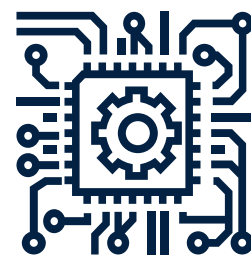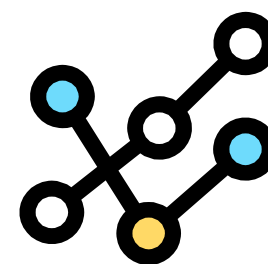# HPC Cloud IaaS

Pain Points

Virtual Cluster Deployment and Scaling

Expandable and Compatible Storage Systems

Parallel Computing CPU/GPU Environments
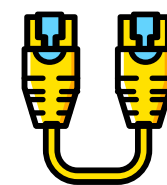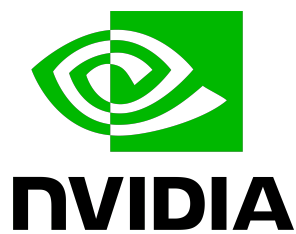

High Speed Networking Support

Hyper-Converged Infrastructure
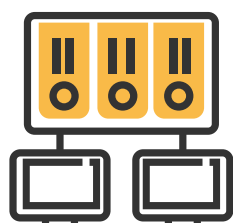
Features

Efficient Processing & Acceleration

intel **XeON** GOLD | **NVIDIA** | **AMD**

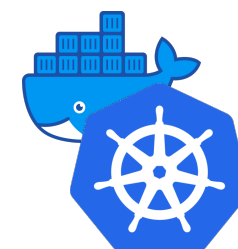**High-Speed Network**

Switch·IB™ |

InfiniBand | 100GbE

Cluster Topology
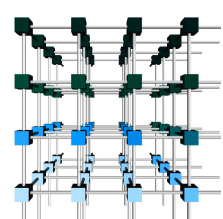
Fat Tree Topology | Torus Interconnect

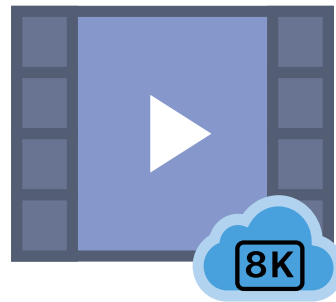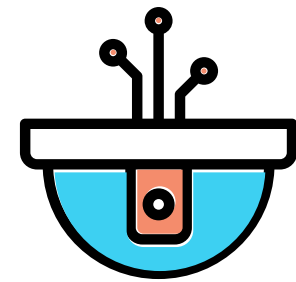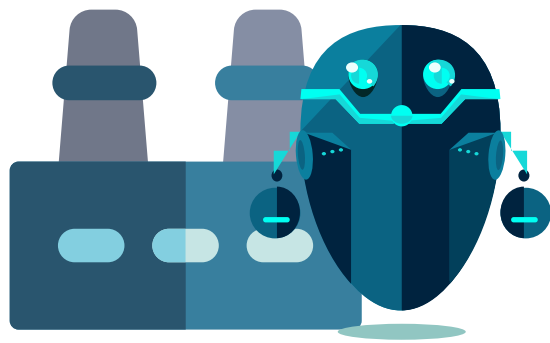**Parallel Computing Platform**

openstack® | slurm workload manager |

Applications
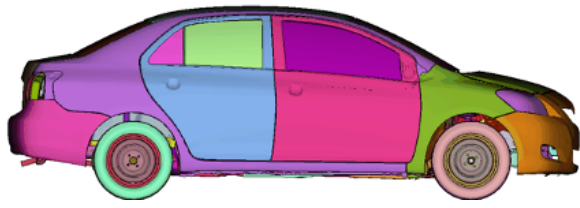
Science and Engineering

High Resolution Video Processing

Smart Surveillance

Industrial Automation

Smart Healthcare

Next-Generation Sequencing

Solution Details

Network Configuration
- 100Gbps IB High Speed Network
- 10GbE Management Network
- 1GbE BMC Network

Infiniband (IB) RDMA
- Direct memory transfer to different hosts
- Supported with GRPC/MPI Protocol

User Interface
- VM Management Interface
- VM Security Settings
- VM Console Access

