caGrid 1.3 Overview

John Eisenschmidt
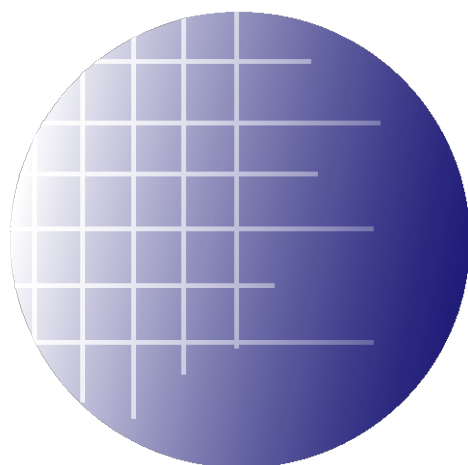**<eisenschmidtjw@mail.nih.gov>**

caGrid Project Manager

April 2, 2009

caGrid Releases

caGrid 1.3 is a point release of the caGrid 1.x stream. Services and applications developed using caGrid {1.0, 1.1, 1.2}, will function against caGrid 1.3 versions of those services.

Version	Release Date
caGrid 0.5	31st August 2005
caGrid 0.5.1	7th October 2005
caGrid 0.5.2	15th November 2005
caGrid 0.5.3	25th January 2006
caGrid 0.5.4	12th May 2006
caGrid 1.0 *Beta*	17th July 2006
caGrid 1.0	15th December 2006
caGrid 1.1	17th September 2007
caGrid 1.2	31st March 2008
caGrid 1.3	**31st March 2009**

caGrid 1.3 Core Services

All caGrid Core Services were redeployed on all caBIG® Grids (OSU Training, QA, Stage, and Production) for this release.

The (12) caGrid 1.3 Core Services are:

Metadata Services	Security Services	Business Activity Services
Global Model Exchange Service**	Authentication Service	Federated Query Processor Service**
Index Service**	Credential Delegation Service	BPEL Workflow Service
Metadata Model Service*	Dorian Service**	Taverna Workflow Service*
	Grid Grouper Service	
	Grid Trust Service (Master & Slave)	

New for 1.3   ** *Significantly Rewritten or Enhanced for 1.3*

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Deprecated Services

During the development of caGrid 1.3, the caGrid Team issued a request for comments on, and adopted, a Deprecation Policy. For details, see: http://cagrid.org/display/caGrid13/Deprecated+Services+and+APIs

After adoption of that policy, the caGrid 1.2 caDSR, caGrid 1.2 EVS, and caGrid 1.2 GME were retired:

- caGrid 1.2 caDSR Service (based on caCORE 3.1)
  - Replaced by the caDSR 4.0 Data Service and the new caGrid 1.3 Metadata Model Service (MMS)
- caGrid 1.2 EVS Service (based on caCORE 3.1)
  - Superseded by EVS 4.1 Grid Service
- caGrid 1.2 GME Service
  - Replaced by new GME service

These retired services will continue to operate until Q2 2009, when the caCORE 3.1 API is decommissioned.

caBIG

Development Campaigns

The scope for this release came from requests entered into Gforge and feedback received from all the domain workspaces. Those tasks fell into one of seven development campaigns:

- **caBIG® Gold Compatibility**
- **caCORE SDK Integration**
- **Data Services**
- **Introduce Toolkit**
- **Security**
- **Continuous *Innovation***
- **Bug Fixes**

Gold Compatibility

- **Replacement of the Mobius Global Model Exchange (GME) with a new, refactored implementation.**
  - Supports schemas with cycles, includes, and redefines
- **Development of the new Metadata Model Service (MMS)**
  - Purpose: creation and semantic annotation of caGrid metadata models using caDSR-derived data
- **New Globus Index Service**
  - Embedded XML Database replaces in-memory persistence
  - Design changes to improve performance and scalability
- **Registration of caGrid models in the caDSR (in process):**
  - CQL
  - CQL Results
  - Service and Security Metadata

