

# caLIMS2: An Overview

cancer Laboratory Information Management System 2:  
a second generation LIMS for the 21st century

**caBIG™ ICR Workspace Meeting**

May 28, 2008

Jenny Kelley

# Outline of caLIMS2 Overview

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- ▶ Purpose of caLIMS2 (Integration with caBIG™)
- ▶ Targeted Users
- ▶ (Design Principles)
- ▶ caLIMS2 Features and Core Modules
- ▶ NCI CBIIT LIMS Consortium
- ▶ caLIMS2 GForge site
- ▶ Upcoming release caLIMS2 beta 0.5

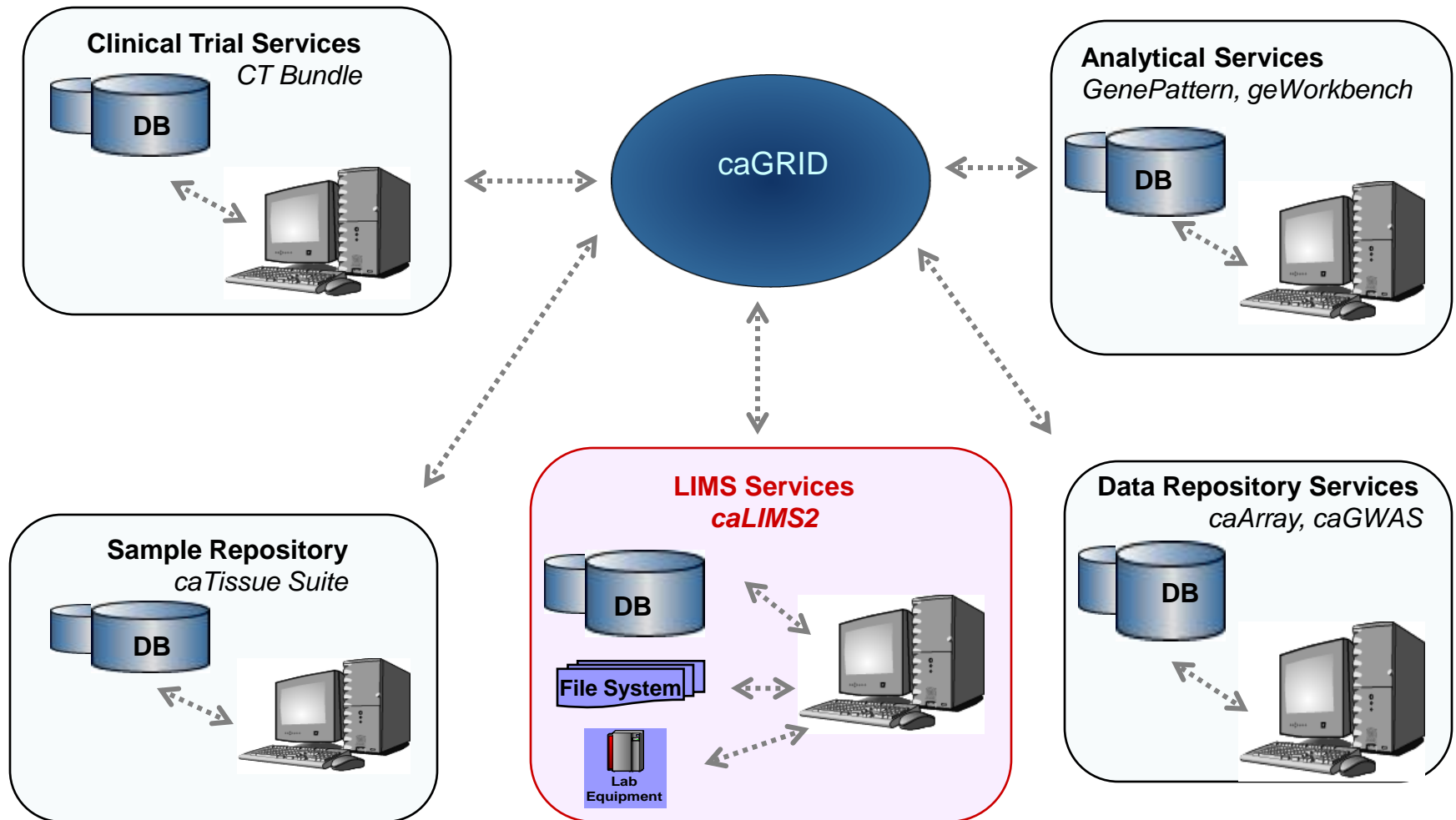
# caLIMS2 Project Purpose

- To create a general-purpose LIMS that seamlessly integrates with caBIG™ data sources and analytical tools (silver/gold level compliancy)
- To build a basic LIMS that allows easy customization for a specific Laboratory domain
- To develop a generic core LIMS infrastructure that can be used by multiple laboratory types

