

NextSeq 550 RUO v4.2.0 Software Customer Release Notes

NextSeq 550 System Suite Installer v4.2.0

NextSeq 550 Control Software v4.2.0

NextSeq 550 Service Software v4.2.0

Local Run Manager v4.0.0

Real-Time Analysis v2.11.3

Universal Copy Service v2.7.3

NextSeq Recipe Fragments v4.0.0

DMA Driver v4.5.3

For NextSeq 500/550 and NextSeq 550Dx (Research Mode)

Introduction

These Release Notes detail the v4.2.0 software new features, improvements, and resolution to Illumina Local Run Manager (CVE-2022-1517, CVE-2022-1518, CVE-2022-1519, CVE-2022-1521, CVE-2022-1524) and Universal Copy Service (CVE-2023-1968, CVE-2023-1966) issues for the NextSeq 500/550 Sequencing Systems and the NextSeq 550Dx Sequencing System (Research Mode). This software release is only compatible with Windows 10 operating system and is not backwards compatible with Windows 7. Additionally, the software upgrade from NextSeq Control Software (NCS) v4.0 to v4.2 requires installation of a new OS image by qualified Illumina personnel. Note, this is a mandatory software update from NCS v4.0.x.

For more information on the NextSeq 500, NextSeq 550, or NextSeq 550Dx, see the following guides available on www.illumina.com.

- NextSeq 500 System Guide (document # 15046563)
- NextSeq 550 System Guide (document #15069765)
- NextSeq 550Dx Instrument Reference Guide (document # 1000000009513)
- Local Run Manager v4 Software Guide (document # 200036672)

The software package includes:

- NextSeq 550 System Suite Installer v4.2.0
 - NextSeq 550 Control Software v4.2.0
 - NextSeq 550 Service Software v4.2.0
 - Local Run Manager v4.0.0
 - Real-Time Analysis v2.11.3
 - Universal Copy Service v2.7.3
 - NextSeq Recipe Fragments v4.0.0
 - DMA Driver v4.5.3
 - 4.7.2 .NET Framework

I. NextSeq System Suite Installer v4.2.0

NEW FEATURES:

- Updated to .NET 4.7.2 Framework
- Updated Local Run Manager's component version.
 - Postgres to v13.3
 - RabbitMQ to v3.8.17
 - Erlang OTP to v24.0 (12.0)
 - jQuery to v3.6.0

- Included Local Run Manager supported Chromium browser v108.

FIXED ISSUES:

- Addressed Universal Copy Service vulnerability. UCS v2.7.3 configures as Local Service that changes UCS software privileges to a standard (non-administrator) user.

KNOWN ISSUES:

- None

II. NextSeq Control Software v4.2.0

NEW FEATURES:

- Added ability for user to change output folder without having to go through run setup workflow. In previous software versions, default output location could only be changed during run setup.
- During run set up, users will be reminded to load custom primers if custom primers is selected.
- First Time Setup dialog will be prompted before rather than after a sequencing run is completed.
- The maximum accepted sequencing Total Read Cycles (index + sequencing reads) is 318. If dual 10bp index kit is used, reduce the sequencing total number of Read Cycles to 298 to start the run successfully.
- Added an additional Mid throughput kit for certain region.
- Allow only admin users to access system configuration.
- System supports CytoSNP-850K v1.3, MethylationEPIC v2.0, and KaryoMap-v2 beadchips.
- Copyright year is 2023 on Control Software Splash and About Screens

FIXED ISSUES:

- Fixed issue resulting in Bit Error Rate warnings by NCS checking for Illumina DMA Driver upon starting NCS.
- Software will allow user to proceed the run if Index read is longer than Read 1 or 2.
- Fixed an issue that can cause RTA to stop during sequencing cycle 5.

KNOWN ISSUES:

- Upon signing in with BSSH credentials, users may be prompted to save their password. Users should select No.

III. Local Run Manager 4.0.0

NEW FEATURES:

- Local Run Manager will prompt users to set Database Backup Secret (password). Backup will not complete until that password is set.
- Added password recovery using security questions for unlocking user accounts.
- Decoupled Library Prep Kits and Index Kits.
- Renamed 'Library Prep Kits' to 'Index & Library Prep Kits' under Tools menu.
- Renamed 'User Management' to 'Account Management' under Tools menu.

OPTIMIZATIONS:

- Accessing Local Run Manager locally on instrument or remotely from the same local network as the instrument via an unsupported browser or version is allowed after user acknowledgment. Using unsupported browser and version may result in loss of some Local Run Manager User Interface functionality.
- Account Management is required with Local Run Manager. Users must log in to access Local Run Manager.
- Password expiration setting is required in Local Run Manager. Default password expiration period is set to 90 days. User can set to a maximum of 180 days.
- Service accounts can be configured for Analysis Service, Job Service and Universal Copy Service individually.

FIXED ISSUES:

- Addressed Unauthenticated Remote Command Execution vulnerability.
- Restored remote access to Local Run Manager from the same local network as the instrument. This functionality was disabled by Local Run Manager Software Patch v1.0.0.
- Rows in Sample Table are now aligned.
- LRM User Interface (UI) Performance is improved for Sample Sheet upload with large number of Samples.
- User can now specify the location for the Audit export file.
- Issue related to Sample Table UI Fill down option is fixed.
- Issue related to Requeue of "Analysis Stopped" run is fixed.
- Issue related to row was updated or deleted by another transaction is fixed.
- Issue related to the final folder name in the Output Run Folder path can get appended an extra time to the Output Run Folder path that is displayed on the Run Overview page is fixed.
- Issue related to Custom Primer, Read Type selection in the User Interface does not get updated in Local Run Manager is fixed.

KNOWN ISSUES:

- Disk space check for secondary analysis is not performed when importing a run.
- The GenerateFASTQRunStatistics.xml file that is created at the end of the GenerateFastQ workflow returns 0 for each statistic.
- Analysis that fail with "Workflow error – Isas error – Analysis terminated with error:..." will require requeue of analysis.

MODULE UPDATES

- For NCS 4.2.0 Local Run Manger compatible Modules, refer to Local Run Manager Module Selector page: [Local Run Manager Module Selector](#).

Release History

Revision	Release Reference	Originator	Description of Change
00	CN 1087686	Hyun-Jae Lee	Initial release