HiSeq® 3000 and HiSeq® 4000 Instrument Software Release Notes

HiSeq Control Software (HCS) HD 3.4.0

Real-Time Analysis (RTA) v2.7.7

Recipe Fragments HD 3.5.0

Sequencing Analysis Viewer (SAV) v1.10.2

BaseSpace Broker v2.9.2.15

Run Copy Service v1.0.19.0

For HiSeq® 3000 and HiSeq® 4000 Systems

April 2018

Introduction

These Release Notes detail the key changes to instrument software components for the HiSeq 3000 and HiSeq 4000 since the release of the previous HiSeq Control Software (HCS) package. The previous release contained HCS v3.3.76, RTA v2.7.6, Run Copy Service 1.0.19.0 and Recipe Fragments v3.3.9.

If you are upgrading from a version earlier than HiSeq 3000 and HiSeq 4000 Control Software v3.3.76 (HCS v3.3.76), review the release notes for HCS v3.3.76. These release notes contain a list of features and bug fixes introduced in that version.

If installing on an instrument containing version HCS 3.3.52 or later the software included in this release is customer-installable. Software versions prior to HCS 3.3.52 will require additional support from trained Illumina service personnel.

The Recipe Fragments installation overwrites any custom recipe files. Therefore, recreate any custom recipes after receiving this update.

The BaseSpace Send Instrument Health data option is activated during this software installation. After receiving this update, update your BaseSpace Send Instrument Health settings.

The software package includes:

- HCS HD 3.4.0

- RTA v2.7.7

- Recipe Fragments HD 3.5.0

- Microsoft .Net Framework 4.5.1 – no change

- SAV v1.10.2 – no change

- BaseSpace Broker v2.9.2.15

- Run Copy Service v1.0.19.0– no change

I.   HiSeq Control Software HD 3.4.0

NEW FEATURES:

- Reduction of PhiX spike in requirement for low diversity libraries

IMPROVEMENTS:

- Reduced PhiX spike in required for low diversity libraries.

    o PhiX spike in recommendation for sequencing of bisulphite libraries reduced to 5% with new software.

- Expanded the list of acceptable flow cell barcode configurations.

    o The remaining unique barcodes with the current flow cell barcode configuration is depleting. To ensure positive tracking of flow cells, the list of acceptable barcode configurations for HiSeq 3000/4000 flow cells has been expanded.

- Updated Broker enables connection to European instance of BaseSpace Sequence Hub.

- Instrument Health Interop files now uploaded per cycle rather than at the end of the run.

- Increased frequency of Run Copy Status Icon refresh to more accurately reflect run state.

- Inclusion of Reagent Kit ID and Paired End Cluster Kit ID now optional.

DEFECT REPAIRS:

- If BaseSpace is disabled BaseSpace Icon will no longer attempt to update.

KNOWN ISSUES:

- Selecting the Abort button to stop a run during imaging puts the camera in an unknown state and stops the adjacent run.
    - To recover from this issue, restart HCS.
    - The sequencing run for either flow cell cannot be resumed.

II. RTA v2.7.7

DEFECT REPAIRS:

- Changes to the color matrix normalization improves RTA robustness.

KNOWN ISSUES:

- PhiX error rate quantized at 0.2% at lowest allowed spike-in of 0.1%. Illumina recommends using a minimum spike-in of 0.5% to recover.

III. Recipe Fragments HD 3.5.0

IMPROVEMENTS:

- None

DEFECT REPAIR:

- None

KNOWN ISSUES:

- None

IV. Sequencing Analysis Viewer 1.10.2

- No changes in this release.

V. BaseSpace Broker 2.9.2.15

NEW FEATURES:

- Updated Broker enables connection to European instance of BaseSpace Sequence Hub.

IMPROVEMENTS:

- None

DEFECT REPAIR:

- None

KNOWN ISSUES:

- None

EXTERNAL CONSIDERATIONS:

- The following domains should be whitelisted for the user site firewall to enable run file uploading:
    - euc1.sh.basespace.illumina.com
    - api.euc1.sh.basespace.illumina.com
    - euc1-prd-seq-hub-data-bucket.s3-eu-central-1.amazonaws.com

VI.   Run Copy Service v1.0.19.0

- No changes in this release