

Short Introduction to CloVR



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Cloud Virtual Resource for *Microbial Sequence Analysis*



Documentation

<http://clovr.org>

CloVR: A virtual machine for automated and portable sequence analysis from the desktop using cloud computing

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The screenshot displays the CloVR website's main landing page and a detailed guide for installing CloVR on VirtualBox. The main page features a large 'Try CloVR' button, a 'Get CloVR' button, and a 'About CloVR' section. The installation guide shows a 'VirtualBox Manager' window with a 'Create New' button, followed by a 'Welcome to VirtualBox' screen. The URL <http://www.biomedcentral.com/1471-2105/12/356> is also visible.

CloVR Concept

Make the Internet
the only prerequisite to run
complex bioinformatic analyses

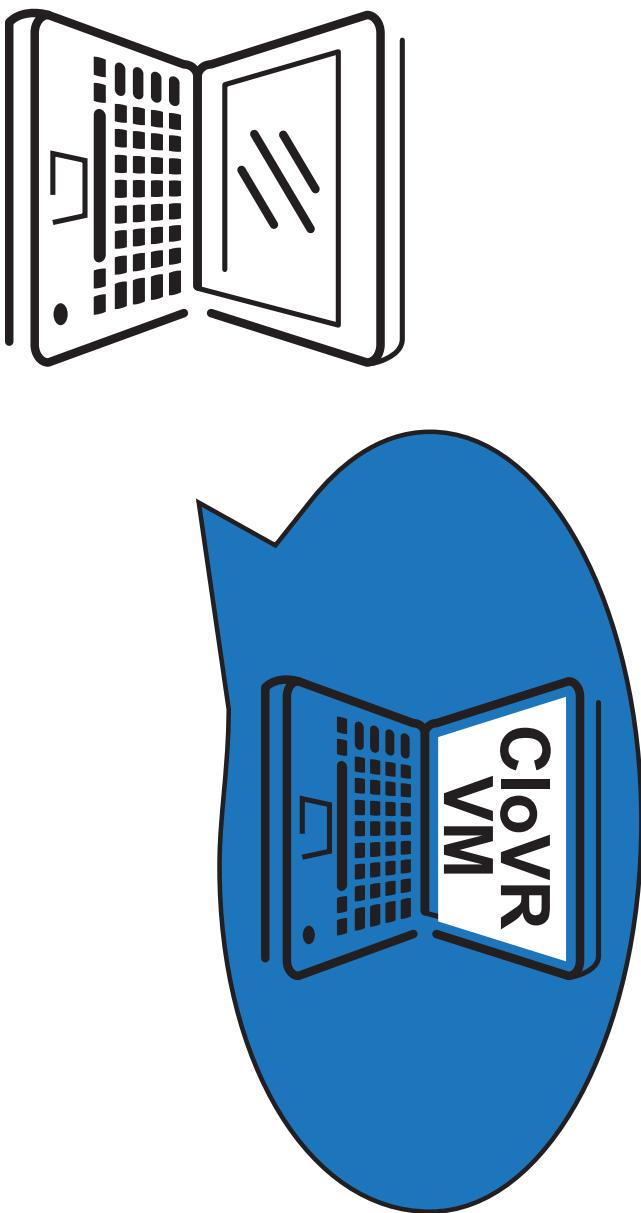
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*without bioinformatic expertise or
extensive computational resources!*

CloVR – Key features

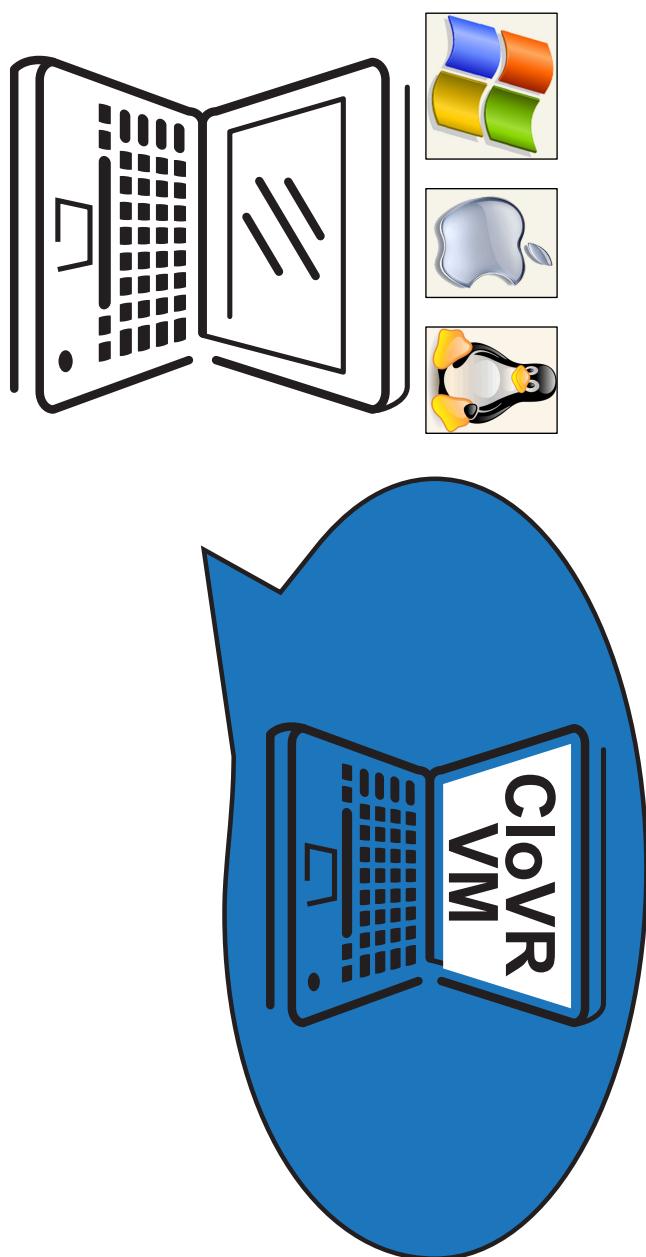
1. All support is provided in the form of fully automated complete analyses.
2. All software is pre-installed on cross-platform portable virtual machines.
3. Optional use of online cloud services adds power for large-scale analyses.

