HCLTech | Supercharging Progress™

High performance computing (HPC)

Fast track innovation and reduce time-to-value

In today's competitive business landscape, High performance computing (HPC) has emerged as a game-changer for enterprises, empowering them to process large data sets and complex simulations faster. The result is accelerated innovation cycles with improved efficiency.

The HPC market for cloud is expected to grow at a five-year CAGR of 17.6% till 2026, whereas HPC as a whole is likely to grow at 9.44% CAGR.

Source: Hyperion Research

Challenges with HPC

The adoption of HPC solutions in a restricted environment may come with certain challenges such as:

- Lack of automation and scalability in the HPC environment
- Higher time-to-value and innovation due to unoptimized clusters and inefficient cluster utilization
- Infrastructure complexity and reduced performance due to non-adherence to best practices

HCLTech's HPC offering: Accelerating innovation, value and performance

HPC is a one-stop solution that helps to accelerate implementation, modernization, optimization and operations for large HPC environments in any deployment model such as on-premise, on cloud or hybrid.

The offering is stitched around HCLTech's consulting and infrastructure managed services and the expertise of leading Original equipment manufacturers to provide scalable and flexible end-to-end solutions. It helps customers to increase performance, manage their day-to-day operations, consult on best practices and create processes for proper HPC utilization and operations.

HPC: Solution overview

Consult

Discover

- Understand the customer use case(s) and HPC landscape (if existing)
- Understand capacity requirement
- Discover workload types

Assess/Analyze

- Analyze total capacity and talent requirements
- Assess suitable deployment model and performance requirements
- Design the solution and assist the customer in POC and benchmarking in labs
- Assess the implementation and resource efforts calculation

Build and extend

Formulate

- Create the solution while ensuring adequate scalability
- Finalize OEM(s) and recommend a deployment model
- Finalize talent allocation

Build

- Implement on selected deployment models
- Build Build a middleware stack
- Configure clusters and management services
- Implement automation
- Validate implementation and perform post deployment benchmarking
- Deploy or migrate the workload

Operate

Manage

- Offer on-site support for infra management
- Allocate remote services and resources for workload
- Manage day-to-day tasks
- Infrastructure optimization

Monitor

- Monitor infrastructure for anomalies
- Monitor resources
- Design and generate performance/utilization reports
- Adopt and implement best practices

Benefits

- Reduced time to innovation and time to market
- Streamlined HPC operations
- Optimized costs
- Improved sustainability due to efficient asset utilization
- Improved infrastructure performance
- Automated job scheduling and cluster configuration
- Adherence to industry best practices
- Increased scalability in select deployment models

Success stories

Major EDA firm in Europe moves EDA workload to cloud

- Helped to meet their high resource demands of running EDA jobs without any Capex
- This resulted in a substantial performance improvement from on-prem, leading to accelerated innovation and business transformation
- Faster job execution for all simulation workloads

Major automobile firm in Europe moves HPC to Azure cloud

- Helped the customer achieve a scalable infrastructure with optimized performance and cost control
- Enabled significant performance improvement from AWS and other hyperscalers?
- Ensured same performance of the HPC application on Azure as that of on-prem
- Achieved considerable reduction in overall operational costs

HCLTech – HPE: Driving value to our customers

HPE and HCLTech have been driving innovation together. Our combined experience in HPC, converged infrastructure, virtualization, hybrid cloud and other emerging technologies enables our customers to build for the future on an integrated, scalable and automated IT platform.

HPE and HCLTech work together to make IT environments more efficient and secure from edge to core to cloud, ensuring fast responses to a rapidly changing landscape without sacrificing privacy, performance, or control. Whatever the size of your organization, HPE and HCLTech can help you transform from traditional technology platforms to a supercomputing environment designed for the exascale era and beyond.

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Hewlett Packard Enterprise

Why HCLTech

- Leader in all major Cloud analyst reports
- Strategic engagements with leading OEMs, cloud and storage providers
- Large-scale integrated center of excellence (CoE) with tested use cases and reference architectures
- Strong expertise in infrastructure tuning and optimization and high-performance data analytics (HPDA), along with substantive domain and technology expertise in cloud

For more information or queries, please write to us at contact.hyc@hcl.com

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