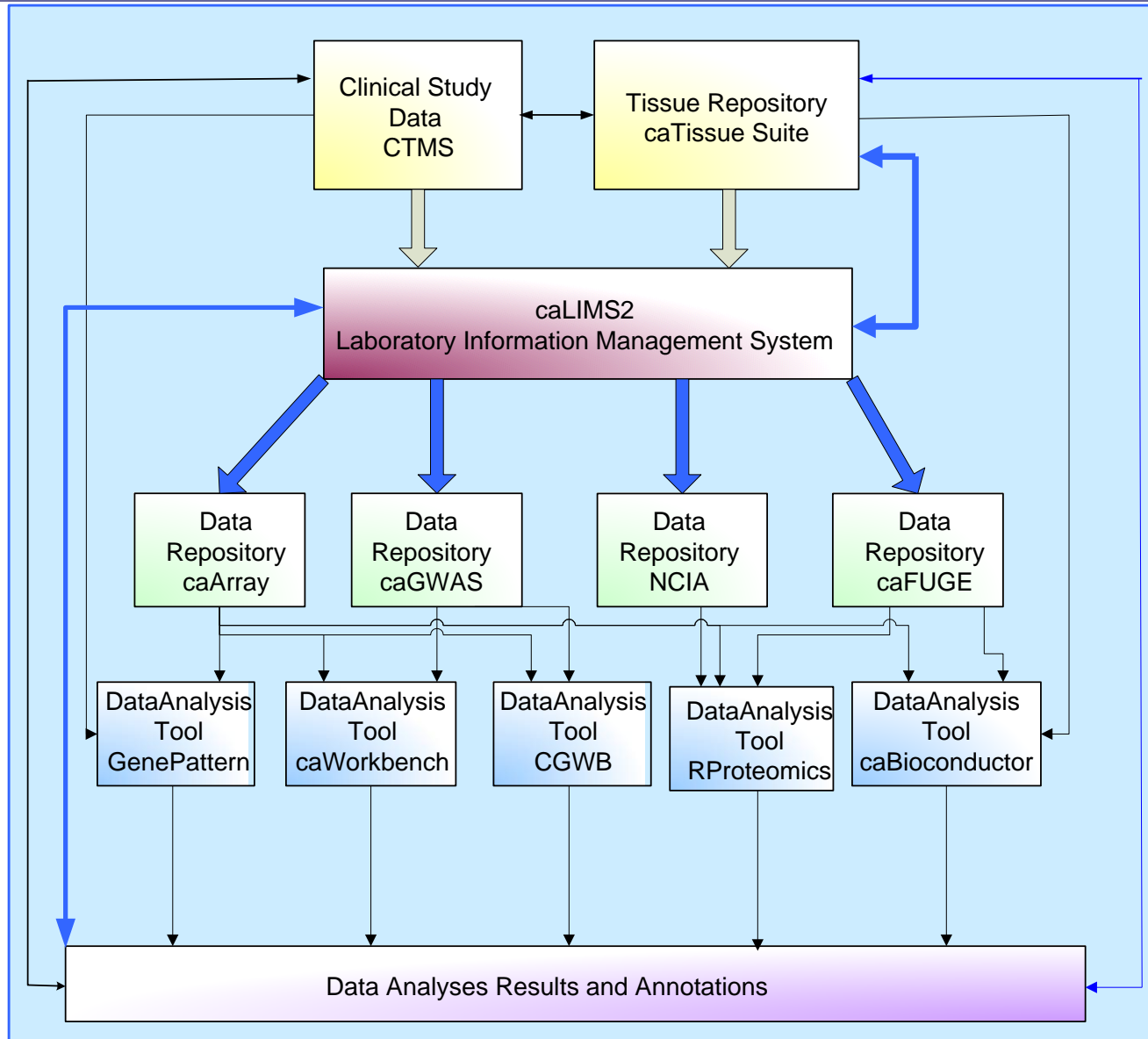
To establish an Open Development Initiative (ODI) that allows LIMS developers to contribute LIMS customizations and enhancements to the end user community