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caCORE SDK Integration

- **Shared Libraries between SDK and caGrid:**
  - Common CQL for SDK and Data Services
  - Common XMI reader in SDK and Introduce
- **Common Testing of caGrid and SDK**
- **Data Service plug-in for SDK 4.1.1**
- **Introduce upgrade to SDK 4.1.1**

caGrid

caCORE SDK
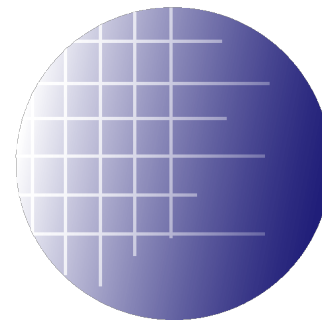
Data Services

- **CQL**
  - Added configurable query execution parameters, allowing only partial results to be returned
- **Significantly Enhanced Federated Query Processor (FQP)**
  - Support WS-Notification
  - Support Credential Delegation (CDS)
  - Out-of-band results (FQP + Transfer Service + WS-Enumeration)
  - Performance enhancements, included multi-threaded queries

Introduce Toolkit

- **Security-related improvements**
  - More pluggable authorization
  - Greater ability for client to control use of credentials
  - Greater clarity of effect of options in GUI for security settings
- **Grid Grouper Introduce Authorization Extension**
- **Service Upgrader**
  - 1.1 -> 1.3
  - 1.2 -> 1.3
  - *No Updater for 1.0 -> 1.3*

Security

- **Addition of Authentication Profiles, adding support for authentication beyond just "username/password"**
  - Support for one-time passwords profile included in this release
- **Ability to Discover Trusted Identity Providers**
- **Move from issuing Proxy Certificates to Short-Term Certificates**
- **Account Auditing to Dorian**

WebSSO

- **Acegi client (CCTS)**
- **Single sign-out**
- **Author System Tests for WebSSO**
- **Update the Sample Application, Build Process**

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Continuous *Innovation*

- **Support for CBIIT FY2008 Future Technology Stack**
  - http://www.cagrid.org/wiki/CBIIT:TechStack:FY2008
  - Tomcat 5.5.27, JBoss 4.0.5
- **Refactored caGrid Installer**
  - Focused on desktop deployment (most common pattern)
  - Installs: prerequisites, configures caGrid, and configures containers (current CBIIT technology stack)
  - Does not deploy/configure services anymore
- **Expanded Independent Quality Assurance**
  - Significantly improved test coverage
  - Most thoroughly tested version of caGrid *ever*
- **Complete redeployment of the NCI National Grid (all tiers)**
  - Ongoing work toward high-available deployment patterns for caGrid

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caGrid.org Wiki

- **caGrid 1.3 is first wiki-only release – no offline documents**
- **caGrid.org wiki will continue to be the source of developer-written product documentation**
- **caGrid KC Wiki will house higher level content supporting deployment, adoption, and integration scenarios**
- **caGrid.org Wiki has been moved from Mediawiki to Conflence and content has been reorganized**
- **Old content may still be accessed at http://mediawiki.cagrid.org**

References

caGrid 1.3 Installation Instructions	http://cagrid.org/x/lyRM
caGrid 1.3 Installer	http://gforge.nci.nih.gov/frs/download.php/6357/caGrid-installer-1.3.zip
caGrid 1.3 Source Code	http://gforge.nci.nih.gov/frs/download.php/6354/caGrid-1.3.zip
caGrid 1.3 Documentation	http://cagrid.org/x/5YEX
caGrid 1.3 API Specifications	http://software.cagrid.org/caGrid-1.3-javadocs/
caGrid 1.3 Release Notes	https://gforge.nci.nih.gov/frs/shownotes.php?release_id=3288

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Tiers, Grids, and Portals

Community Development	CBIIT Development	CBIIT Quality Assurance	CBIIT Stage	Production
Local Development Envroment	Development Tier	QA Tier	Stage Tier	Production Tier
Training Grid	Stage Grid	QA Grid	Stage Grid	Production Grid
Training Portal	Stage Portal	QA Portal	Stage Portal	Production Portal

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