# Ellexus Healthcheck Change Log

V2.13.2

# 1 Healthcheck 2.13.2

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3749 | Fixed issue with how dryrun dealt with different stack pointer alignments. |
| | 3766 | Performance improvement when tracing when there are a large number of file descriptors open by default. |
| | 3736 | Fixed bug where unresolved sockets would contribute to small I/O in the traffic light reports. |
| | 3763 | Fixed mis-identification of some sockets as scripts |
| | 3789 | Removed potentially non-blocking network operations from I/O summary. |
| | 3789 | Moved sync operations to medium in I/O Summary. |
| | 3730 | Adds number of processes to executable run time. |
| | 3789 | Improved reporting consistency, number of processes now always reports number of different PIDs for the same executable. |
| | 3731 | Added operation count and size to traffic light report. |

# 2 Healthcheck 2.13.1

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3603 | Real-time signals are now wrapped by dryrun. |
| | 3685 | Support for glibc v2.28. |
| | 3698 | Decoder improved to handle missing strings. |
| | 3677 | Switched to new license manager – set BREEZE_LICENSE rather than BREEZE_RLM_LICENSE. |
| | 3696 | New section in the traffic light report – syncs. This data previously contributed to opens. |

# 3 Healthcheck 2.13.0

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3586 | Improve detection of if a file is a directory in stat records. |
| | 3575 | Fix for bug when using longjmp to exit a signal handler. |
| | 3584 | Switch to using unversioned look-up for all wrappers. |

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3621 | Improved clear up code for dealing with Breeze temporary files in a trace on NFS. |
| | 3623 | Improved performance when tracing small I/O. |
| | 3626 | Increased small I/O definition from 4kB to 32kB to better reflect impact on storage. |
| | 3610 | File usage records now include the file path used as well as the canonical path. |
| | 3634 | Fixed bug triggered by installing signal handlers in library constructor. |
| | 3649 | Fixed issue with commas in environment variables for remote jobs launched with sbatch |
| | 3653 | Ensure remote trace directories are unique when tracing srun commands. |
| | 3599 | Traffic light view now has operation counts, total bytes (where appropriate), read and writes can now be split and large read and write statistics have been added. |
| | 3566 | Temporary file creations now show as both open and creates. |
| | 3638 | Changed display name of ReadFileInfo to Stat and Sought By to Seek-ed by. |
| | 3638 | Removed unnecessary duplicate file warning during import. |

## 4   Healthcheck 2.12.0

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3198 | New report section – traffic light report to highlight any bad I/O patterns. |
| | 3235 | New report section – to show slow and failing mount points. |
| | 3236 | New report section – total time spent doing I/O per executable, then split by file access/metadata. |
| | 2795 | The report is now separated into I/O done on files and I/O done on pipes and sockets. |
| | 2886 | Fixed a bug where the PATH section was reporting problems with files that should not have been included |
| | 3518 | Added a new option --limit to set the maximum trace size that can be imported. |
| | 3176 | The location of the trace has now been added to the report. |

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3375 | Home and restricted directories can now be specified in a file. |
| | 3284 | Improved performance when tracing – particularly to slow storage. |
| | 3460 | Fixed issues when tracing DMTCP |
| | 3389 | New versions of glob and glob64 (GLIBC_2.27) now supported |
| | 2149 | Improved handling of symbolic links to the Breeze installation directory. |
| | 2678 | Fixed an issue with 64-bit inodes with 32-bit binaries which could result in temporary files being left on the system. |

# 5   Healthcheck 2.11.3

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3048 | Enhanced reporting when invalid command line options are detected. |
| | 3052 | Added process count and number of operations for the most significant contributing process to files with most `stat()` operations section. |
| TT1686 | 3261 | Improve handling of missing mandatory environment variables. |
| TT1968 | 3318 | Fixed an issue with interactive SSH sessions under trace not having a pseudo terminal assigned. |
| | 3340 | Added `--restricted` option to specify a list of restricted directories that will report data similar to that produced for home directories. |
| | 3347 | Fixed a race condition where processes could be assigned the wrong parent if the original parent process exits. |
| TT1727 | 3418 | Fix a problem where the IFS environment variable could be altered while under trace. |

# 6   Healthcheck 2.11.2

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 2903 | Healthcheck now records details on any network connections made by the application. |
| | 2989 | Improved architecture detection on 64 bit ARM platforms. |

