Univa Globus Enterprise

Innovation is the growth engine of the 21st Century. Companies are under constant pressure to get products and services to market faster, but are increasingly hampered by legacy IT infrastructure that cannot respond effectively to the changing demands of the business. The hurdles that enterprises must overcome include:

- Explosive growth in data, managed and processed by a distributed collection of resources and users;
- Multiple IT organizations within the enterprise, each operating with its own hardware, software and policies, making integration across these “IT islands” difficult;
- Brittle execution environments that couple hardware and software into inflexible “silos”, resulting in skyrocketing management costs;
- Costly, idle computing resources resulting from over-provisioning to maintain application performance and retain control;
- Adoption of commodity computer, network and storage resources for an increasingly broad set of applications.

Given these challenges, there is a growing need for more agile infrastructure to fuel the innovation engine. Univa Globus Enterprise (UGE) delivers such a platform, using open source software. UGE is the leading commercially supported release of the Globus Toolkit, developed over 10 years and proven in over 1,000 grids around the world.

UGE implements a standards-based, service-oriented infrastructure, enabling a distributed set of computing and storage resources to be shared by multiple applications and users. It provides robust services that combine management of large data sets and access to heterogeneous workload management systems into a secure, scalable grid environment within the data center. Going beyond the capabilities of traditional grid middleware, UGE also enables true enterprise grids spanning multiple data centers and organizational groups.

Efficient Management of Large, Distributed Data Sets
UGE is particularly well-suited to applications that manage large, distributed data sets, such as business intelligence, engineered-product design, research and exploration. These applications use increasingly large amounts of data that are widely distributed within the enterprise, creating significant barriers to efficient access and analysis. UGE provides the tools for managing movement and replication of data, bringing computer resources and data together across the network to optimize the performance of these applications and facilitate improved collaboration between users.

Uniform Access to Multiple Job Schedulers
Organizations with multiple grid applications find themselves deploying multiple, heterogeneous workload managers, each in its own “IT island.” This creates unnecessary complexity, as users need to become familiar with many different schedulers’ mechanisms. UGE provides a consistent, open interface for submitting jobs to any number of commercial and open-source job management systems and integrates with most third-party schedulers to deliver a flexible operating environment that can rapidly adapt to changing requirements.

Scalable, Secure Operation
Security is a primary concern in corporate IT, and is an area where UGE excels. Since its inception, the Globus Toolkit has provided sophisticated, standards-based mechanisms for dealing with security in environments where resources are widely distributed across multiple administrative domains, as in the case of large enterprises with multiple data centers. Univa Globus Enterprise builds on this strong foundation and provides preconfigured security components that enable users to get their initial environment up and running very rapidly.
Packaged Open Source with Enterprise Level Support

Univa packages open-source Globus components in a manner that simplifies deployment and configuration. One of the challenges faced by corporate IT managers is a reluctance to utilize open source technologies due to the disproportionately high support burden that they place on internal IT staff. Univa addresses this challenge by providing customers with a comprehensive support offering tailored to their requirements. This includes the Univa Network, an online self-service application for Univa customers, in addition to phone-based support and consulting services.

Univa Globus Enterprise Components

- **Resource Management** — UGE provides standard mechanisms for interfacing with multiple scheduling and job management software products. These mechanisms are provided by Globus Toolkit components such as Web Services Grid Resource Allocation and Management (WS-GRAM).

- **Data Management** — Services for management of high performance and reliable data transfers among grid resources are at the core of UGE. The primary Globus Toolkit components supporting this capability are GridFTP, Reliable File Transfer (RFT) and Replica Location Service (RLS).

- **Monitoring and Discovery** — UGE provides a scalable framework and services for discovering and collecting information on resources within the grid, and making this information available for monitoring and reporting using the Globus Toolkit Monitoring and Discovery System (MDS) components.

- **Security Infrastructure** — UGE capabilities are built on top of the Grid Security Infrastructure (GSI), which provides security functions such as single sign-on with mutual authentication, authorization and delegation of credentials. This enables execution of grid functions spanning multiple administrative domains without requiring changes to existing local security mechanisms.

- **Developer Tools** — UGE includes APIs and developer tools that facilitate and simplify the development of standards-compliant grid services and clients.

Benefits

- Increased effectiveness of grid computing solutions through end-to-end integration of data and computer services
- Reduced integration cost and complexity for grid applications through standard interfaces to multiple job management systems
- Easier adoption of grid technologies through simplified installation and configuration
- Reduction of vendor lock-in risk through use of standards compliant, commercially supported open source software
- Unprecedented levels of technical support and consulting services through direct access to the inventors of grid computing and originators of the Globus Toolkit
- Minimized security concerns through deployment of tried and tested security infrastructure
- Rapid time-to-value for grid deployments supported by implementation services from Univa and its partners

Supported Platforms

Univa Globus Enterprise is supported on the following hardware platforms and operating system environments:

- Intel/AMD x86 32-bit platforms running Red Hat Enterprise Linux AS v.4, Novell SUSE Linux Enterprise Server 9 and Fedora Core 4
- IBM pSeries platforms running Red Hat Enterprise Linux AS v.4, Novell SUSE Linux Enterprise Server 9 and IBM AIX V5.2, V5.3
- IBM zSeries platforms running Novell SUSE Linux Enterprise Server 9 and Red Hat Enterprise Linux AS v.4
- AMD Opteron 64-bit platforms running Red Hat Enterprise Linux AS v.4 and Novell SUSE Linux Enterprise Server 9

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