# Integration with caBIG™

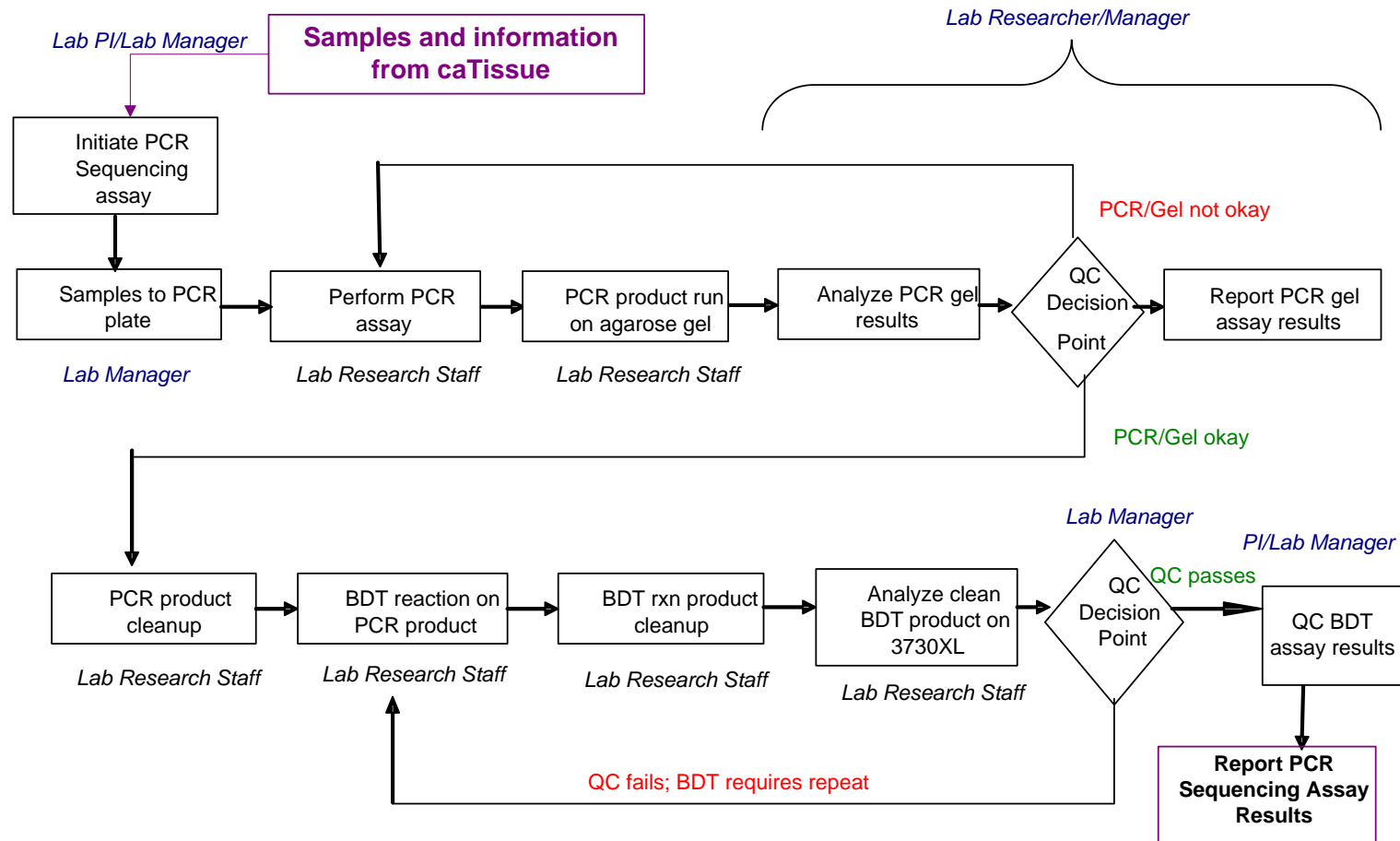
**caLIMS2** fills the gap between specimen repositories and analytical tools in the caGRID.



