EL-7043] SMTP fails with Office 365 and Google**

The workaround for Google was to enable "lessecureapps"

### **[EL-6136] During NDU the progress bar is misleading**

The progress bar indicates 100% done after upgrading the EMS server but once the nodes upgrade starts the bar goes back to 0% and start reporting the progress of the nodes' upgrade

### **[EL-11551/EL-11573] Snapshot deletion looks like it is stuck**

If there is a big file deletion in the background, the deletion of a snapshot containing this file might look like it stuck for a long time. The snapshot deletion will progress once the file deletion background processes finish

### **[EL-11019] Can't peer a site after removal**

In some rare cases when removing a peer site it is not possible to add it again. Rebooting the EMS and removing the peer site again helps solves the issue.

### **[EL-10543] Cold-Upgrade is not supported via the GUI**

Only CLI command is supported

### **[EL-11633] GCP/AWS DNS Round Robin might not load balance traffic**

DNS Round Robin does not force the client to use a specific IP address and as a result might not load balance the clients evenly across all storage nodes

### **[EL-11669] Can't delete a DC if snapshot deletion is not done**

Snapshot deletion will happen immediately to prevent client access to the snapshot, but there are background processes that may take some time to finish the snapshot deletion. In this case, a DC might look empty but DC deletion will not be possible.

### **[EL-11290] EMS deployment in VMware requires paravirtual devices**

EMS in version 2.7.x requires all the devices to be set to Paravirtual mode. Please do not upgrade your system before changing these settings.

### **[EL-13121] Storage node appear as faulty during recovery**

When a storage node rebooted, it will appear as faulty even though it is in a recovery stage.

### **[EL-13114] System will not show version mismatch between EMS and Storage Nodes**

If the upgrade process was interrupted before the storage nodes are upgraded the system will not show a mismatch indication but may fail to reactivate the system if needed. Please run the NDU again to complete the process.

### **[EL-13081] ClearTier cooling process jumps from 66% to 100%**

The progress indication is counting steps in the process and not the actual data being cooled.

### **[EL-13080] Can't create object tier without API access**

If the Replication Agent is installed without public IP the VPC it is installed on must be configured for private IP API access.

### **[EL-13002] No indication when replication agent rebooted**

The system does not have an indication in case the RA was rebooted

### **[EL-12972] Object tier performance does not show cooling operations**

The object tier performance view shows only the operation by clients to data that is on the object tier. Cooling operations are done by the replication agent against the primary tier and will be shown as read operations on it.

### **[EL-12746] the Main dashboard shows only primary storage statistics**

When data is cooled the effective utilization might go down. Raw utilization will show the actual used capacity on the disks which might be higher due to metadata and background delete operations.

### **[EL-12744] Object tier alert level does not raise an event**

Setting the object tier alert level does not raise an event in case it was crossed

### **[EL-12739] Snapshot scheduler only impact future snapshots**

The snapshot scheduler retention policy only impacts snapshots created after the change

### **[EL-12646] There is no indication of the bucket name in the UI**

Each Data Container is associated with a different bucket in the object store but there is no indication of the bucket name in the UI

### **[EL-11843] Region is not validated**

The object store region name is not validated, inputting the wrong region will result in failure to activate object tiering.

### **[EL-11574] readdir+ does not fill the advertised payload**

The return response of a readdir+ command does not return the full buffer that is advertised.

### **[EL-11232] Adding and removing the same storage node might fail**

In DSM if a node is removed, reinstalled and added back the system with the same IP address the operation will fail due to SSH security. In order to solve this clean the known hosts' list in the EMS SSH

### **[EL-13354] Long operations are stopped in case of a node failure in Single Zone HA mode**

In case of a node failure when working in a single zone HA mode, all long operations such as snapshot cooling, and deletion will be stopped.

### **[EL-13242] Adding capacity while a full zone is down will not add all the requested capacity**

When working in Cross-Zone HA mode, during a full zone failure, adding capacity that should add nodes in the failed zone will only add capacity in the remaining zones.

### **[EL-13204] New DC wizard is using the last parameters from the last command**

The new DC wizard is using the parameters from the last command even if it was executed via Rest-API, Compression, Dedup, soft quota, and hard quota are impacted.

**[EL-13535] ClearTier cooling process might miss files age by 24 hours**

The cooling operation is running once a day, files that didn't meet the cooling criteria in the last scan will be cooled in the next cycle, this might result in 24 hours delay in the cooling.

**[EL-13970] NDU is not supported with OSlogin enabled**

In GCP enabling or disabling OSlogin, after cluster installation will fail NDU and eMRI collection, please contact Elastifile support for a workaround.

**[EL-15078] ClearTier: multiple GW connection errors when RA is restarting**

When all the system replication-agents are restarted there are multiple events on GW client connection is down and ILM client connection is down.

**[EL-15041] ClearTier: RA without an internal mount will still get cooling tasks**

If an RA has a mount error and can't use the shared index file it will still get cooling tasks that will take a longer time.

