Customer Release Notes

BCL Convert v4.3.13

INTRODUCTION

These release notes detail the key changes to software components for the Illumina® BCL Convert Software v4.3.13.

Changes are relative to BCL Convert v4.3.6. If you are upgrading from a version prior to v4.3, please review the release notes for a list of features and bug fixes introduced in subsequent versions.

BCL Convert Installers and Release Notes are available here:
https://support.illumina.com/sequencing/sequencing_software/bcl-convert/downloads.html

The BCL User Guide is now available here as part of the DRAGEN™ User Guide:
https://help.dragen.illumina.com

The BCL Convert SW are downloadable rpm installers for Linux systems:

- x86 Red Hat Linux 8 distributions: `bcl-convert-4.3.13-2.el7.x86_64.rpm`
- x86 Red Hat Linux 7 distributions: `bcl-convert-4.3.13-2.el8.x86_64.rpm`

BCL Convert v4.3.13 is also made available on Illumina BaseSpace and ICA platforms.

Deprecated platforms:

- Support for Red Hat Linux 7 distributions (CentOS 7) ended on June 30, 2024. BCL Convert v4.3 is the final release with CentOS 7 installers. Future releases will support el8 and el9.

CHANGES

- NovaSeq-X Specific
    - Fix a large memory leak when there are missing input files for the on-instrument BCL conversion.
    - Fix for processing error on lanes unlisted in the sample sheet.
    - Add compatibility fix for RTA outputting all cycles with failed reads.
    - Fix bug where on-instrument BCL convert generates a FASTQ list with multiple identical samples instead of one.
    - Removed a dongle check during on-instrument BCL conversion to improve stability.
    - Removed superfluous warning messages regarding missing files when doing demux-map generation with incomplete data, that can lead to a hang.
    - Fix for Undetermined stats in Adapter_Cycle_Metrics.csv that were missing for lane 1.
    - Support for no-lane-splitting with Lane setting which implements the combining of FASTQ files for sub-lanes, on Novaseq-X only. Not supported for standalone BCL Convert
- Support custom fields in the sample sheet Data section
    - Include the following new columns in the fastq_list.csv file when present in the sample sheet:
        - RGID, RGSM, RGPU, RGPL, RGLB, RGCN, RGPM

- A custom column of that starts with the substring "RG" and has 4 characters.
- This will allow the tags to propagate to the BAM file which can aid with identification of experiments

KNOWN ISSUES

Issue	Fix or Workaround
Some combinations of indexing schemas have a significant run time regression compared to DRAGEN v3.7	A fix is not available, but a workaround for on-premises can be done of this specific indexing schema.
BCL conversion appends FASTQ files when using --force. Fastq output may get concatenated if user uses the same output directory twice for BCL.	Do not run BCL conversion multiple times on the same output folder
BCL streaming over network sometimes hangs or takes hours, compared to minutes on local disk, when a large number of files are opened and streamed.	Recent investigations has shown that network file systems may hit performance issue when streaming from large number of file handles, likely inducing severe caching issues on the network filer. A BCL setting exists that can reduce the number of simultaneous over-the-network accesses which has shown to alleviate the problem, with run time impact. The best remedy is to avoid letting the network file system get into a bad caching state, by using run modes with fewer open file handles, or run from local disk.
If a directory is specified as input to "--sample-sheet", BCL Convert will hang at the beginning of a run while trying to copy that path as a file to <outdir>/Reports/SampleSheet.csv	Specify the sample sheet file.
BCL Convert does not validate when "Logs" or "Reports" is provided for a Sample_Project, and the software will be unable to create the subdirectories if these strings are provided	None.

BCL Convert does not support the "--first-tile-only" option being specified for SP flow cells, but the new "--tiles" option can be used as a substitute	Use the new "—tiles" option
Does not error when no tile list exists in the RunInfo.xml file and "--tile" or "--exclude-tiles" is specified in the command line	Ensure that tiles are not specified when none exist.
When an index collision exists in a lane that has been excluded via the "ExcludeTiles" setting, the software will still error as it is a sample sheet validation error	None.
BCL Convert has differences in legacy stats compared to bcl2fastq2 (all of which are justified)	None. This is per design, please consult the BCL documentation for expected outputs

RELEASE HISTORY

Revision	Release Reference	Originator	Description of Change
00	CN 1116426	Cobus De Beer	Initial release