# caLIMS2: positioning within ICR

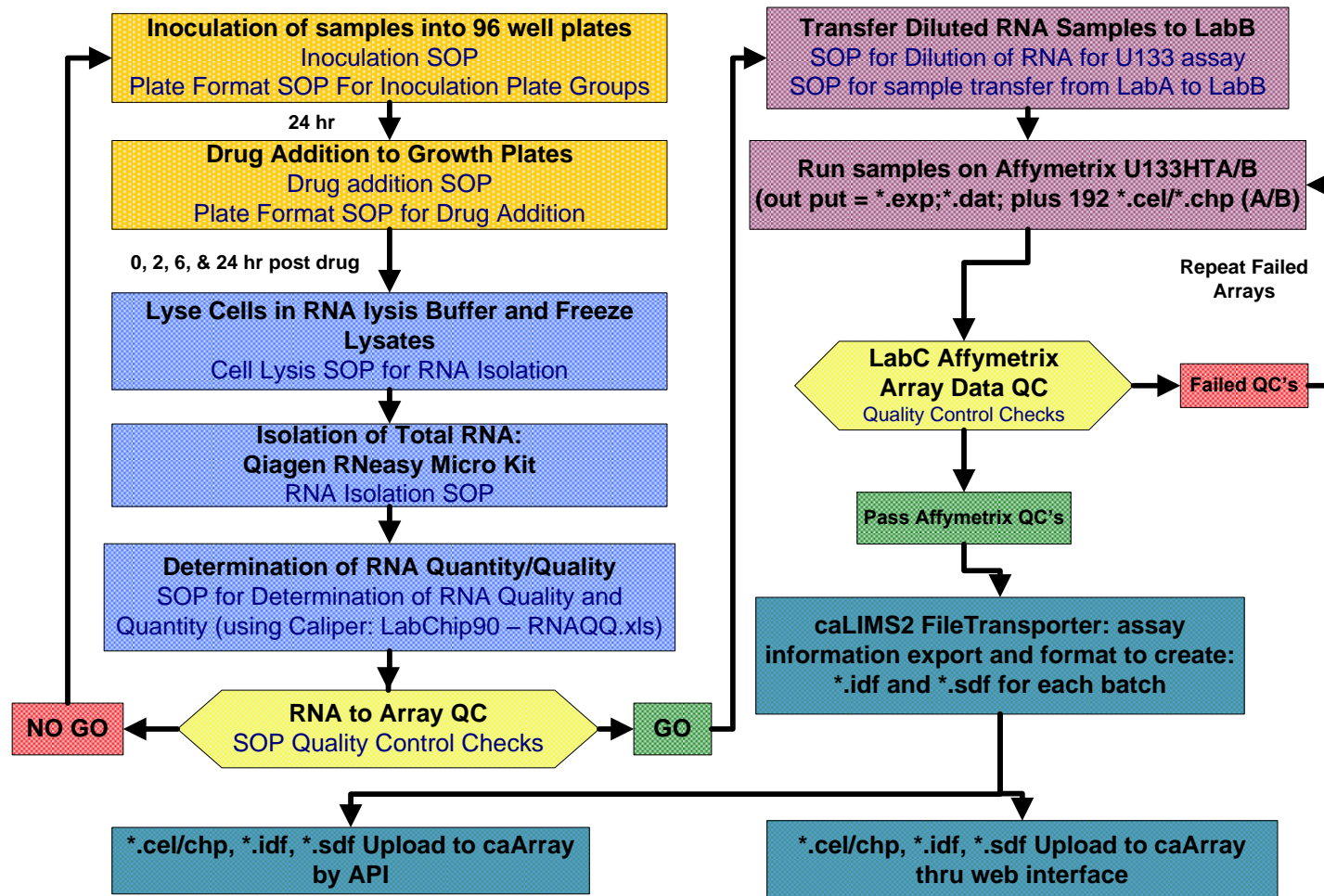


# caLIMS2: Sample Assay Workflow



# caLIMS2: interface with caArray

Use Case: track Affymetrix U133HT AB assays on treated samples and upload to caArray -  
60 samples x 4 tp x 3 doses x 2 U133 A/B x 2 (cel+chp) = 2880 files x #test



