DEV.GLOBUS.ORG AND THE INCUBATOR PROCESS

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Globus was established as an open source software project in 1996. Since that time, the Globus development team has expanded from a few individuals to a distributed, international community. In response to this growth, the Globus community established dev.globus.org, a source code development infrastructure and meritocratic governance model to more easily expand the Globus community, enable additional projects to join Globus, and make the Globus process easier to understand and more transparent.

The Globus governance model and infrastructure are based on those of Apache Jakarta. Control over each software component (project) is in the hands of its most active and respected contributors (committers), with the Globus Management Committee (GMC) providing overall guidance and conflict resolution.

Globus is an open source and open contribution environment – users can contribute through current projects, new project contributions, feature requests, documentation donation, and active conversation on any project mailing list!

Current dev.globus Projects

Common Runtime Components

C Core Utilities: Are used for maintaining machine portability, as well as some basic timer routines.

C WS Core: Provides core C runtime technologies for development of WS Grid services and clients.

CoG jglobus: Provides core Java non-WS runtime and security technologies.

Core WS Schema: Maintains the WSRF and WSN schema for the WS Core projects.

Java WS Core: Provides an implementation of the WSRF and WSN family of standards, as well as WS security technology and the Servicegroup implementation.

Python Core: Provides core Python runtime technologies for development of non-WS and WS Grid services and clients.

XIO: Provides a single API (open/close/read/write) that supports multiple wire protocols, with protocol implementations encapsulated as drivers.

Data Management

GridFTP: Provides high-performance, secure, reliable data transfer technologies optimized for high-bandwidth wide-area networks.

OGSA-DAI: Provides a data service framework for accessing and integrating data, and Grid-enabling databases.

Reliable File Transfer: Provides WS-based reliable data transfer technologies.

Replica Location: Provides data replication and discovery technologies.

Data Replication: Allows users to identify a set of desired files existing in their Grid environment, to make local replicas of those data files, and to register the new replicas.

Execution Management

GRAM: Enables users to locate, submit, monitor, and cancel remote jobs on Grid-based compute resources.

MPICH-G2: Provides a Grid-enabled implementation of the message passing interface (MPI) standard and is based on MPICH.

Information Services

MDS4: Provides resource monitoring and discovery, including the Index and Trigger services and a visualizer, WebMDS.

Security

C Security: Provides C WS and non-WS security technologies.

CAS/SAML Utilities: Provides community authorization infrastructure.

Delegation Service: Provides a technology for delegating credentials to a host.

GSI-OpenSSH: Provides GSI authentication mechanisms for the SSH protocol 2.

MyProxy: Enables the storage and retrieval of X.509 credentials in a repository.

Distribution Projects

Globus Toolkit: Creates official Globus Toolkit distributions by integrating a select group of Globus technologies. The project strives to create state-of-the-art open source Grid toolkits of exceptional quality.

Documentation Projects

GT Release Manuals: Provides formalized documentation for the components in the Globus Toolkit distributions.

Incubator Process

The entry point for a new project to join Globus is the Incubator Process, as overseen by the Incubation Management Project (IMP). A candidate project, consisting of basic information about the project and its benefit to Globus, is considered by the IMP. The IMP performs filtering, not on the basis of technical issues, but on the likelihood of the project's becoming a successful meritocratic community. Upon acceptance, the project is assigned a mentor to bridge between the IMP and the project, and basic infrastructure is set up, including CVS/SVN space, wiki pages, mailing lists, licenses, and bugzilla space.

Current Incubator Projects

Dynamic Accounts: Allows a Grid client to dynamically assign Unix accounts on a remote resource based on PKI credentials.

Grid Authentication and Authorization with Reliably Distributed Services (GAARDS): Provides services and tools for the administration and enforcement of security policy.

Grid Development Tools for Eclipse(GDTE): Provides tools to support the separation of Grid middleware and application development.

GridShib: Integrates a federated authorization infrastructure, Shibboleth, with Globus to provide attribute-based authorization.

GridWay: Provides a metascheduler that uses GRAM and MDS.

Globus Toolkit Handle System (gt-hs): Provides unique identification of structured data.

Higher Order Component Service Architecture (HOC-SA): Enables the execution of parallel implementations of programming patterns, customizable via Web services.

Introduce: Provides tools to develop and deploy strongly-typed, secure Grid services.

Local Resource Manager Adaptors: Provides adapter modules for GRAM to interface to local resource management systems.

Medical Imaging and Computing for Unified Information Sharing (MEDICUS): Federates medical imaging and computing.

Metrics: Provide tools to measure the use of Globus and Grid software in terms of quantity and quality.

OGCE: Builds Web ports, Grid client tools, and supporting software, including GT4, the Storage Resource Broker, and Condor.

Portal-based User Registration Service (PURSe): Provides tools to automate user registration and credential management, especially for portal-based systems.

ServMark: Integrates DiPerF for distributed testing and GrenchMark for generating dynamic test workloads.

UCLA Grid Portal: Provides users with Web-based access to distributed clusters.

CoG Workflow: Provides an integrated but modular system that allows users to interact with workflows and visualization tools to monitor state.

Virtual Workspaces: Allows an authorized Grid client to deploy an environment described by the workspace metadata on a specified resource quota.

How You Can Contribute!

Contribute to a project

To contribute code, documentation, design ideas, and feature requests to any Globus project, you can join the mailing lists (see the project wiki page at dev.globus.org) and chime in at any time. Regular contributors can become committers, with a role in defining project directions.

Create a new project

Do you have a project you'd like to contribute? Does your software solve a problem you think the Globus community would be interested in? Contact incubator-committers@globus.org for more information about how your project can become part of dev.globus, and you can help expand the Globus community

Ask and answer questions

Each project has a set of mailing lists set up for users and developers to communicate to each other. See the project wiki pages at dev.globus.org for additional information.

Track progress

All dev.globus projects have a roadmap in bugzilla where feature requests and bugs can be entered, commented on, and tracked by anyone in the community.

Download the most recent version

Our CVS/SVN repositories are open to everyone. Feel free to check out the very latest!

For more information on contributing, see http://dev.globus.org/wiki/How_to_contribute.