Virtual Machines (1)



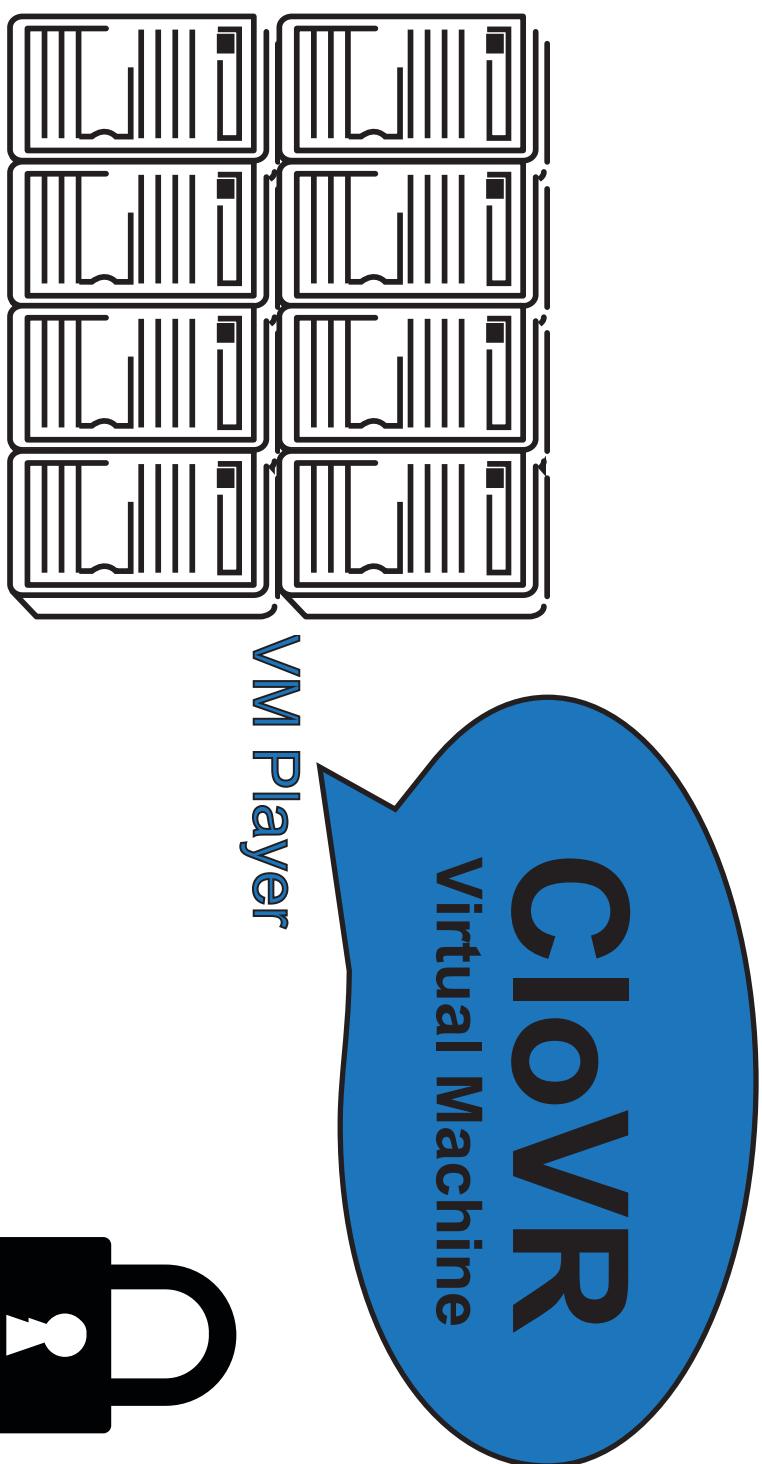
A virtual machine (VM) is a software-simulated computer that runs an operating system and other software and functions like any regular computer.

Virtual Machines (2)



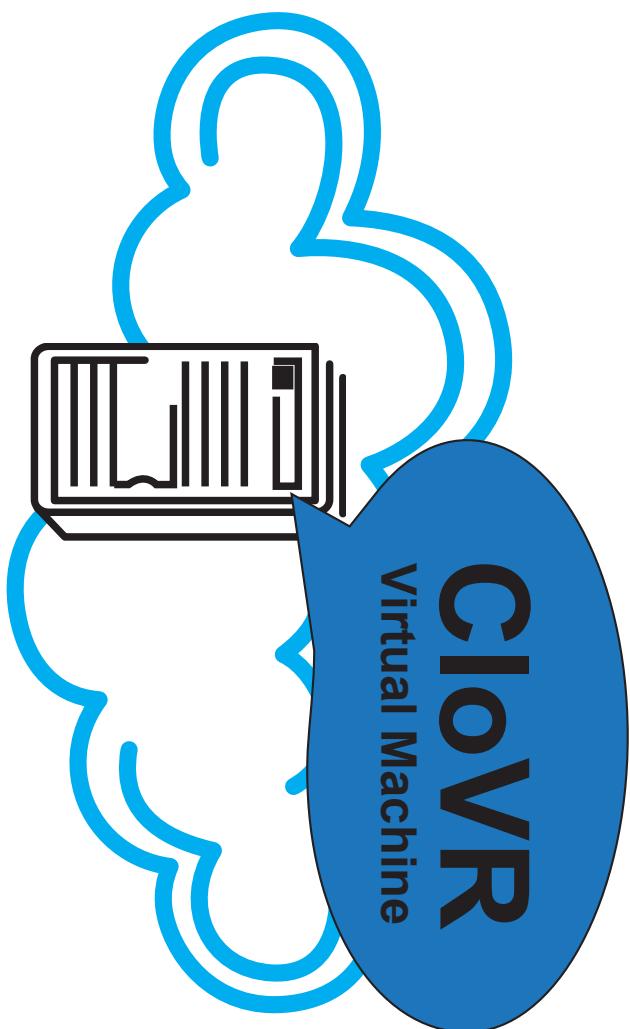
Using a (free) virtual machine player, the CloVR VM runs on any computer (Windows, OS X, Linux) and provides full access to all pre-installed CloVR analysis protocols.

