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NovaSeq Software Release Notes

NovaSeq Control Software 1.7.0
NovaSeq Service Software 1.7.0
Real Time Analysis 3.4.4
Universal Copy Service 1.6.3
Install notes

July 2020

Introduction

These Release Notes detail new features, improvements, and known issues for the NovaSeq™ 6000 Sequencing System Control Software for improved sequencing robustness. The software can be downloaded from the Illumina software download page and will be queued for download on BSSH for connected systems for customer use. Alternatively, contact your field representative to schedule the upgrade to v1.7.0.

For more information on the NovaSeq 6000, see the NovaSeq 6000 Sequencing System Guide (document # 1000000019358) available on the NovaSeq 6000 Sequencing System support pages.

The software package includes:

- NovaSeq Control Software 1.7.0
- NovaSeq Service Software 1.7.0
- Real Time Analysis 3.4.4
- Universal Copy Service 1.6.3

I. NovaSeq Control Software 1.7.0

NEW FEATURES:

- Support for new v1.5 Consumables (Cluster and SBS cartridges)
    - v1 Flow Cell will continue to be supported for both v1 and v1.5 sequencing runs.
    - The consumable versions for Cluster and SBS cartridges must both either be v1 or v1.5.
    - When using the v1.5 reagents, the options for custom primers on the Run Setup screen support the following: Read 1, Read 2, and Index Read 1 and 2. The custom primer workflow when using v1.0 reagents is unchanged (no option for a custom primer in Index read 2).
- Updated recipes to support v1.5 consumables
    - Default reverse complement Indexing for v1.5 consumables, and forward strand for v1.0 consumables for i5 indices. For more information, reference the Indexed Sequencing Overview document.
    - Note: Due to the new workflow (reverse complement indexing), a new version of IEM is released to support these features.
- Display of per lane metrics in Sequencing UI
    - Per lane metrics will be displayed as a dialogue box when clicking any of the three overall sequencing run metrics located at the bottom of the screen.

Improvements:

- New Proactive Metrics
    - Real time error reporting on Proactive Portal
    - Optics subsystems
    - Flow cell subsystem & pressure sensor sampling
- New Firmware v1.26.1 for updated syringe pump support

BUG FIXES:

- Addressed error if buffer drawer is attempted to be opened during a run or system washing. System will now display a warning that an attempt was made to open the wrong drawer.
- Fixed bug where the 'Next' button was covered in the load reagent consumable UI.
- Fixed bug where "Used" disk space showed negative value on Process Management UI. Removed redundant "Used" disk space value as currently existing "Available" disk space value is sufficient for estimating drive space.
- Fixed issue where software showed incorrect reagent lot/part number information in run parameters.

KNOWN ISSUES:

- In rare occurrences, the reagent chiller door sensor warning during Pre-Run Checks may prevent continuation for both flow cell sides (instead of only the failed side) during a dual flow cell run. User is required to exit the workflow and setup runs for both sides again.

II. NovaSeq Service Software 1.7.0

Improvements:

- Optimized Fluidics Laser Optimization calibration routine for SP and S1 Flow Cells

- Software support for updated Heater Calibration Tool

Bug Fixes:

- N/A

Known Bugs:

- N/A

III. Real Time Analysis 3.4.4

- **Same version as prior released software**

IV. Universal Copy Service 1.6.3

Improvements:

- BaseSpace API Token is now encrypted when writing to files
- Uses latest BaseSpace v2 SDK
- Uses latest BaseSpace Connection Check API

Bug Fixes:

- Fixed an error message when the output channels are not valid
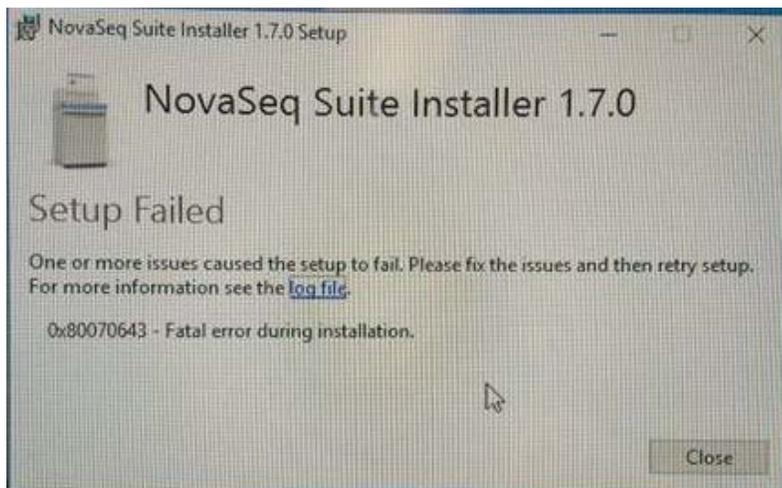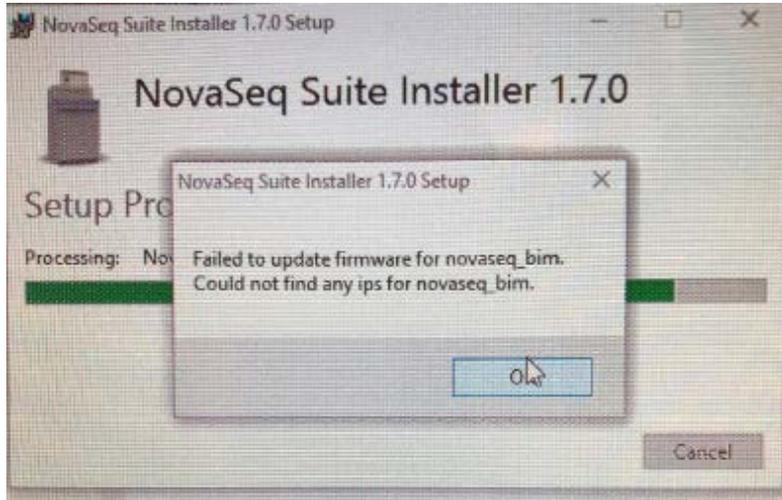
Known Bugs:

- If the software is upgraded to NovaSeq Software Suite Installer v1.7, you may experience that large file uploads (estimated to be roughly 10GBs or larger) that take longer than 10 minutes to upload will fail data integrity check and will be requeued for upload.

- In rare occurrences, files uploaded to BaseSpace can be truncated when the bandwidth is lower than the recommended specifications in the Site Prep Guide.

V. Manual Install notes

- Prior to performing a manual software upgrade, ensure the following:
  - The system is powered on.
  - The system is not currently performing a sequencing run or system wash.
  - The system is not currently uploading sequencing run data.
- Log in using a Windows administrator account on the NovaSeq, then download the installer from Illumina Support Site and unzip to C:\Program Files\Illumina.
- Run the NovaSeq Software Suite Installer.
- Reboot system as prompted by NovaSeq Software Suite Installer.
- After system reboots, shut down instrument through Windows.
- Manually perform a full power cycle by using the power switch in the back of the instrument for updates to fully take effect.
- Leave the instrument powered off for at least 30 seconds prior to powering back up.

Known issues:

- On rare occasions, the installer can fail to communicate with one of the devices on the system in the required time, resulting an error message (below) and the software update process will not complete

- If seen, please run the installer package again.
    - If successful, please perform the full power cycle as documented on page 4
    - If the issue persists, please call technical support for next steps.
- If encountering this issue via BSSH download, please call technical support for next steps