

# **DRAGEN ORA Helper Suite v1.0 Software Release Notes**

## Introduction

These release notes detail the initial release of Illumina® DRAGEN™ ORA Helper Suite software which allows for a seamless integration of compressed FASTQ.ORA files into secondary analysis workflows either on a Local environment or on a Remote environment.

DRAGEN ORA Helper Suite is intended for processing FASTQ.ORA files in environments where secondary analyses are not performed with DRAGEN, or environments that do not have access to a DRAGEN v3.8 or later (native ingestion of FASTQ.ORA files is available starting on DRAGEN v3.8).

In a Local environment, FASTQ.ORA files are accessible on the compute node via a filesystem. This includes cloud compute instances with local data or data available via a network file system.

In a Remote environment, FASTQ.ORA files are stored in the cloud (AWS S3 or Azure blob storage) and users want to make them appear locally.

The DRAGEN ORA Helper Suite v1.0 package includes the following components and file:

- the **oraFuse** tool – oraFuse v1.0
- the **ora LD-Preload** tool – ora-ldpreload v1.0
- the **orad** tool – orad 2.6.1 (ORA decompression tool)
- the **oraHelper** guiding tool
- the reference genome file -refbin v2.0

The following table lists the minimum requirements for the DRAGEN ORA Helper Suite Software.

Component	Minimum Requirements
System Memory	8 GB RAM
Free Disk Space	2 GB
Compatible Linux Distribution	<ul style="list-style-type: none"> <li>• Ubuntu 14.06 or later</li> <li>• CentOS 7 or later</li> </ul>
Internet Connection	An internet connection is required to install the DRAGEN ORA Helper Suite and its dependencies. Instructions are provided below for installing on an online system and then transferring to an offline system if needed. Once installed, the internet connection is not required unless the DRAGEN ORA Helper Suite is used in a remote environment.

## SW Installation Procedure

Download the installer from the DRAGEN ORA support pages on the Illumina website, and then follow the steps below to install the DRAGEN ORA Helper Suite software.

1. Open a terminal window.
2. Move the installer to the directory where the software is to be installed.
3. Navigate to the installation directory.
4. Run the following command `sh <installer name>.sh`
5. To install oraFuse, install the dependencies when prompted. The following dependencies will be installed: fuse, fuse-libs, libcurl, and openssl. Note: this requires the system to be online.

The installer creates a folder named `oraHelperSuite`.

### Offline Installation

The DRAGEN ORA Helper Suite Software can run offline once the `oraHelperSuite` package and its dependencies have been installed on the offline system. To complete an offline installation, do as follows.

1. Download the installer using a computer that has internet access.
2. Run the command `sh <installer name>.sh` on the connected system from a terminal to install the `oraHelperSuite` package
3. Install the required dependencies to use the oraFuse tool on the offline system (`fuse fuse-libs libcurl openssl` for CentOS distribution, `fuse openssl libcurl3-gnutls` for Ubuntu distribution)
4. Transfer the `oraHelperSuite` package to the offline system and then use the DRAGEN ORA Helper Suite

## Known limitations

- The oraFuse tool requires root privileges to be installed
- Multiple users of the same file at the same time are not possible with the oraFuse tool
- The ora LD-Preload library only works with dynamically compiled downstream bioinformatics tools
- Some security tools may interfere with the FUSE driver which will prevent oraFuse from working (e.g. CrowdStrike)

## Known issues

- When detecting an error, the ora LD-Preload tool correctly stops and outputs correct error message but does not always output non zero error code
- The ora LD-Preload tool does not work with DRAGMAP
- When user wants to access remote files with oraFuse, but cloud credentials are not set correctly, the software will output a message that is not informative