Data Storage
1. **Resizable Block Storage**
2. **Cloud Object Storage**
   - x3 Replication for Data Redudency
   - Web Scale Object Storage
   - Usage based avaliability and billing
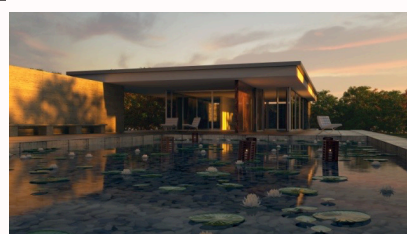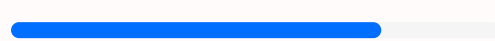   - Compatible with Amazon S3 protocol
3. **Lustre Data Storage**
   - File Level Redundancy
   - Mounted to VM using a high-speed computer-specific transmission protocol
   - High Throughput & Low Latency
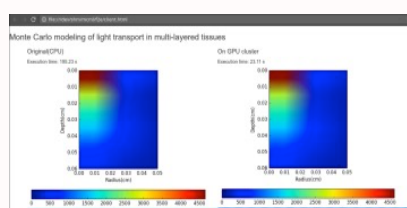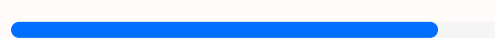   - Project based storage sharing
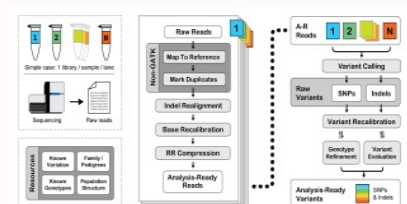
Solution Benefits

Performance Speed-Up

Rendering	**x200**
Radiation Therapy Simulation	**x235**
Tumor Genome Sequencing	**x250**