**[EL-15033] Async-DR: restarting target EMS results in a critical false error**

The EMS of the target system falsely reports after a restart that all replication services are down

**[EL-14959] Async-DR: User can delete internal shares used for replication**

It is possible to delete internal shares that are used for replication which will result in Async-DR failure.

**[EL-14615] ClearTier: no progress indication for cooling operation**

Cooling operation have no progress indication

**[EL-14525] ClearTier: Failed cooling task may block other tasks**

In a rare case of a failed cooling tasks, it might block other tasks from being executed.

**[EL-14008] System is created with errors in the event log**

Events regarding nodes disconnection appear during system deployment and NDU

**[EL-15157] Async DR: Stopping replication will result in error**

Stopping replication without letting the last replication to finish will result in error reported on the last replication.

**[EL-15193] Async DR: Starting Async replication while loading data can cause RPO miss**

Loading data to a cluster is considered a very high change rate and can cause async replication to miss RPO or even to hang

**[EL-15133] Async DR: Target site does not report on site connection status**

The target site does not report a connection issue with the source site

#### **[EL-15095] Async DR: Target site status is unclear**

If the target site reports RPO is OK the status is clear but if the RPO is missed, the actual status is unclear and needs to be calculated from the last snapshot timestamp if exists

#### **[EL-12020] Async DR: Can't remove site when first sync failed**

If the first sync failed there is no option to delete the target DC since it is not active and there is no snapshot to make it active from. Use the CLI to force promote the DC and delete it.

#### **[EL-15604] Async DR: Failover with switch role failure allow access to inconsistent data**

If a failover with switch roles operation fails, there is a chance that the target data container may become active with inconsistent data. Please run the command again and verify the success before writing data and replicating it to the other site.

#### **[EL-15597] Async DR: Create an export on a snapshot used for async replication**

It is not possible to create an export on a snapshot created by the Asynchronous replication, on the active data container, as long as the internal export exists.

#### **[EL-15546] Async DR: Node restart can hurt RPO**

If a node is restarted multiple times the asynchronous replication load becomes unbalanced and eventually hurts the ability to meet RPO.

#### **[EL-15531] Async DR: Wrong error while trying to make a DC passive**

Trying to make a data container passive, while the system is down, returns an unclear error "Failed to save the record".

#### **[EL-15526] Async DR: Difference between UI and replication log**

In some cases where the sync operation takes one second longer than the RPO the log on the source system will report the RPO as exceeded while the log on the target site will report the status as sync.

#### **[EL-15518] Async DR: Running failover command on multiple DC may fail on some**

It is not possible to run the switch role command from the CLI on more than 4 data containers in parallel, using REST API and doing them in serialized fashion will work.

#### **[EL-15508] Async DR: UI is not responsive during failover operation**

During multiple operations of switch roles, the UI (including GUI, REST API, and CLI) might be slow to respond.

#### **[EL-15458] Async DR: Failover operation finish but there are background operations**

Switch role UI and CLI operations finish but there are background processes that are still running until both sites get to the desired state

#### **[EL-15446] Async DR: Target DC is marked as connected when the source site is down**

The passive (target) site is shown as connected even if the active (source) sites EMS is disconnected.



### **[EL-15436] Async DR: After system reactivation, the system reports meeting RPO**

If one site was reactivated (from a failure or shutdown) the reactivated site will show all async status as OK while the other site will show the Meeting RPO as failed. After a short while, the statuses are synced again.

### **[EL-15433] Async DR: Misleading status in the replication log**

The log entry in the site that is being made passive is reported as “promoting” instead of “demoting”.

### **[EL-15432] Async DR: Replication log and GUI are not synced**

In some cases where the sync operation takes one second longer than the RPO the log on the source system will report the RPO as exceeded while the log on the target site will report the status as sync.

### **[EL-15425] Async DR: RPO looks OK when sites are disconnected**

In some cases when the sync operation is suspended or disconnected, the source site shows the connection as disconnected (in red) and the RPO as OK, the more severe status is the correct one.

### **[EL-15414] Cold Upgrade can't start if node removal is in progress**

It is not possible to run a cold upgrade if there are other maintenance tasks running in the background

### **[EL-15557] Async DR: snapshot are not deleted if failover fails**

The snapshots created from the failover process are not deleted if the process fails. Once replication resumed the snapshots will be cleared.

### **[EL-15717] Async DR and ClearTier: It is possible to move the PR snapshot to the object tier**

The PR snapshot used for Async DR role change can be selected to be moved to the object tier. The operation eventually fails.

### **[EL-15716] Snapshot Scheduler: GUI does not reflect the correct status of multiple scheduler configurations**

It is possible to configure multiple snapshot schedulers per a single DC via the CLI but the GUI does not reflect the status correctly, including if the schedulers are active or not.

### **[EL-12899] Application type DC wizard supports only IP address**

When creating an application type DC the wizard only allows IP addresses and not subnets. Later when editing the DC subnets are supported.

### **[EL-13155] ClearTier: need to run the auto cooling command twice**

The first run of the auto cooling command only scans the cluster data, the second run will start cooling data.