DRAGEN v3.6.4
Software Release Notes

Introduction

These release notes detail the key changes to software components for the Illumina® DRAGEN™ Bio-IT Platform v3.6.4.

Changes are relative to DRAGEN™ v3.6.3. If you are upgrading from a version prior to DRAGEN™ v3.6.3, please review the release notes for a list of features and bug fixes introduced in subsequent versions.

DRAGEN™ Installers, User Guide and Release Notes are available here:
https://support.illumina.com/sequencing/sequencing_software/dragen-bio-it-platform.html

The 3.6.4 software package includes:
- DRAGEN™ SW Intel Centos 6 - dragen-3.6.4-2.el6.x86_64.run
- DRAGEN™ SW Intel Centos 7 - dragen-3.6.4-2.el7.x86_64.run
- DRAGEN™ SW IBM PPC Centos 7 - dragen-3.6.4-2.el7.ppc64le.run

The following configurations are also available on request:
- Amazon Machine Image (AMI)
- RPM packages for Centos 7 and Ubuntu 14.04 for Amazon Web Services (AWS)

Contents

Changes

Defect ID	Component	Issue Type	Description
DRAGEN-8369	Gvcf Genotyper	Accuracy Improvement	Improved handling of variant sites with many alleles, to avoid loss in TP. With this change no TPs are lost from a truth sample in either SNP or Indel after Gvcf Genotyping large cohort of 2305 GIAB samples
DRAGEN-9546	Small Variant Caller	Bug fix	Fix for issue where small VC mitochondrial calling used inconsistent likelihoods when running in GVCF mode
A500-8577	RNA Alignment	Bug fix	Fix a race condition that lead to a rare segmentation fault during RNA processing
DRAGEN-9122	Gvcf Genotyper	Robustness Improvement	Writing of INFO/AC+AN into the multi-sample VCF can fail if the values are not defined in the input gVCF header. This change improves robustness by recomputing the INFO/AC+AN
DRAGEN-9921	Gvcf Genotyper	Usability Improvement	Add command line option to remove NON_REF allele from the multi-sample VCF, for compatibility of GvcfGenotryper output with certain downstream tools
DRAGEN-6433	Cloud Licensing	Robustness Improvement	Improved license server communication retry mechanism to alleviate occasional run failures on AWS network caused by temporary internet outages.
DRAGEN-9015	RNA Alignment	Bug fix	Fix for rare invalid CIGAR output by RNA mapper, leading to DRAGEN crash.
A500-9110	DNA Alignment	Bug fix	Fix for rare invalid read mapping position output by DNA mapper, leading to DRAGEN crash.

Known Issues

Defect ID	Component	Issue Type	Description	Remedy / Workaround
DRAGEN-10089	Small Variant Caller	Bug	When enabling VCF in a gVCF run by using `--vc-enable-vcf-output=true` and `--vc-emit-ref-confidence=GVCF`, the VCF generated is not complete.	Do not use the option `--vc-enable-vcf-output=true` in a gVCF run
DRAGEN-9663	RNA-Seq	Robustness	A hang can occur during RNA-seq, when the pileup of reads in a narrow region is very large, and a window of reads cannot fit into 20Gbytes (default) of bin memory	Run with larger `--bin_memory` setting

SW Installation Procedure

- Download the desired installer from the Illumina support website and unzip the package
- The archive integrity can be checked using: `./<DRAGEN 3.6.4 .run file> --check`
- Install the appropriate release based on your Linux OS with the command: `sudo sh <DRAGEN 3.6.4 .run file>`
- Please follow the installer instructions. Server power cycle may be required after installation, depending on the currently installed version. If an updated FPGA shell image needs to load from flash, this is only achieved with power cycle.
  - A power cycle is required when upgrading from v3.3.7 or older
  - A power cycle is required when downgrading to v3.3.7 or older
  - A power cycle is not required when upgrading from a release after v3.3.7
- Procedure to downgrade to v3.3.7 or older:
  - Requires the following three steps. The prior .mcs file needs to be flashed manually:
    - Install the prior release: `sudo sh <DRAGEN 3.3.7 .run file>`
    - `program_flash /opt/edico/bitstream/07*/*.mcs`
    - Power cycle