Virtual Machines (3)



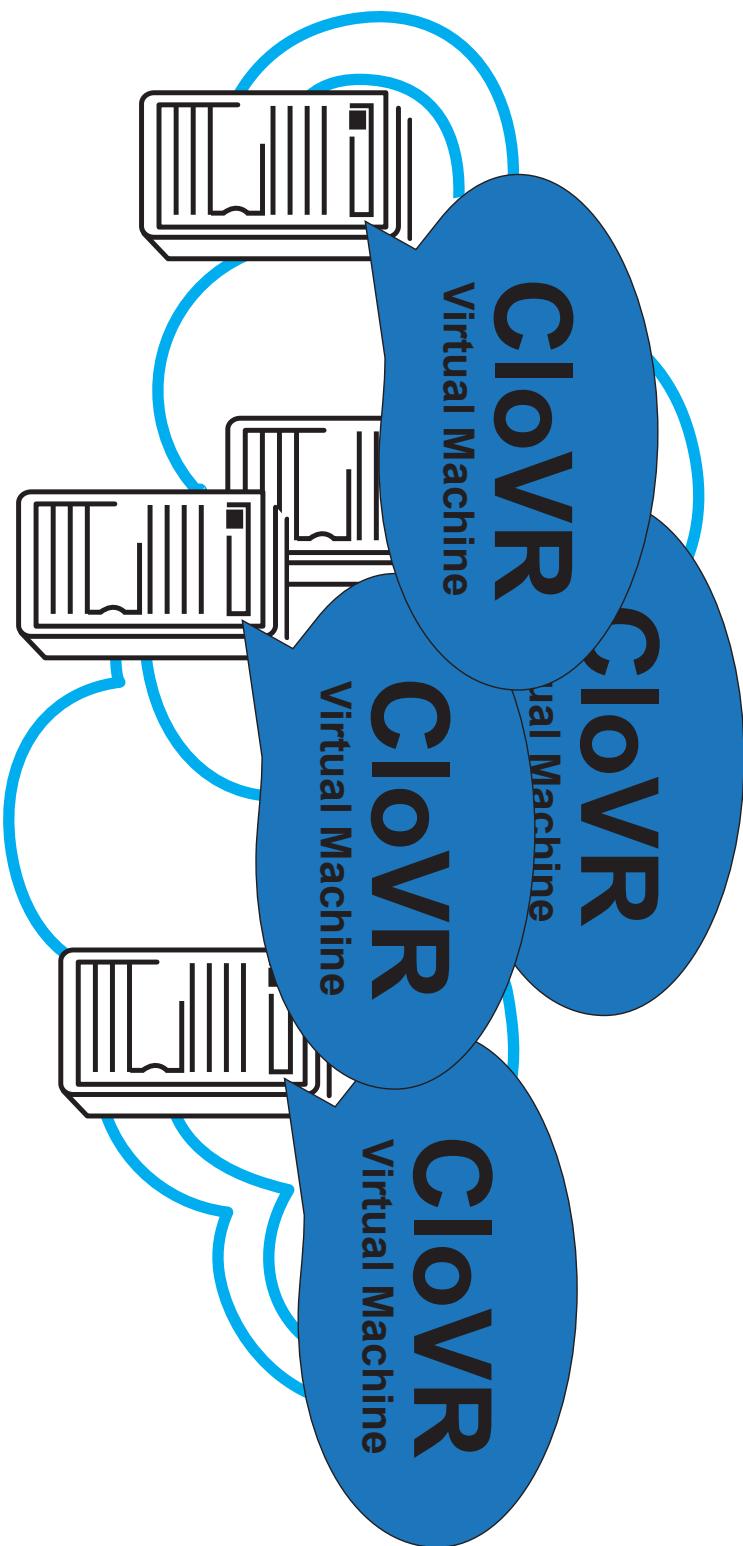
For full control, users can choose to run CloVR on locally available computational resources (without cloud support).

Virtual Machines + Cloud Computing (1)