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3024 | Fixed a bug that could cause Healthcheck to hang if a process was launched using a relative path. |
| | 2800 | Fixed a bug where files that were created on open were only being recorded as a create event and not an open. |
| | 2982 | Fixed a bug that caused the summary table at the start of the report to be truncated at 5 rows. |
| | 2973 | Treat 0 byte events consistently as 1 byte when calculating mean latency per byte. |
| | 2997 | Fixed a bug where all executable files touched by an application (e.g. by an "ls" command) were classified as having been run. |
| | 2915 | Report sections now only display events that exceed configurable minimum thresholds. |
| | 2995 | Allow Healthcheck to produce a report from a pre-existing trace. |
| | 2914 | Network views now aggregate statistics for ephemeral ports. |
| TT1602 | 3083 | Fixed a bug where Breeze AP produced invalid XML. |
| DT-98108 | 3112 | Added new "Failed I/O" section to the report. |
| | 3127 | Updated terms and conditions distributed with the software. See `docs/SoftwareLicenceAgreement.pdf`. |
| TT1615 | 3140 | Compatibility fix for older versions of `ksh`. |
| TT1615 | 3146 | Fixed a bug that caused tracing to fail on machines with a large number of mount points. |
| | 3076 | Produce an HTML version of the Healthcheck report in addition to the ASCII output. |

# 7 Healthcheck 2.11.1

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 3008 | Fixed a bug where a large number of mount points could cause a crash during initialisation. |

# 8 Healthcheck 2.11.0

This release removes support for Red Hat Enterprise Linux 4.

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 1321, 2619, 2904 | Added support for PBS Professional. |
| | 1904, 2882 | Upgrade to Java 8 run time environment.<br><br>This change is known to break report generation on stock RHEL 4 systems. |
| | 2714 | Improved sanity checking for Healthcheck license environment variable to detect more errors without starting the application. |
| | 2753 | Altered wording of some column headings for clarity. |
| | 2753 | The Seek/Read and Open/Read tables have been replaced with Seek/IO and Open/IO tables that incorporate all I/O. |
| TT436 | 2777 | Improved compatibility with LSF python API. |
| | 2788 | The PATH table has been reworked to show additional information. In addition a new table has been added to list value of `$PATH` for top level programs. |
| | 2796, 2848 | Altered the layout of some table headers to reduce wasted space. |
| | 2799 | Fixed a bug that could lead to duplicate rows being listed in the Directory Depth table. |
| HC42 | 2897 | Reduce size of all tables to top 5 from top 10. |
| HC94 | 2900 | The trace generated by Ellexus Healthcheck now contains data about `stat()` calls. |
| | 2901 | Added a `stat()` operation count table to the File I/O section. |

# 9 Healthcheck 2.10.3

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 1322, 2446, 2477, 2698 | Added support for the Slurm workload manager. |
| HC20 | 2627 | File I/O latency tables now include the number of operations. |
| HC22 | 2627 | Executable I/O latency tables now include the number of operations and processes. |
| HC50 | 2627 | I/O latency tables now include the latency per byte for read, write and seek operations. |
| HC24 | 2660 | Include Open:Close ratios for files that are opened more than they are closed. |
| | 2721 | Fixed a bug where `$HOME` directory statistics were not output. |

# 10 Healthcheck 2.10.2

| Customer Ticket | Development Reference | Description |
|---|---|---|
| | 2383 | Add initial support for tracing on ARM v7 and ARM v8 systems. |
| | 2601 | Empty report documentation can now be created without needing to trace a program or have a license for the product. This can be done with:<br>`./breeze-healthcheck.sh --docs -f ~/outputdirectory` |
| TT436 | 2602 | Fixed a bug where a multi-threaded program being traced may not exit cleanly. |
| | 2616 | Restructure the HOME directories section of the main report. This section now only contains two sub-subsections: files accessed, and scripts and programs executed. |
| HC38, HC40 | 2618 | Changed Temporary Files section so that all tables contain the same columns. |
| HC41 | 2618 | Only report files that are not deleted in the potential temporary files table. |
| HC47, HC72 | 2624 | File access ratios in the report are now split by process as well as file. |
| | 2624, 2642 | Added execution host, program arguments, start time, end time and job ID to summary. |
| HC44 | 2632 | Add an introductory section that contains explanations / clarifications on concepts used in the main report. |
| HC32 | 2637 | Sub-sections with no relevant data for the report are no longer populated with empty tables.<br><br>Empty sections will now contain the text<br>  "No significant problems detected." |
| HC55 | 2649 | Added a description of how `mmap()` calls are handled in the report introduction.<br><br>A table of `mmap`'ed files has been added to the `dependencies.txt` file. |
| HC52 | 2655 | Add the number of small I/O operations as a percentage of total. |
| HC82 | 2657 | Programs.csv now includes all processes in the application, not just the ones in the report. |

# 11 Healthcheck 2.10.1

Initial product release.