



Service Definition Document

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Introduction

EF HPC Portal is a modern, web-based workspace designed to simplify access to High-Performance Computing (HPC) resources. It provides engineers, researchers, and designers with an intuitive interface to submit jobs, manage files, and launch visualization sessions without requiring command-line expertise. The portal bridges the gap between complex HPC infrastructures and end-users, enabling productivity and collaboration.

Product Description

Overview

EF Portal offers a unified solution for managing HPC workloads across on-premises, cloud, or hybrid environments. It integrates seamlessly with major HPC schedulers and supports technical applications in a wide range of industry sectors, allowing organizations to optimize resource utilization and streamline workflows. The portal is designed to deliver secure, efficient, and user-friendly access to HPC systems.

Key Benefits

- **Ease of Use:** Replaces complex command-line operations with a browser-based interface.
- **Compatibility:** Works with all major HPC schedulers and workload managers.
- **Productivity:** Simplifies job submission and monitoring, reducing time-to-results.
- **Security:** Developed under OWASP Top10 and DevSecOps principles for robust protection.

Core Features

- **Web-Based Access:** Users can interact with HPC resources through a secure browser interface.
- **Scheduler Integration:** Compatible with SLURM, LSF, PBS, and other workload managers.
- **Advanced File Management:** Includes file preview, editing, and transfer capabilities.
- **REST API:** Enables automation and integration with external tools.
- **Visualization Support:** Launch and manage 2D/3D sessions using DCV.
- **Jupyter Integration:** Provides interactive notebooks for data science workflows.

- **Multi-User Management:** Role-based access control for teams and organizations.

Architecture and Components

EF Portal consists of:

- **Web Interface:** Provides job submission, monitoring, and file management.
- **Integration Layer:** Connects to HPC schedulers for workload execution.
- **Visualization Module:** Supports interactive sessions via NICE DCV.
- **Security Framework:** Implements TLS encryption, MFA, and SSO for secure access.
- **REST API Layer:** Facilitates automation and custom integrations.

Use Cases

- **HPC Batch Jobs:** Submit and monitor computational workloads.
- **Engineering Simulations:** Run CAE and CFD applications remotely.
- **Cloud Bursting:** Extend on-premises HPC capacity with cloud resources.
- **Remote Visualization:** Access 2D/3D applications without local GPU hardware.
- **Data Science:** Execute Jupyter notebooks and manage datasets efficiently.

Security and Compliance

EF HPC Portal adheres to OWASP Top10 guidelines and DevSecOps methodology. It supports multi-factor authentication (MFA), single sign-on (SSO), and role-based access control. All communications are encrypted using TLS, and secure file transfer protocols (SSH, HTTPS) are implemented to protect sensitive data.

Pricing and Licensing

EF HPC Portal offers flexible licensing models:

- **Subscription:** Monthly or annual plans for organizations.
- **Perpetual License:** One-time purchase with optional support contracts.

Pricing varies based on license type (HPC, Views...) and regional availability.

Documentation

Comprehensive resources are available, including:

- User Guides: For end-users and administrators.
- REST API Documentation: For developers and integrators.
- Migration Guides: For transitioning from EnginFrame to EF Portal.
- Technical Support: Available through OCF support channels.