rescale

RESCALE FOR THE LIFE SCIENCE INDUSTRY

High Performance Computing
Built for the Cloud

Industry Solutions Overview

- » Accelerate drug development and testing
- » Expedite approvals and time to market
- » Meet strict compliance & security standards
- » Increase cost and performance efficiencies
- » Harness the latest technologies for R&D

> *"Through Rescale, we were able to draw results more than 2x faster than our existing workflow, which helped us make better business decisions."*
>
> — Jerry Maeng, Managing Director, AZothBio

Accelerating Life Science Breakthroughs

Life Science researchers and scientists across disciplines such as pharmacology, genomics, and medical devices are applying high performance computing (HPC) in their R&D, taking advantages of new cloud infrastructures for their simulations and complexity of navigating discovery, production, and approval processes has pushed fixed HPC infrastructure to its limits. Industry-leading companies that span pharmaceutical and biotechnology to academic and commercial testing laboratories, are looking for new ways to enhance their simulation capabilities by leveraging dynamic cloud resources to boost agility, collaboration, and most importantly the safety and efficacy of new treatments.

bionano GENOMICS AZothBio METABIOTA™ Penn

Enable Advanced HPC Applications

Drug discovery, DNA sequencing, orthopedic, molecular dynamic and other solving methods applied to life science use cases:

- Genomic sequencing
- Molecular dynamics
- Pharmacokinetics
- Computational / Quantum Chemistry
- Medical device CFD
- Crystallization
- Protein Folding
- Bioinformatics

Drive Measurable Business Value

Accelerate Drug Candidate Discovery

"One of the biggest advantages we have in our market is speed and agility in the methods we use. With Rescale we can determine effective and ineffective molecules and compounds saving us significant time and resources. .

– Chemist, Leading Pharmaceutical Company

Increase R&D Productivity

"Working with strong collaborators like Rescale, we are driving further improvements in sample-to-answer times & costs to address our customers' needs to run more samples and study more diseases."

– COO, Biotechnology and Genomics Company

Cost Savings & Faster Discovery

Leveraging cloud scale with control and visibility on Rescale, we reduced compute costs for genetic analysis by more than 50% and reduced computing times by 30%.

– Molecular Biology Scientist, Top Research University

Leading HPC Software for Life Science R&D, Pre-installed and Ready to Deploy Today!

Ansys GROMACS MixIT LAMMPS STAR-CCM+
COMSOL MATLAB NAMD SIMULIA Abaqus M-STAR
NONMEM Gaussian 16 XFlow VASP CP2K

900+ More Software and Versions

Rescale gives you turnkey access to the latest technologies, on-demand...

Latest HPC applications and versions
800+ Pre-installed, tuned, and ready to deploy today.

GROMACS · LAMMPS · MATLAB · SIMULIA Abaqus · MixIT · Ansys

PLUS 800+ COMMERICAL AND OPEN SOURCE SOFTWARE

Any application
rescale
Any infrastructure

World's largest selection of specialized hardware
Thousands of HPC architecture configurations

Azure + AzureGovernment · aws + GovCloud · Google Cloud · ORACLE CLOUD · AMD · NVIDIA · intel

Intuitive, time-saving user interface

Rescale automates cloud HPC complexity, making job submission as easy as a few clicks

Engineering Tasks · Infrastructure Tasks

HPC Cloud with Rescale

Run jobs in minutes, accessible to anyone with a browser

Requirements

A computer with an internet browser (e.g., Chrome) allows ease of access for scientists, researchers and engineers.

Steps

1. Sign into Rescale from any browser
2. Upload software input files
3. Choose software and use auto-recommended hardware or customize
4. Submit Job and download results

VS.

Do-it-yourself Cloud HPC (without Rescale)

Requires HPC IT experties and days of technical work to run a job

Requirements

- A computer with an internet browser (e.g., Chrome)
- An cloud provider account with IAM user with Admin privileges
- Familiarity with cloud provider infrastructure services
- Familiarity with Linux terminal commands
- Access to install files and familiarity with specific software workflows

Steps

1. Create a VPC and Subnet on your CSP account
2. Create a storage bucket on your CSP account
3. Create an IAM role for accessing your storage bucket
4. Request increase your service quota
5. Setup a budget in CSP Budget
6. Select optimal VM/Instance types
7. Create machine images and templates for workload
8. Configure cluster networking
9. Configure license servers
10. Create / configure a parallel file system for working directories
11. Launch the cluster
12. Connect to the cluster via command line or interactive session
13. Upload software input files
14. Move files from storage to the parallel file system
15. Create a scheduler job submission script
16. Submit job to the scheduler
17. Wait to see if job completes successfully
18. Copy results to storage bucket once the simulation is complete
19. Shutdown the cluster and cleanup resources
20. Download results from storage bucket

Industry Leading Security and Compliance Standards:

HIPAA · FedRAMP · AICPA SOC · DFARS Compliant

Rescale Security standards include:
FedRAMP Authorized Moderate, ISO 27001, SOC 2 Type 2, ITAR, HIPAA, CSA Registered, TISAX Level 1, GDPR, and CCPA. Rescale follows the NIST 800-53 framework.

AZothBio Accelerates New Drug Discovery Using Deep Learning on Rescale

AZothBio first collaborated with Rescale through the Tech Against COVID-19 program by using Rescale's cloud HPC environment which allowed AZothBio to easily onboard their software and use their methodology to conduct COVID-19 research. Through this program, AZothBio initiated a project to discover immunoreactive substances targeting the infection of the coronavirus and quickly expanded to other projects.

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About Rescale
Rescale is high performance computing built for the cloud to empower engineers while giving IT security and control. From supersonic jets to personalized medicine, industry leaders are bringing new product innovations to market with unprecedented speed and efficiency with Rescale, a cloud platform delivering intelligent full-stack automation and performance optimization. IT leaders use Rescale to deliver HPC-as-a-Service with a secure control plane to deliver any application, on any architecture, at any scale on their cloud of choice.