

# 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.



### 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



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

### 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

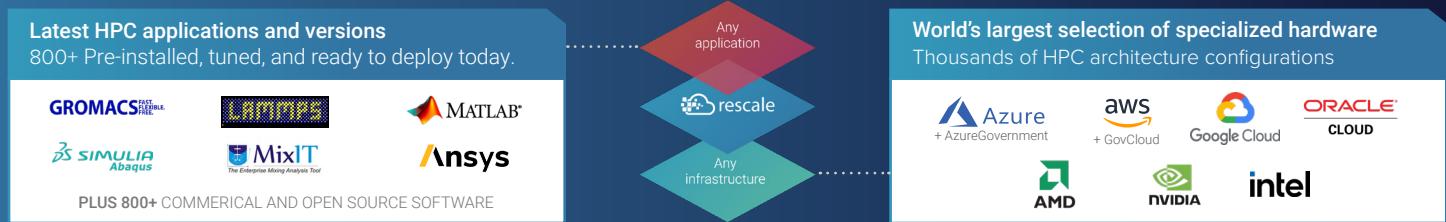
*Leveraging cloud scale with control and visibility on Rescale, we reduced compute costs for genetic analysis by more than 50% and reduced computing times by 30%.*

— Molecular Biology Scientist, Top Research University



900+ More Software and Versions

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



## 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 expertise 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

#### 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:



### 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.