

Datasheet

FUJITSU Software HPC Cluster Suite – HPC Gateway

An integrated HPC web desktop combining single sign-on and a coherent intuitive interface to application workflow expertise for engineers, analysts and researchers.

HPC simplicity

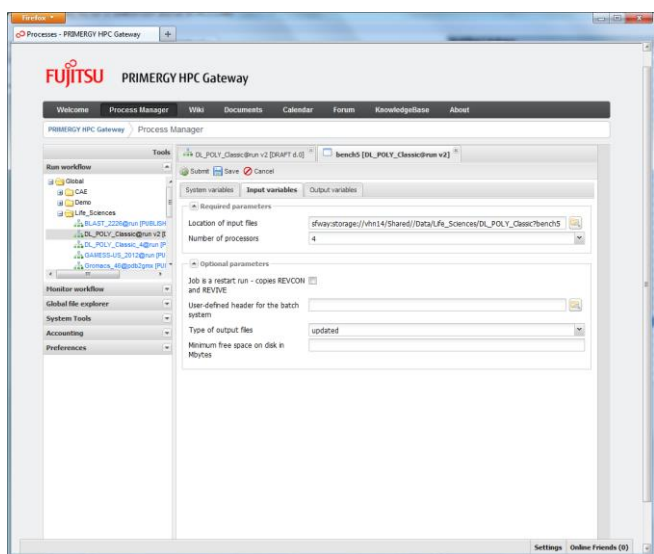
Much HPC activity is built on the same basic activities: run and monitor applications, interpret and organise information, manage and track progress of experiments and syntheses. Higher calculating power and data storage at lower cost, coupled with scalable parallel applications, offer ground-breaking opportunities. Yet the use of HPC tools and resources is often surprisingly complicated and unstructured, relying on assemblies of scripts that depend on particular lower-level protocols and utilities. This just limits the realisation of this potential – for existing and new users alike.

The PRIMERGY HPC Gateway achieves HPC simplicity by combining the widest range of capabilities within a single integrated system usable from any desktop web browser. Intuitive assisted job setup is combined with a point-and-click global file explorer to prepare work and access data. And run-time application monitoring supports a wide range of functions to check simulation progress, track output, and control execution.

HPC expertise

Simplicity is just the first step. The PRIMERGY HPC Gateway goes much further. It is the foundation for building-in expertise – processes and information – related to the business of the end-user. More than a web job submission panel, the PRIMERGY HPC Gateway can incorporate methods and actions that reflect best-practice workflows for using HPC applications.

Workflows in the PRIMERGY HPC Gateway can be used to automate almost any application process. By encapsulating multiple steps for a given experiment overall throughput is increased: the user is freed to focus on decision and analysis, while the system manages file movement, simulation task scheduling and synchronisation. For the same project users might select from several workflows, choosing the one most appropriate to that experiment. Fujitsu offers a baseline catalogue of application interfaces. End-user can run these directly, on-board their own applications, and create new workflows to fit their specific business processes.



Features and benefits

Main features	Benefits
<p>WEB-ACCESS TO HPC</p> <ul style="list-style-type: none"> ■ Access HPC resources and expertise from a web browser. ■ Same interface to local, data centre or cloud resources. ■ Single sign-on to all HPC tools and projects. ■ Adaptable interface and tool setup. 	<ul style="list-style-type: none"> ■ Intuitive interface from any client device. ■ Single entry point to all HPC services. ■ No explicit remote connections or logins. ■ Shorter learning curve.
<p>APPLICATION CATALOGUE^{*1}</p> <ul style="list-style-type: none"> ■ Pre-built application processes designed for use. ■ Natural language interface with selectable standard parameters and file explorer to locate inputs and set output locations. ■ Covering main applications in defined business sectors. ■ Application-specific monitoring for key simulation values. 	<ul style="list-style-type: none"> ■ Standardised interface to key HPC applications and tools. ■ Wider access to HPC, lower entry barrier. ■ Dynamically track application progress and control execution. ■ Easier setup and management of a portfolio of experiments.
<p>APPLICATION ON-BOARDING</p> <ul style="list-style-type: none"> ■ Mechanism for end-users to add their own application interface and script. ■ Driven directly from the Gateway desktop. ■ One-click deployment with immediate web accessibility. 	<ul style="list-style-type: none"> ■ Fully extendable application portfolio. ■ Consolidate execution of all applications and utilities through same central desktop. ■ Add services to complete workflow specific to your business.
<p>APPLICATION WORKFLOWS^{*2}</p> <ul style="list-style-type: none"> ■ Assemble multiple applications and tools as a complete simulation or analytical sequence. ■ Comprehensive logic for split/join, loop/branch, and multi-instance parallel tasks supports any process structure. ■ Workflow engine automates end-to-end process execution. ■ Automated implicit data transfer between dependent workflow tasks, and across filesystems. ■ Experiment parameter sets stored in multiple workflow profiles. 	<ul style="list-style-type: none"> ■ Higher reliability and shorter end-to-end time for application processes. ■ Improved traceability of all experiments. ■ Business processes independent of IT infrastructure. ■ Optimal methods provided as integral expertise within the portal. ■ Extend and augment in-built workflows to encode organization own best-practice and knowledge.
<p>GLOBAL FILE EXPLORER</p> <ul style="list-style-type: none"> ■ Navigate and access files on multiple systems from a single view. ■ Point-to-point optimized and resilient data transfer. ■ Multi-file upload/download to desktop. 	<ul style="list-style-type: none"> ■ Single access point to all files raises user productivity. ■ Increased reliability and lower risk during file exchange. ■ Highest efficiency for transfer of large data sets.
<p>SECURITY</p> <ul style="list-style-type: none"> ■ Single sign-on to access all resources. ■ Separation from infrastructure, with service and data abstraction. ■ Automated data transformations. ■ Role-Based Access Control on business objects. 	<ul style="list-style-type: none"> ■ No direct server access, reduced risk of uncontrolled user actions. ■ Encryption and integrity checking on-the-fly for safer exchange. ■ Powerful and simple mechanism for global group permissions. ■ Precise rights definitions, instantly applied over whole system.
<p>PROJECT SUPPORT</p> <ul style="list-style-type: none"> ■ Gateways of expertise and content by theme, domain or sector. ■ Controlled data sharing through filesystem virtual mount points. ■ Monitoring of team workflows. ■ Usage accounting reporting based on user and project codes. 	<ul style="list-style-type: none"> ■ Boost overall team productivity. ■ Standardisation around commonly shared processes and services. ■ More effective collaboration and information sharing.