# Targeted Users

- ▶ Laboratories seeking a reliable, cost effective caBIG™ compliant LIMS solution that does not require a large IT resource to implement and maintain:
  - ▶ Basic research laboratory
  - ▶ Core laboratory facility
  - ▶ Clinical research laboratory
  - ▶ Public health laboratory
  - ▶ BIG-Health Disease research laboratory -  
NIH Heart/Lung Inst. and collaborators are using caBIG as model framework for their new cardiovascular research grid  
(<http://www.cvrgrid.org/>)



# caLIMS2 Features / Advantages

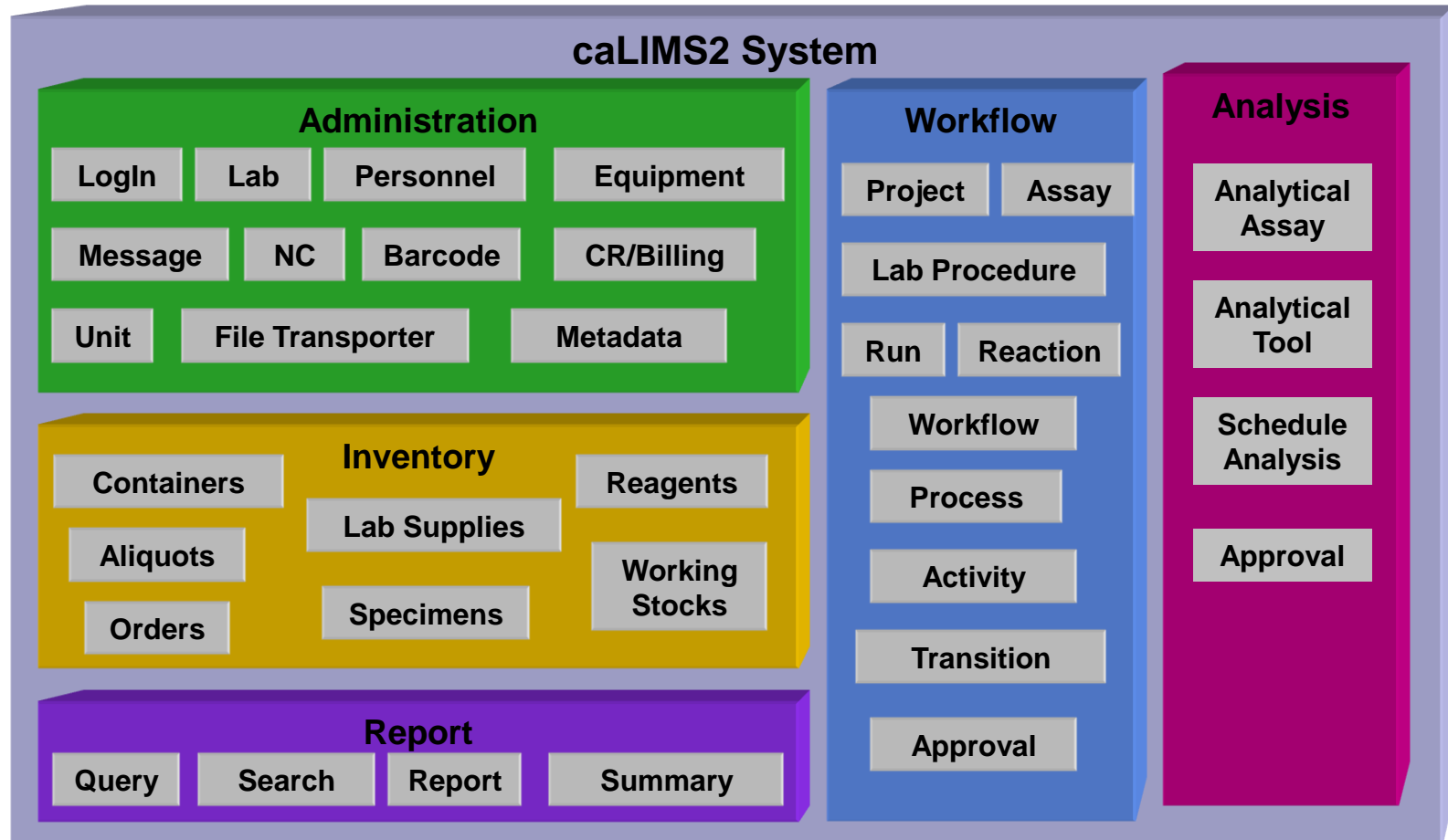
- ▶ Open source
- ▶ caBIG™ integration
- ▶ Consortium-based development\*
- ▶ Rapid development / revision cycles
- ▶ Customization – design custom lab specific objects
- ▶ Expandable – simplify adding new functionality

