Customer Release Notes

DRAGEN BCL Convert v3.10.12

for NextSeq 1000/2000

February 6, 2023

INTRODUCTION

These Release Notes detail the key changes to the DRAGEN BCL Convert Pipeline onboard NextSeq 1000/2000 since the v3.10.11 release. If you are updating from an older version, please see all intermediate release notes. Note that since v3.8.4 release, GenerateFASTQ has been renamed to DRAGEN BCL Convert.

INSTALLATION INSTRUCTIONS

DRAGEN v3.10.12 is compatible with Control Software 1.2, 1.3, 1.4, and 1.5. For information regarding compatibility with other Control Software versions, please reference the NextSeq 1000/2000 Compatible Products page on the Illumina support site. If you would like to update the control software, please follow the steps detailed in the NextSeq 1000/2000 Control Software Suite v1.5.0 Release Notes on the Illumina Support Site.

ONLINE INSTALLATION WITH V1.3+ CONTROL SOFTWARE

* **These instructions are intended for online installation of DRAGEN pipelines with v1.3 Control Software and beyond.**

Starting with v1.3 Control Software, cloud-based updates for DRAGEN are enabled.

1. Make sure that you have the password to the ilmnadmin account.
2. Log in to the ilmnadmin account:
   a. If you are already logged in as ilmnuser and in control software, select the control software menu, and then select **Exit Application** to access the desktop.
   b. Select the power button icon in the upper right corner and log out of ilmnuser.
   c. After you are on the login screen, select ilmnadmin, and then enter the password to log in.
   d. The control software automatically launches once you are logged in.
3. Select the **DRAGEN** screen in the control software.
4. Click on **check online** button in the DRAGEN workflows section.
5. A modal will pop up showing which workflows have an update available for installation.
6. Select which pipelines you would like to update.
   a. **NOTE: For Online Updates, DRAGEN BCL Convert must be installed before or with other workflows of the same DRAGEN Version**
7. Select download and install.
8. You will be prompted to enter the admin password once the download completes and proceeds to install
9. After installation is complete, you will be navigated back to the DRAGEN screen and can view the updated list of installed DRAGEN workflows.

Note that starting with control software v1.5, it is possible to uninstall previous versions of DRAGEN pipelines.

OFFLINE INSTALLATION/ INSTALLATION WITH V1.2 CONTROL SOFTWARE

* **These instructions are intended for offline installation of DRAGEN pipelines or installation with v1.2 Control Software (whether online or offline)**

1. Make sure that you have the password to the ilmnadmin account.
2. Log in to the ilmnadmin account:
   a. If you are already logged in as ilmnuser and in control software, select the control software menu, and then select **Exit Application** to access the desktop.
   b. Select the power button icon in the upper right corner and log out of ilmnuser.
   c. After you are on the login screen, select ilmnadmin, and then enter the password to log in.
   d. The control software automatically launches once you are logged in.
3. The DRAGEN installation files require up to 8 GB of free space on your desktop.
   a. To access your desktop, select the control software menu in the control software, and then select **Minimize Application**.
   b. Delete or transfer files off the desktop that are not needed.
   c. Empty trash to free space from the drive.
      i. Select **Applications**, and then **Files** from the upper left corner of the desktop to launch the file explorer.
      ii. On the left panel of the file explorer, right click the Trash icon and select **Empty Trash**.
4. Launch Chromium to download the software upgrade installers from the Illumina Support Site.
   a. While in desktop view, open the Applications menu on the upper left corner. Select **Internet**, and then select **Chromium**.
      i. **Note: After launching Chromium, you may receive a prompt to unlock your login keyring. You can safely ignore and cancel out of the prompt.**
   b. Use Chromium to browse to the NextSeq 1000 and 2000 Software Downloads page on the Illumina Support Site.
5. Download the DRAGEN upgrade installers from the Illumina Support Site and save them to the desktop. **Do not extract these files; leave them as .tar.gz**
   a. **Note: at minimum, you must download and install the DRAGEN BCL Convert update.**
6. After the files have finished downloading to the desktop, maximize the control software by selecting it from the toolbar.
7. **Install DRAGEN workflows**
   a. Select the control software menu, then select **DRAGEN**.
   b. In the Version section, select **Browse for New Version**.
   c. In the browse window, navigate to the desktop and double-click the DRAGEN BCL Convert workflow *.tar.gz package.
      i. **Note: DRAGEN BCL Convert must be installed before other workflows**
   d. In the control software DRAGEN window, select **Install**.
   e. At the login prompt, enter the ilmnadmin password.
   f. Confirm that DRAGEN BCL Convert is updated to 3.10.12.

NEW FEATURES:

New features added in BCL Convert v3.10.11 and v3.10.12

- Supports onboard FASTQ generation of 600 cycle kits. Previous versions of the DRAGEN BCL Convert Pipeline onboard NextSeq 1000/2000 may encounter a memory error and fail to complete if used to process 600 cycle kits. **BCL Convert v3.10.11 or greater should be used to generate FASTQ files onboard for 600 cycle kits**.
- A barcode collision will now be detected if sequences from either index read in a dual index run collide, as opposed to requiring both indices colliding. When this occurs, the software will error out.
- Increased values reported to 6 decimal points in the following stats outputs:
  - '% of Hopped Reads' and '% of All Reads' columns of Index_Hopping_Metrics.csv
  - '% of Unknown Barcodes' and '% of All Reads' columns of Top_Unknown_Barcodes.csv
  - Performance and robustness improvements
- Performance and robustness improvements

FIXED ISSUES:

- "DRAGEN License requires updating" notification will no longer be displayed daily after installation of BCL Convert v3.10.12.

KNOWN ISSUES:

- 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.
- BCL Convert will not provide a warning or error when a corrupt bci lane file is found in strict or robust mode.

RELEASE HISTORY

Revision	Release Reference	Originator	Description of Change
00	CN 1081788	Heidi Norton	Initial release