*1: Items from the Fujitsu Application Catalogue are optional in the HCS Open and Basic Editions.

Access to Fujitsu Application Catalogue is included with the HCS Advanced Edition.

*2: Gateway Workflow Editor is only included in the HCS Advanced Edition.

All pre-defined or on-boarded workflows can be run in both HCS Open and Basic editions.

Technical details

SERVER ENVIRONMENT	DESCRIPTION
FUJITSU Software HPC Cluster Suite – Open Edition	HPC Gateway Demo version: Full web desktop functions, including application on-boarding. Items from Application Catalogue optional.
FUJITSU Software HPC Cluster Suite – Basic Edition	HPC Gateway Basic version: Full web desktop functions, including application on-boarding. Items from Application Catalogue optional.
FUJITSU Software HPC Cluster Suite – Advanced Edition	HPC Gateway Advanced version: Full web desktop functions, including application on-boarding. Application Catalogue included. Workflow Editor included.

FUNCTION	DESCRIPTION
Process submission and control	Web browser :- creation and organization of individual experiments as cumulative profile forms; launch and control of HPC application processes on cluster/s.
Process monitoring	Range of general monitors supplied with Application Catalogue processes: File listing, text file inspection, job history
Process dataflow	Variables and Files, secure, fast, point-to-point, resilient Optimised for large file and bulk transfer, control over file transfer capacities of server
Global file exploration	Web browser access to cluster file system/s through pre-defined virtual mount points.
Data upload/download	Multiple file selection and transfer direct from desktop to cluster mount points.
Workflow development	Desktop Java client with comprehensive workflow editing capabilities.
Workflow orchestration	Limit loads by server level
Authentication	Single sign-on, support of external user directories (LDAP, Microsoft Active Directory)
Authorisation	Pre-defined Role-Based Access Control (RBAC) on resources and business objects.
Data security	Encryption during data exchange, encrypted virtual mount points
Cluster system tools	<i>Administrator role:</i> Add/delete user accounts in Gateway and cluster <i>All roles:</i> Show batch status (jobs, queues, nodes), change login password, list available application services

CLIENT ENVIRONMENT	SUPPORT STATUS
Windows 7, Windows Vista, Windows XP	Known to work
Linux	Known to work
Mac OS	Known to work

BROWSERS	SUPPORT STATUS
Mozilla Firefox 14, 15	Tested
Internet Explorer	In use
Google Chrome	In use
Apple Safari	In use

More information

Fujitsu platform solutions

In addition to the FUJITSU Software HPC Cluster Suite (HCS) and HPC Gateway, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Building on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing products

www.fujitsu.com/global/services/computing/

Software

www.fujitsu.com/software/

More information

To learn more about the FUJITSU Software HPC Cluster Suite (HCS) and HPC Gateway, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.

<http://ts.fujitsu.com/hpc>

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT. Please find further information at: www.fujitsu.com/global/about/environment/



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Contact

FUJITSU TECHNOLOGY SOLUTIONS

Website: ts.fujitsu.com/hpc
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