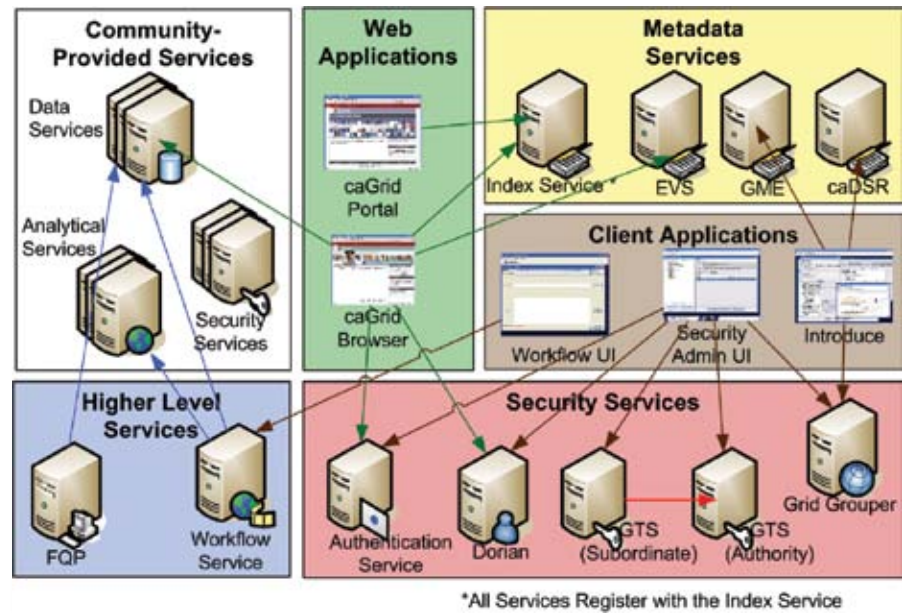


## caBIG™-compatible systems architecture

caGrid is the underlying network architecture that provides the basis for connectivity between all of the cancer community institutions, allowing research groups to tap into the rich collection of emerging cancer research data while supporting their individual investigations. caGrid manages and securely shares information and analytic resources using locally managed access control policies and by using strongly typed data objects in XML format.

### Features:

- Nationally-deployed, standards compliant, data and analysis grid that any caBIG™-compatible system can plug into or draw from
- Semantically-discoverable and described services
- Rich runtime metadata infrastructure
- Uniform data query and retrieval across systems
- Federated security and identity management to support controlled access to systems
- Business Process Execution Language (BPEL) workflow engine for data analysis pipeline construction and execution
- Federated, cross-domain data mining and integration
- Standardized programming interfaces for application developers
- Graphical service development toolkit



caGrid structure

### Categories of Use:

- |  |   |                                      |   |
|--|---|--------------------------------------|---|
| <input type="checkbox"/> Biospecimens                      | <input checked="" type="checkbox"/> <b>Data Sharing</b>   | <input type="checkbox"/> Imaging     | <input type="checkbox"/> Proteomics             |
| <input type="checkbox"/> Clinical Trials Management        | <input type="checkbox"/> Genome Annotation                | <input type="checkbox"/> Microarrays | <input type="checkbox"/> Translational Research |
| <input type="checkbox"/> Data Analysis & Statistical Tools | <input checked="" type="checkbox"/> <b>Infrastructure</b> | <input type="checkbox"/> Pathways    | <input type="checkbox"/> Vocabularies           |



## Architecture Overview

- **Application type:** Grid infrastructure
- **System requirements:** Java installation and network connectivity

## Installation and Administration:

- **caGrid Security Administration:** Experience in IT security, basic understanding of digital certificate concepts and group-based authorization concepts
- **Infrastructure needed:** Desktop/Server, network
- **Long-term administration needs:** Network/system administration if running services

## Key Contributors:

- NCI Center for Bioinformatics
- Ohio State University

## Resources

Infrastructure Overview Page	<a href="https://cabig.nci.nih.gov/workspaces/Architecture/caGrid/">https://cabig.nci.nih.gov/workspaces/Architecture/caGrid/</a>
caBIG™ Architecture Workspace Lead	Michael Keller: <a href="mailto:keller_michael@bah.com">keller_michael@bah.com</a>
caGrid Users LISTSERV	<a href="https://list.nih.gov/cgi-bin/wa?SUBED1=cagrid_users-l&amp;A=1">https://list.nih.gov/cgi-bin/wa?SUBED1=cagrid_users-l&amp;A=1</a>
caBIG™ Infrastructure Inventory	<a href="https://cabig.nci.nih.gov/inventory">https://cabig.nci.nih.gov/inventory</a>
NCI Center for Bioinformatics Applications Support	<a href="mailto:ncicb@pop.nci.nih.gov">ncicb@pop.nci.nih.gov</a>