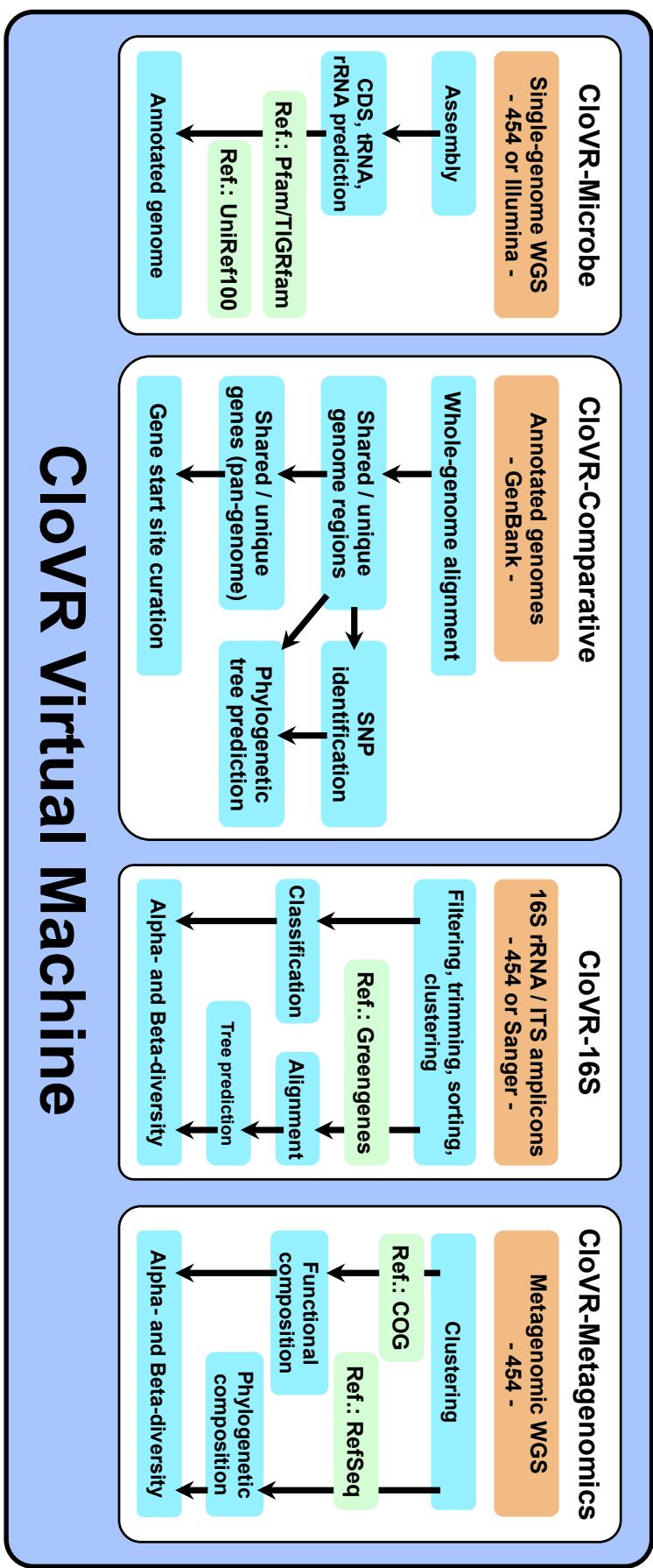
The same CloVR VM can run both locally
or on the cloud.

Virtual Machines + Cloud Computing (2)



For parallel processing of large datasets, CloVR pipelines can run on clusters of multiple connected CloVR VMs on the cloud.

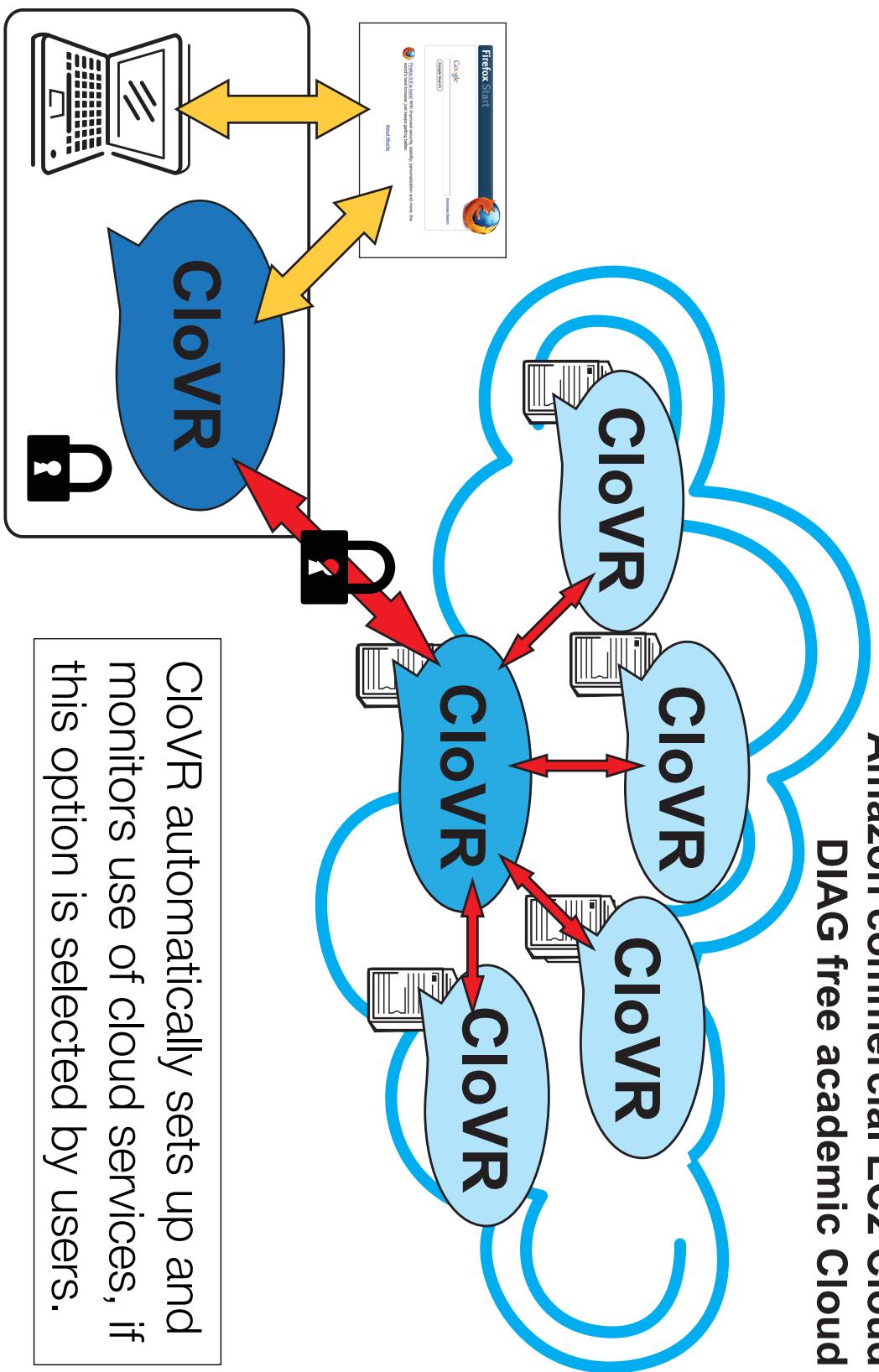
Automated Analysis Pipelines



The CloVR VM uses pre-installed and pre-configured software to support fully automated, push-button sequence analysis.