Cost Flexible
- Save up-to 40% on compute costs
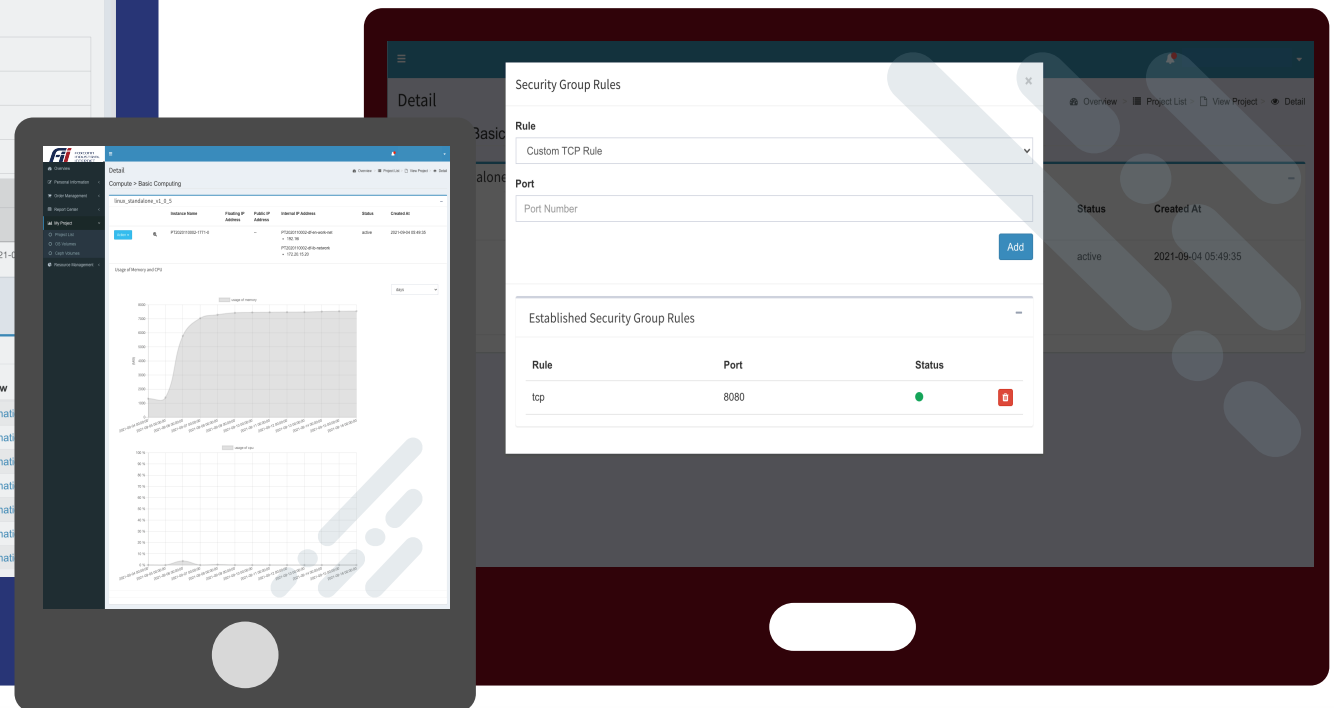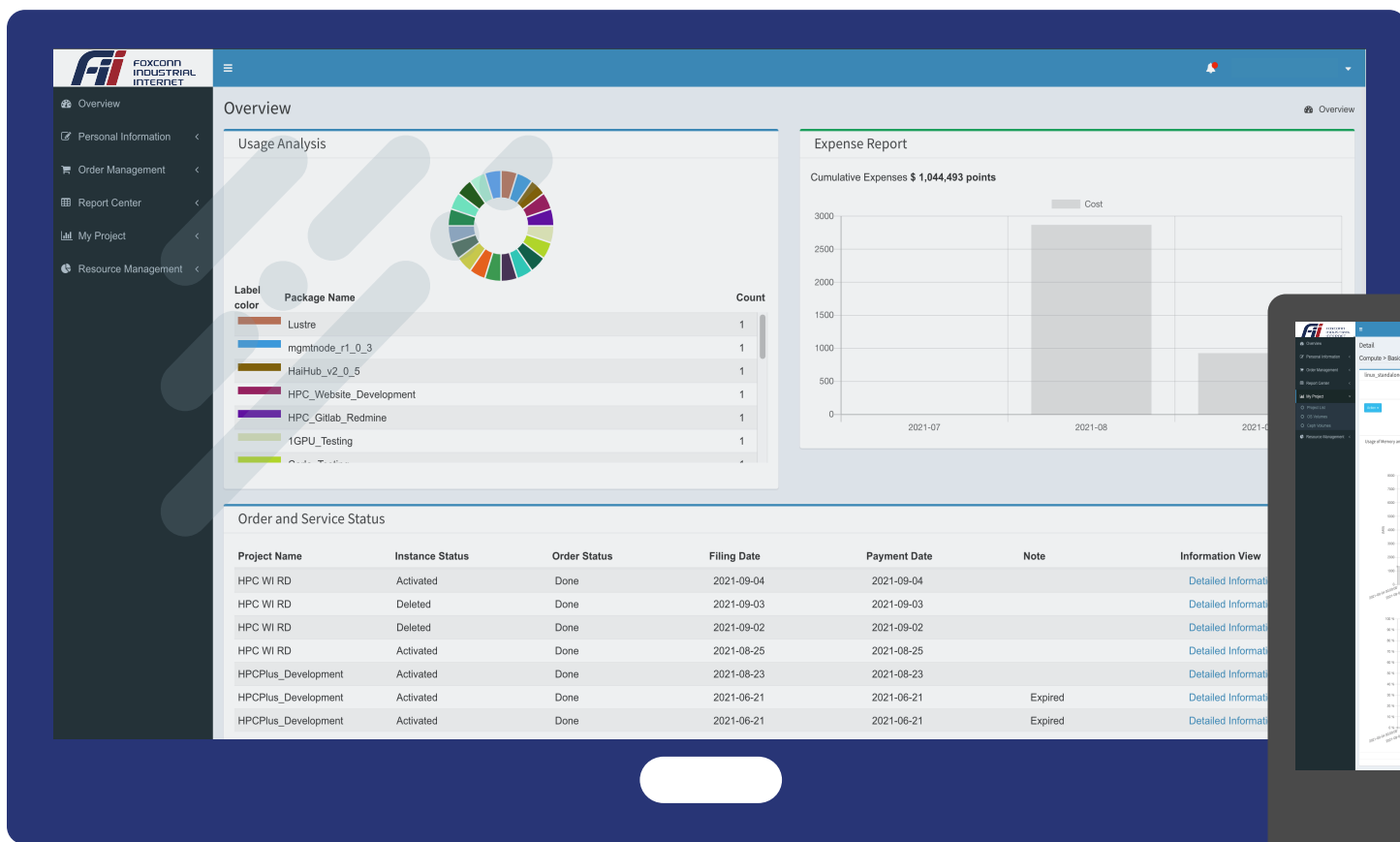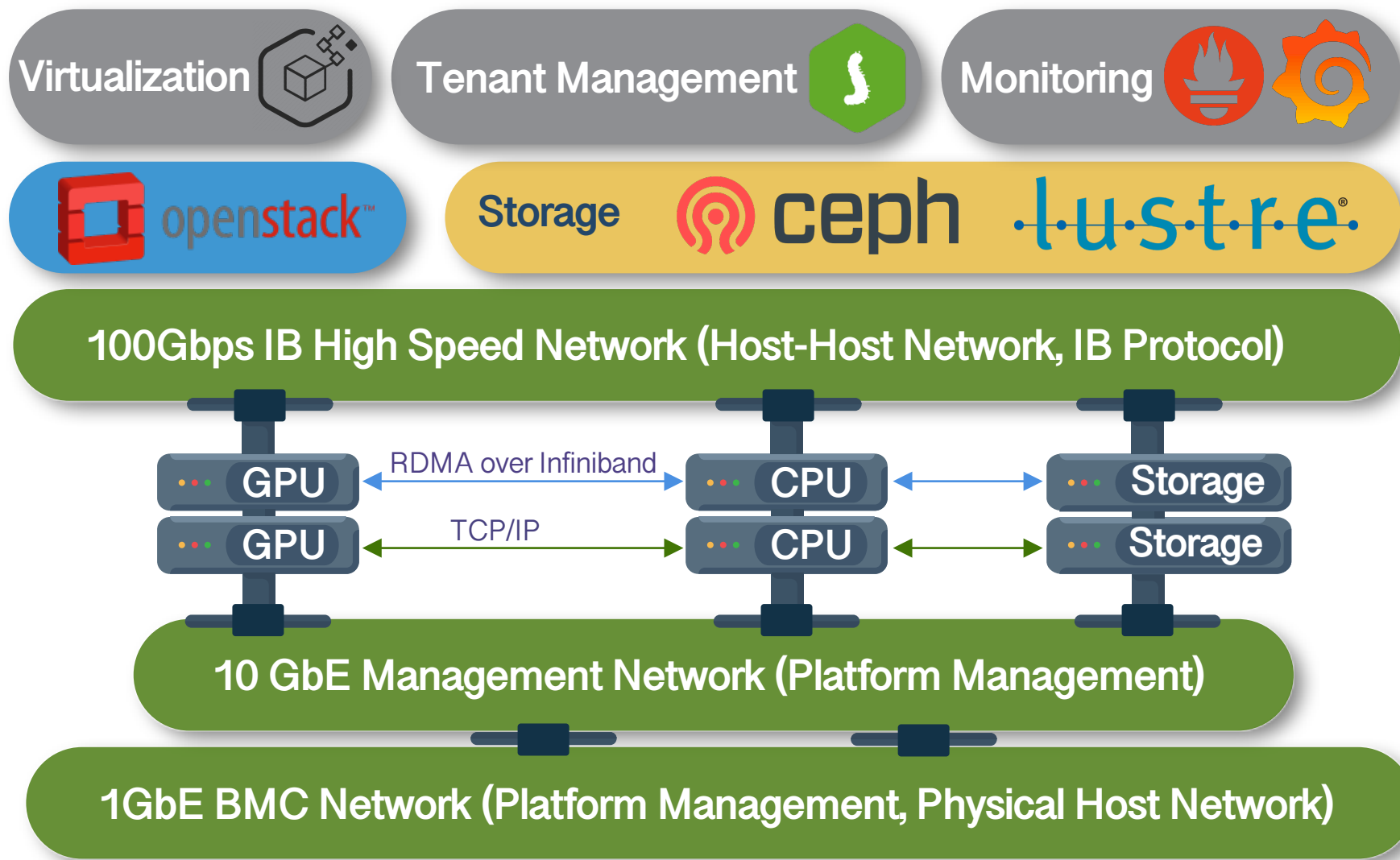- Flexible payment plans
- No hidden costs

Tier III Certified
Uptime
>99.99%

Flexible Deployment
On-Site ••• Hybrid ••• Cloud

HPC Cloud Architecture

Virtualization

Tenant Management

Monitoring

openstack™

Storage **ceph** **lustre**®

100Gbps IB High Speed Network (Host-Host Network, IB Protocol)

GPU — RDMA over Infiniband — CPU — Storage

GPU — TCP/IP — CPU — Storage

10 GbE Management Network (Platform Management)

1GbE BMC Network (Platform Management, Physical Host Network)

CONTACT US