HPC Portal Development Platform

for High Performance Computing and E-Business

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Abstract

HPC Portal Development Platform *(Figure 1) is for web portals that design to support access to in the field of high performance computing and business fields. It draws upon best practices derived from the collective experience of many projects such as personal portals, small business portals, enterprise portals, educational portal, infrastructure Portal and other kinds of portals. It can also allow Java developers to speed up the development and deployment process by using this platform. It provides the robust IT architecture for high performance computing and business enterprise business.*

Keywords: ***HPC Portal Development Platform, Job Submit Portlet, SOA***

URL: **http://sourceforge.net/projects/hpc-portal/**

1. Introduction

HPC Portal Development Platform (Figure 1) provides the best platform for Java developers in the field of high performance computing and business to design, implement, configure and deploy. Its architecture (Figure 2) is robust, stable and advances because it utilizes the Tomcat (Web Server) and JBoss (J2EE Application Server) to separate the presentation tier, the business tier and the database tier. It also allows developers to create context-rich applications that satisfy these needs. In addition, this development platform provides the natural user interaction environment for your SOA (Service Oriented Architecture) applications and allows you to leverage all types of services in creating a better, more effective user experience.

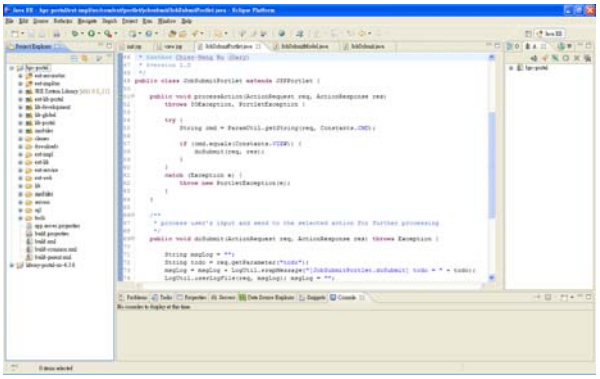

Figure 1: HPC Portal Development Platform

HPC Portal Development Platform will allow Java developers to break down the boundaries between Web-based portals and the applications of high performance computing and business. It will enable them to create flexible and content-sensitive working environments that are based on rich content, portlets, and components in an open and standards-based architecture. By specifically design and implementation, the knowledge workers of high performance computing and business will use a single Web interface to access a wide range of HPC and business services, including communication and collaboration services, applications, content and search. It also provides the support of any combination of multiple tiers - presentation, service, business logic, and database - to meet your specific load requirements. This platform architecture (Figure 2) allows the developer to separate the Web tier, EJB tier, and database tier to achieve clustering at three levels. This is true n-tier deploying because no one is forced to cluster at any single layer and allows the most flexibility.

Furthermore, it supports the high availability, which means the zero down time for critical applications with HTTP Failover, Session Replication, and Hardware/Software Load Balancing.

In addition, this development platform provides Java developers or programmers to enable the function of mobility during the implementation. HPC users can access the portal from traditional and wireless devices.

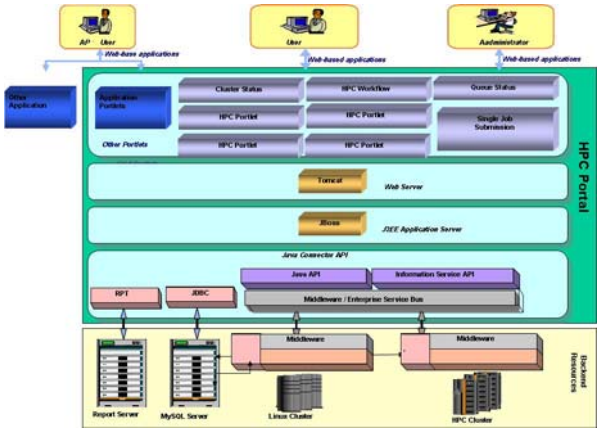

Figure 2: Platform Architecture

2. Job Submit Portlet

Job Submit Portlet (Figure 3) within HPC Portal Development Platform is used as the standard portlet for High Performance Computing. It allows HPC Portal developers continually to design, implement, integrate and access the backend recourses in their particular HPC environments. This portlet allows HPC users to submit a single job to the backend resources for computation. For example, the HPC users can use this service to submit a generic job on one of the HPC computing systems.

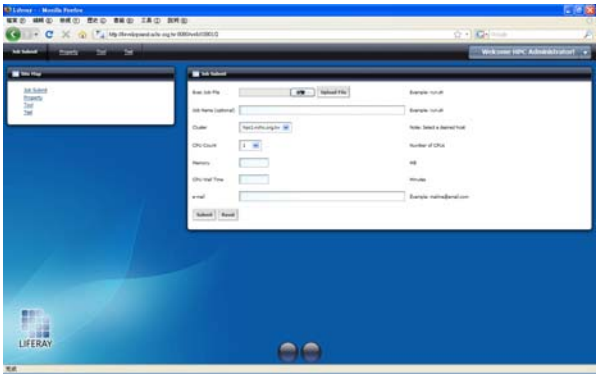

Figure 3: Job Submit Portlet
within HPC Portal Development Platform

3. References

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[2] Liferay , http://www.liferay.com