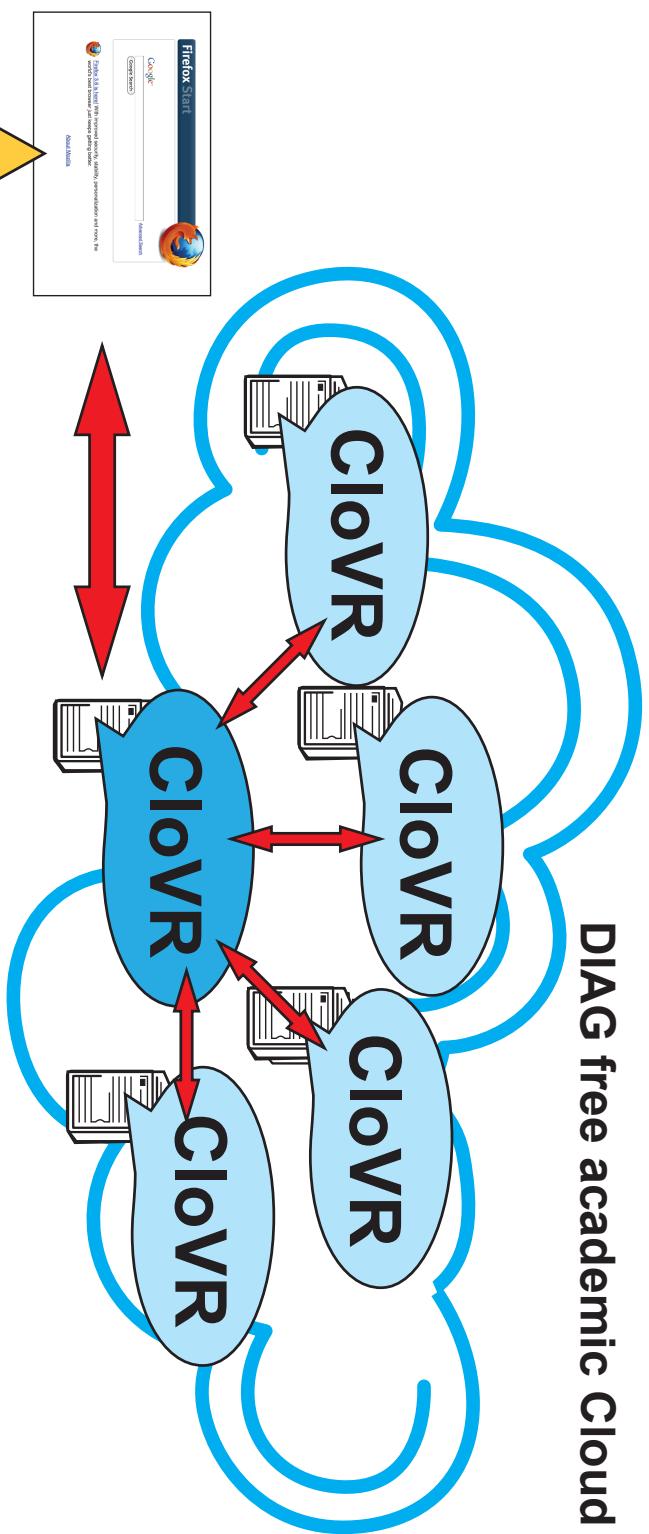
CloVR – with local installation

Amazon commercial EC2 Cloud
DIAG free academic Cloud



CloVR – online (cloud-only)

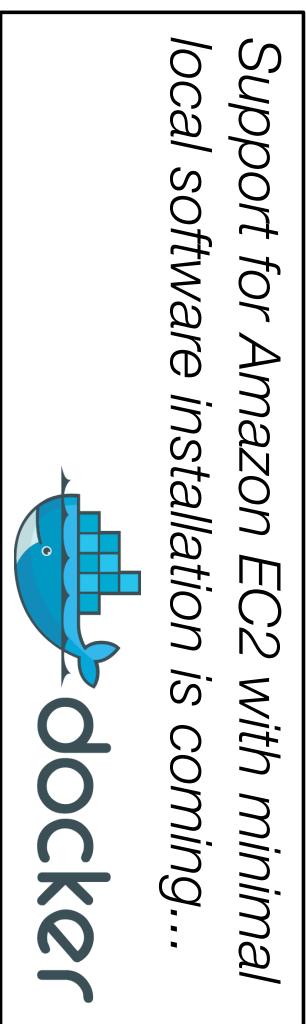
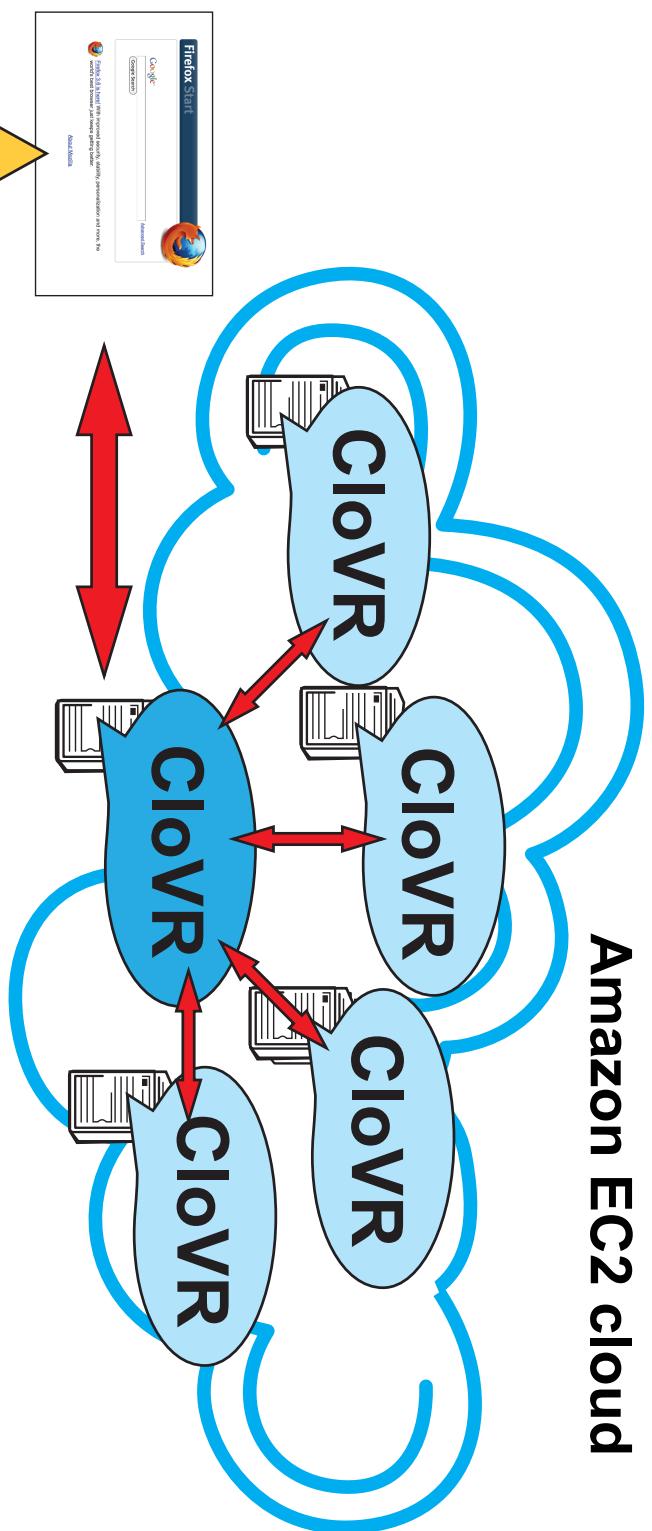
DIAG free academic Cloud



