



DRAGEN Best Practices

DRAGEN Server

- DRAGEN Server comes configured with CentOS 6
- As part of any cluster or stand alone, the DRAGEN Server behaves like any other Linux Server
- It supports all Linux commands in addition to the DRAGEN commands
- DRAGEN command line examples with all the options are provided in the DRAGEN User Guide

Server Access

- As configured today, the DRAGEN Server can run pipelines via command line only
- A GUI based option is available in terms of a Work Flow Manager that includes a scheduler to queue jobs on the DRAGEN Server
- The WFM is capable of managing 1 or more DRAGEN Servers
- The WFM can integrate with Sequencers & LIMS systems to manage end to end work flows.
- A demo video of the WFM is here ->
<http://www.edicogenome.com/dragen-bioit-platform/workflow-management-system/>

File Structure

- DRAGEN Server includes a 2TB/3.2TB NVME drive at /staging
- This drive is used by DRAGEN as scratch space for temporary files generated during processing
- It is important that command line includes this option to write temp files to staging (`--intermediate-results-dir = /staging/tmp`)
- DRAGEN run logs are stored in `/var/log/dragen`
- DRAGEN license files (do not delete/edit) are stored here -> `/var/lib/edico`
- DRAGEN executables are here -> `/opt/edico/bin`
- To determine installed DRAGEN licenses – use command “`dragen_lic`”
- To get basic info about installed DRAGEN SW, Board SN etc – use command “`dragen_info -b`”

Running Jobs

- To run single jobs, users can simply log into the DRAGEN Server and give the necessary command line to process a sample.
- Note: Only one DRAGEN job can be run at a time, so all runs are done serially.
- To run multiple jobs, command lines can be put in a script and then the script can be executed to run all the jobs.
- Additionally, DRAGEN Server can be used with a scheduler like LSF or Slurm for users to be able to schedule and monitor jobs.

Data Access & Backup

- DRAGEN Server includes a 2TB/3.2TB NVME for accelerated data processing and 2 smaller 120GB OS drives in RAID 1 configuration.
- DRAGEN Server includes two 1GB and two 10GB ports for networking
- It is recommended to connect DRAGEN to an attached NAS using the 10GB ports.
- DRAGEN requires roughly 400MB of sustained Tput to run at speed. The 10GB connection should ideally be sufficient.
- As such, no data needs to be locally copied to the Server to process because DRAGEN can then R/W to the NAS.
- It is recommended that no important files or samples be stored on the DRAGEN Server for long time because it is simply to be used for compute and not for storage.

System Maintenance & Support

- DRAGEN Server is a Linux Server that does not require any special maintenance.
- Edico periodically releases SW updates which can be downloaded from the DRAGEN portal (<https://dragen.edicogenome.com>)
- The SW is an RPM package which can be installed with the single command.
- The DRAGEN portal also provides an option to file tickets related to issues or questions you may have and Edico will provide support.
- For all problems, Edico will help resolve issues as Level 1 support. If there are issues with the Server, Dell/Supermicro warranty will cover.
- For a direct contact for technical issues at Edico, please reach out to Shyamal Mehtalia (shyamal@edicogenome.com)