EXHIBIT D

SMRT® Link release notes (v11.0)

PacBio

Note: SMRT Link v11.0 is for use with Sequel® II and Sequel IIe systems **only**. Customers running Sequel systems, or those with mixed fleets running Sequel and Sequel II/IIe systems, should continue using SMRT Link v10.2.

SMRT Link server installation

SMRT Link server software is supported on:

- English-language CentOS 7.x, supported until end-of-life 6/30/2024.
- English-language Rocky Linux 8.x supported until end-of-life 5/31/2029.
- Ubuntu 18.04 and 20.04 64-bit Linux® distributions.
- These supported versions **also** apply to SMRT Link compute nodes.
- **Note**: PacBio advises **against** new installations of CentOS for use with SMRT Link.

- SMRT Link is **not** guaranteed to work on Linux versions that are no longer supported by the operating systems' vendors.
- SMRT Link server software **cannot** be installed on systems running other versions of UNIX, macOS® or Windows®.
- Several SMRT Link v11.0 features are computationally-intensive and require adherence to the computational and storage requirements listed in the document **SMRT Link software installation guide (v11.0)**.

To install only command-line SMRT® Tools, use the `--smrttools-only` option with the installation command, whether for a new installation or an upgrade. Examples:

```
smrtlink-*.run --rootdir smrtlink --smrttools-only
smrtlink-*.run --rootdir smrtlink --smrttools-only -upgrade
```

Supported chemistry

- SMRT Link v11.0 supports all chemistry versions for Sequel II and Sequel IIe systems.

SMRT Link database note

- SMRT Link v11.0 no longer includes weekly automatic database backups. A database backup is still automatically performed once, during installation or upgrade. Failure to back up the SMRT Link database on a regular schedule risks losing all records in SMRT Link (including users, Data Sets, analyses, barcodes, and references) if a file system or reconfiguration error occurs. The underlying sequencing or analysis files, such as BAM files, are **not** affected. We **strongly** recommend asking your local Linux system administrator to schedule regular weekly backups of the SMRT Link database using standard Linux utilities. For additional details, please contact PacBio Technical Support.

New Features

SMRT Link - SMRT® Analysis

- The term **Continuous Long Reads** is deprecated and replaced by the term **Subreads**.
- SMRT Link analysis applications are now divided into two categories: **Secondary analysis applications**, and **data utilities**.

- **Secondary analysis applications** produce biologically-meaningful results. These applications accept **only** HiFi reads, and include: Genome Assembly, HiFi Mapping, HiFiViral SARS-CoV-2 Analysis, Iso-Seq® Analysis, Microbial Genome Analysis, Minor Variants Analysis, and Structural Variant Calling.
- **Data utilities** are used as intermediate steps to producing biologically-meaningful results. All data utilities accept HiFi reads as input, **except** for CCS Analysis which accept only **Subreads** as input.
- The **Microbial Genome Analysis** application replaces the **Microbial Assembly** application in the previous release. The new application also performs base modification detection; this functionality replaces the **Base Modifications Analysis** application in the previous release.
- New data utility to perform **5mC CpG Detection**.
- **HiFiViral SARS-CoV-2 Analysis** now includes a minimum coverage requirement before calling a probability for multiple strains. Samples with less than 70% genome coverage output "NA" instead of a probability.

SMRT Link - Sample Setup

- Can now export calculated values to a CSV file to support lab automation. See **SMRT Link user guide (v11.0)** for details on the fields provided in the CSV export file.

SMRT Link - Run Design

- **CCS analysis output**: In SMRT Link v11.0, the .bam file(s) produced by CCS analysis now contain **only** HiFi reads. A new option allows users to produce .bam files with low-quality reads, similar to how they were delivered in SMRT Link v10.2 and earlier releases.
- Run Designs for Sequel II systems will perform CCS in SMRT Link.

SMRT Link - Run QC

- Run QC now includes an **Instrument Status** view that provides information about PacBio instruments that are connected to SMRT Link.

Known Issues

- **Auto Analysis**: When creating an Auto Analysis job, after completing the **Select Data** step and clicking **Next**, navigating back to the Collections/Samples table may display unexpected columns or data. To resolve this issue, refresh the page and create the Auto Analysis again.
- **Importing Run Designs**: Importing a Run Design CSV file does **not** produce an error when specifying a run that uses three or more Sequencing kit reaction plates. When this occurs, an error displays on the Sequel II or Sequel IIe system after the Run Design is loaded on the instrument. To resolve this issue, edit Run Designs to use **two or fewer** Sequencing kit reaction plates, and reload onto the instrument. Note that the correct error is produced when using the Run Design UI instead of importing a Run Design CSV file.
- **Exporting Run Design**: When exporting a Run Design, Sequencing kit part numbers are numeric, and may be automatically formatted by Microsoft Excel into an exponential number format. Using Microsoft Excel to edit the Run Design export CSV file may then cause failure upon import due to the automatically-formatted Sequencing kit part number. To resolve this issue, reformat the Sequencing Kit column to show **all** digits, turn off the auto-format feature in Microsoft Excel, or use other applications that do not automatically format values in CSV files.
- **SMRT Link Cloud**: Users of SMRT Link Cloud may experience permissions issues with `cromwell`. Contact PacBio Technical Support for workaround instructions.

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Fixed Issues

- The display of record numbers shown in Data Management is now consistent with the underlying data and is no longer affected by sorting actions.
- When creating new analyses using the **Copy From** mechanism, users are now given an option to copy from parent analyses.
- Demultiplexing now correctly clips HiFi kinetics tags (`fi`, `fp`, `ri`, `rp`).
- Read Group identifiers assigned during demultiplexing were corrected to address issues with data chunking in some SMRT Link workflows.

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