On DIAG, users can choose to run CloVR online, i.e. without need for local installations – *Workshop!*.

CloVR – Online (2)

Amazon EC2 cloud



Supported Applications



Whole-Genomes

- CloVR-Microbe
- CloVR-Comparative

Workshop



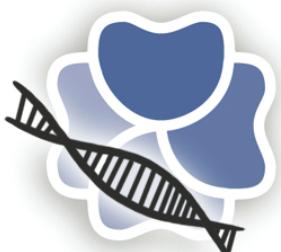
Diagnostics

- CloVR-Dx



Microbiome Markers

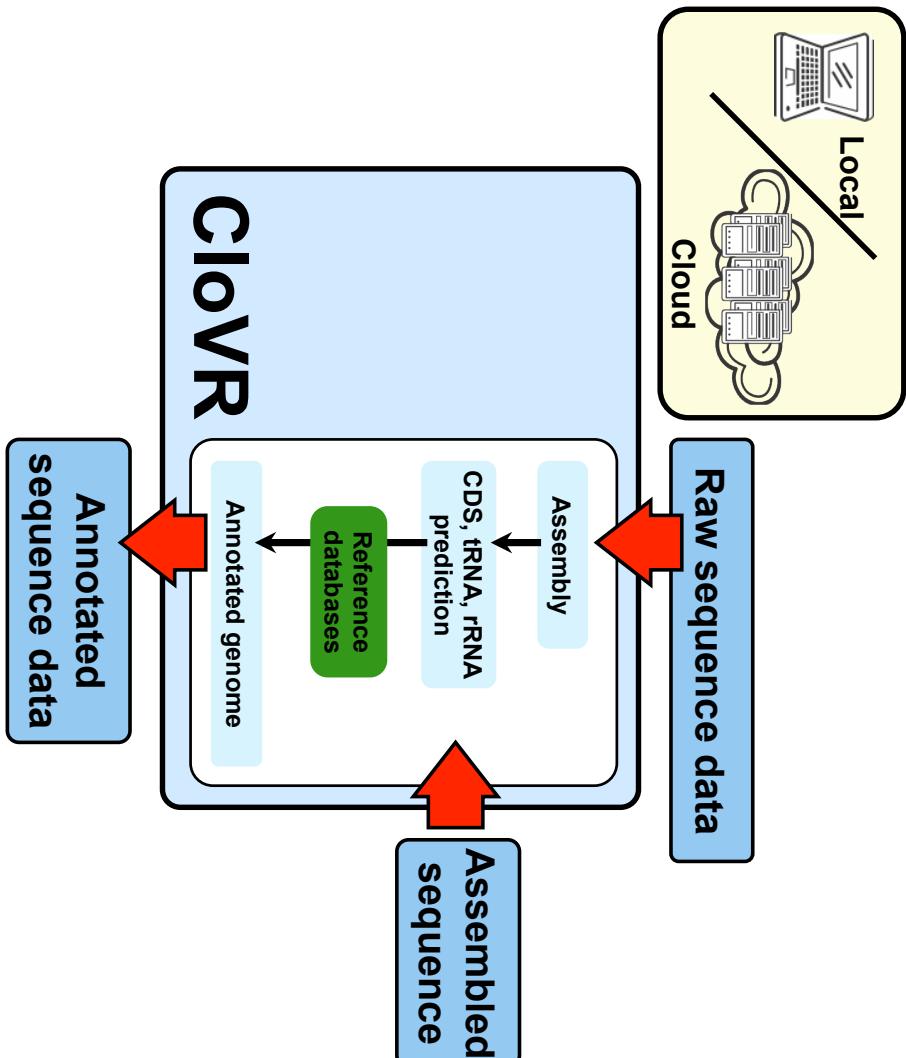
- CloVR-16S
- CloVR-ITS



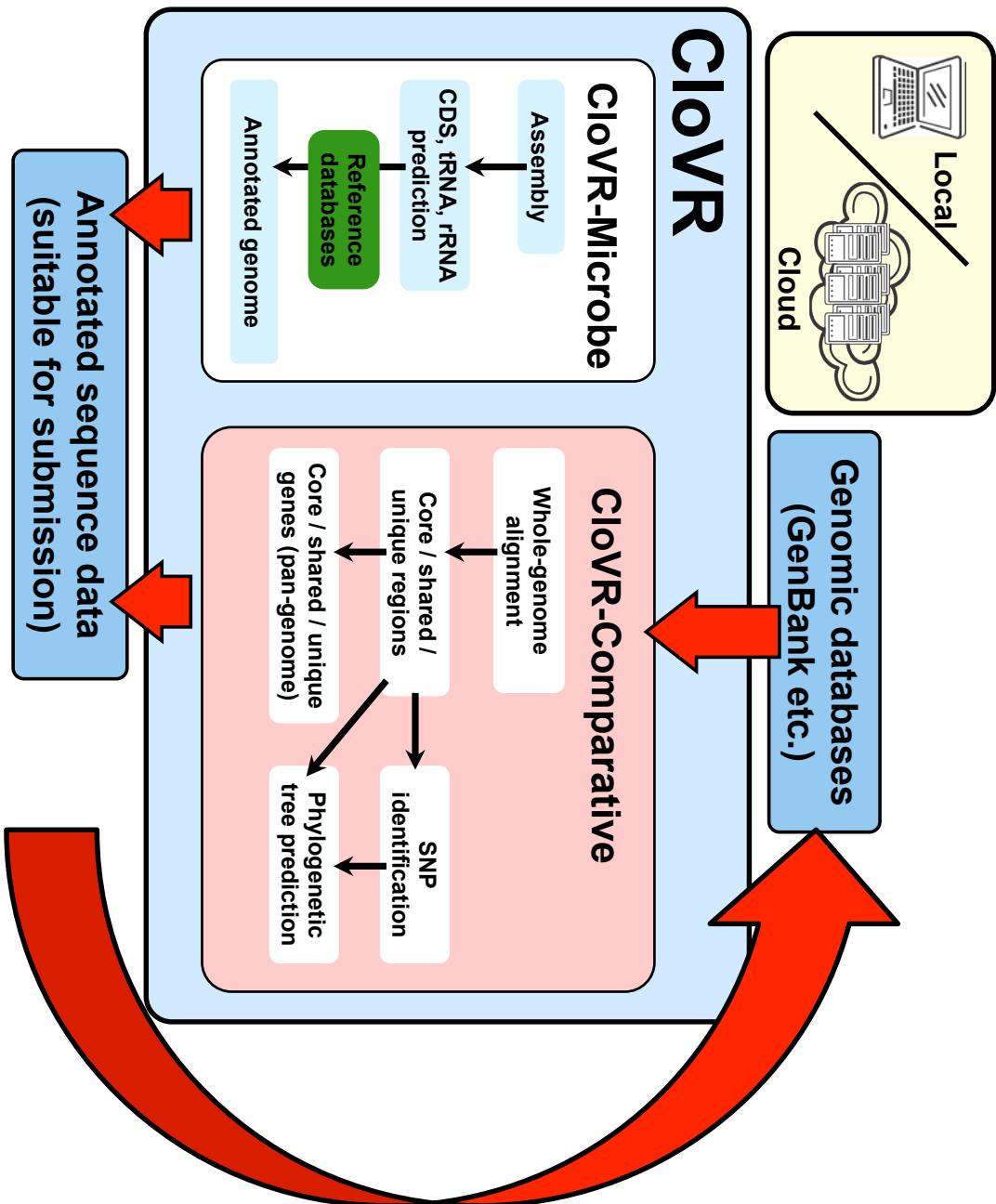
Whole-Metagenomes

- CloVR-Metagenomics
- HMP Protocols
(Human Microbiome Project)

