UltraBand^{TM} Version 5.7.8

Release Notes

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About this document

This document introduces the new Ultraband (PA Cache, PA Live) software version 5.7.8 (*5.7.7b99_100, 5.7.8b107_108*) for all systems.

The 5.7.8 release

The version is a revision of 5.7.6 release and introduces the following primary enhancements:

- Black-list support for Live.
- Configurable gracing time parameters.

Along with bug fixes that contribute to a better performance and crash prevention.

- LWIP connection leaks fixed.
- P2P cached files hard-coded limits modified to prevent errors when passing this limit.
- Better log reports that help reduce disk utilization.
- Grace time addition to prevent alarms when momentary spikes appear on reports.

Release Overview

Release Version	UltraBand 5.7.8
Application	Standalone configurations
Release Date	July 16, 2018
Release Type	General Availability
Deliverables	● Upgrade package for existing UltraBand 5.X instances ● Release Documentation (Release Notes)
Additional Information	2 enhancements 10 bug fixes

5.7.8 Resolved issues

PeerApp Issue #	Description	Resolution / Comments
17656	Pang restart by software watchdog with Signal 11	There was a hard-coded limit for the cached P2P file part, causing crashes when P2P files parts pass this limit. With this fix these file parts will be handled properly.
16078	XBOX download failures	Xbox download procedure has its own verification beside the normal HTTP request, which was causing the cache problems, with this fix caching will also handle these downloads properly.
17052	Extensive amount of informative errors in the pang log	When cache deleted a hash which was already deleted, it created a log flood. Lowered the log level to prevent this.
17812	Wrong license enforcement	Added a grace time for Cache-Out license type so momentarily spikes in the network will not create alerts.
17084	Severe LWIP (c/o connection) leak	LWIP connection leak has been fixed, cache out degradation will be prevented.
17303 17260 17251 17920	CMDB oversized and constantly growing Pang crash with core in tRWLocker::Lock (signal 6)	CMDB size of stats database was bloating over time because of a feature that, although intended to provide more caching efficiency, was impacting on CMDBs, causing stability issues . The removal of this faulty feature ensures database is handled properly, providing better caching stability.

	CE-1 rebooted: found mounted volumes or xfs_repair	
17182	5.7.6B83 Application crash with core (signal 11)	P2P traffic handling crash related to memory corruption resolved.
17054	Active volumes showing false 150% utilization	Code was returning true for not owned volumes. Now it returns false.
17919 17144	Permanently disable use_memory_cache feature	Permanently disabled feature use_memory_cache as per faulty implementation. Cache Engine Stability is increased.
17928	Application Crash with LWIP Pool Expiration process	Crash during the expiration process of leaked LWIP connections are fixed.

Enhancements

PeerApp Issue #	Description	Comments
16046	Grace parameters	Ability to make caching licensing grace parameters (before announcing license exceeded) configurable, with hard coded defaults.
15574	Black-list support	Black list support for Live.

Known Issues

17870	Cache-Out ports frequent disconnections	Currently in system we observe daily a few connection losts which creates alert but has no impact in system stability and performance.

Fault Analysis Report

17303 CMDB oversized and constantly growing

A very detailed investigation was conducted for this issue, it was understood that the problem started when the expiration mechanism for the CMDB changed. Instead of deleting the expired hash immediately (which was causing race conditions and sync problems between Grid Cache Engines) hashes for a configurable time slot are now blocked and locked and deleted periodically.

A bug on the code was affecting expiration and eventually causing CMDB bloat and crashes. It could be seen on UB logs that total files and new hash files were above the limit. The provided fix solved expiration and wrong calculation problems on the database.

17084 Severe LWIP (c/o connection) leak

An extensive study was done for this issue to detect the root cause of the problem. Our findings showed that LWIP (Light Weight IP) stack connections were not released successfully in some cases where webcache traffic is handled. To prevent this issue an expire mechanism was implemented to prevent leaks from occurring again. Issues to handle the TCP FIN messages properly were also addressed.

16087 XBOX Download Failures

Game download tests were performed over this UB release without the issues previously seen on old versions.
15G-65G game downloads were tried out on XBOX One 1540 (OS 10.0.17134) to simulate cache out with no errors.

A similar issue as the one reported on this ticket, for which a fix algorithm was provided to fix, was identified as affecting in the same pattern and symptoms.

Working with Ultraband v-5.7.8. Software Release

Upgrading to v-5.7.8 software release should be done within a maintenance window, as it requires complete service stop on all cache engines. This is mandatory due to UltraBand internal communication software package replacement, preventing a serial upgrade of each cache engine, as is generally done.

Performing storage format is recommended (but not mandatory) as this version introduces changes on CMDB that would enhance performance and stability.

Note:

In Version 5.7.6 some GRID deployment with high amount of traffic observed to be affected with BUG 17303 (CMDB [local database] oversized issue)

if system is generating CMDB partition size related events it may not resolve without storage format.

E.g.

```
Apr 14 01:15:18 ce-4 pang[12714]: warning: cmdb backup available space on
partition /mnt/vol37cmdb is running low
Apr 14 02:33:20 ce-3 pang[29698]: warning: cmdb backup available space on
partition /mnt/vol25cmdb is running low
Apr 14 04:50:47 ce-2 pang[20783]: warning: cmdb backup available space on
partition /mnt/vol47cmdb is running low
```

Caution

Performing storage format wipes all storage data (cached content).

Storage format can be scheduled separately but Upgrade maintenance window might extend if system is affected with BUG 17303; as service restoration takes longer time on systems with large sized databases.

Rollback

Should a system upgrading to 5.7.8 release present problem after upgrade and need to rollback to an older version, the procedure to downgrade is equal to the upgrade one but need to add the additional step of formatting the storage unit mandatorily (reinitialize CMDB local database), to prevent CMDB versions to overlap and malfunction.