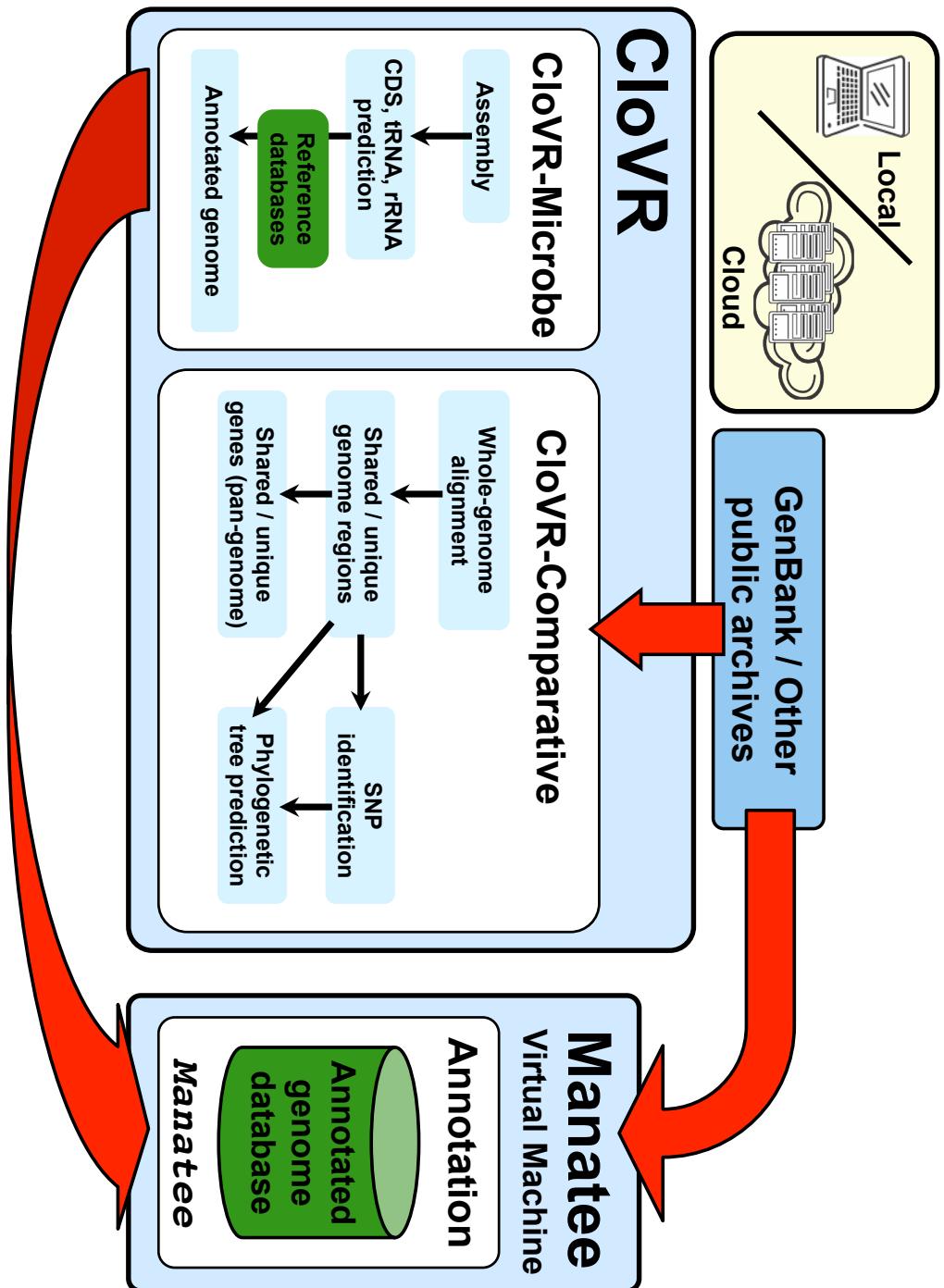
CloVR-Microbe



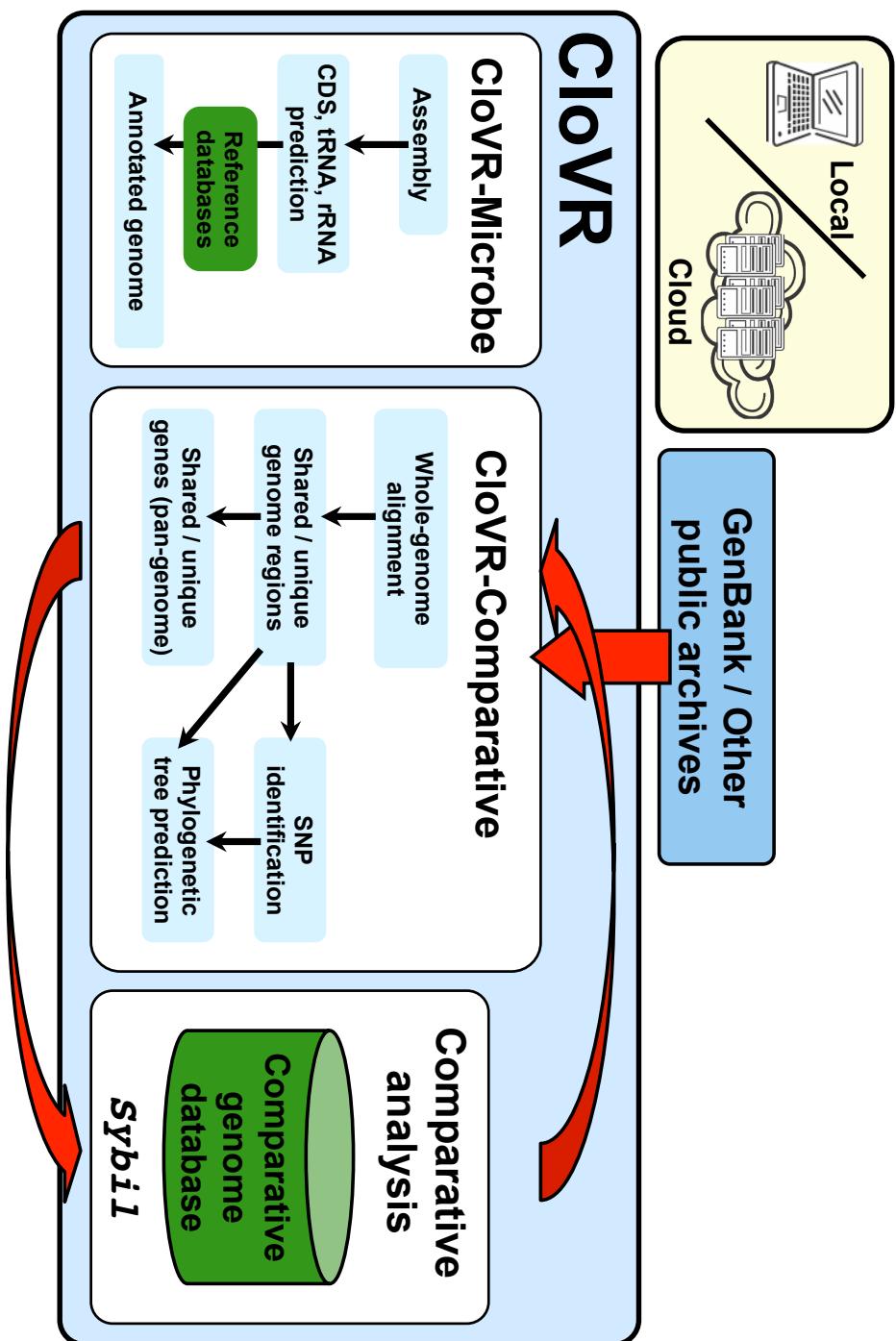
CloVR-Comparative



Interactive tools: Manatee



Interactive tools: Sybil



Data sharing