# Updated Features

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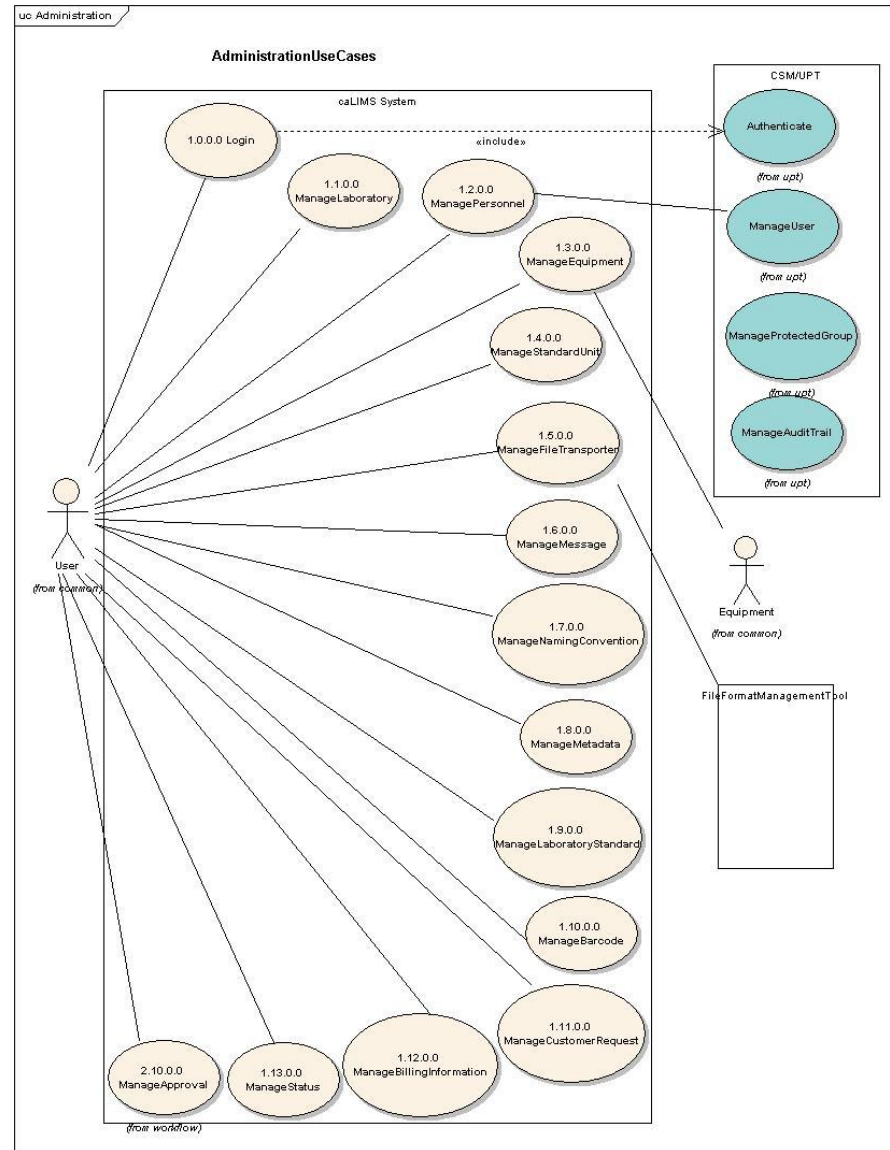
- ▶ Security management (fine grain)
- ▶ FileTransporter tool
- ▶ Workflow management – import standard workflows
- ▶ Customizable UI
- ▶ Metadata management

# caLIMS2 - Major Components

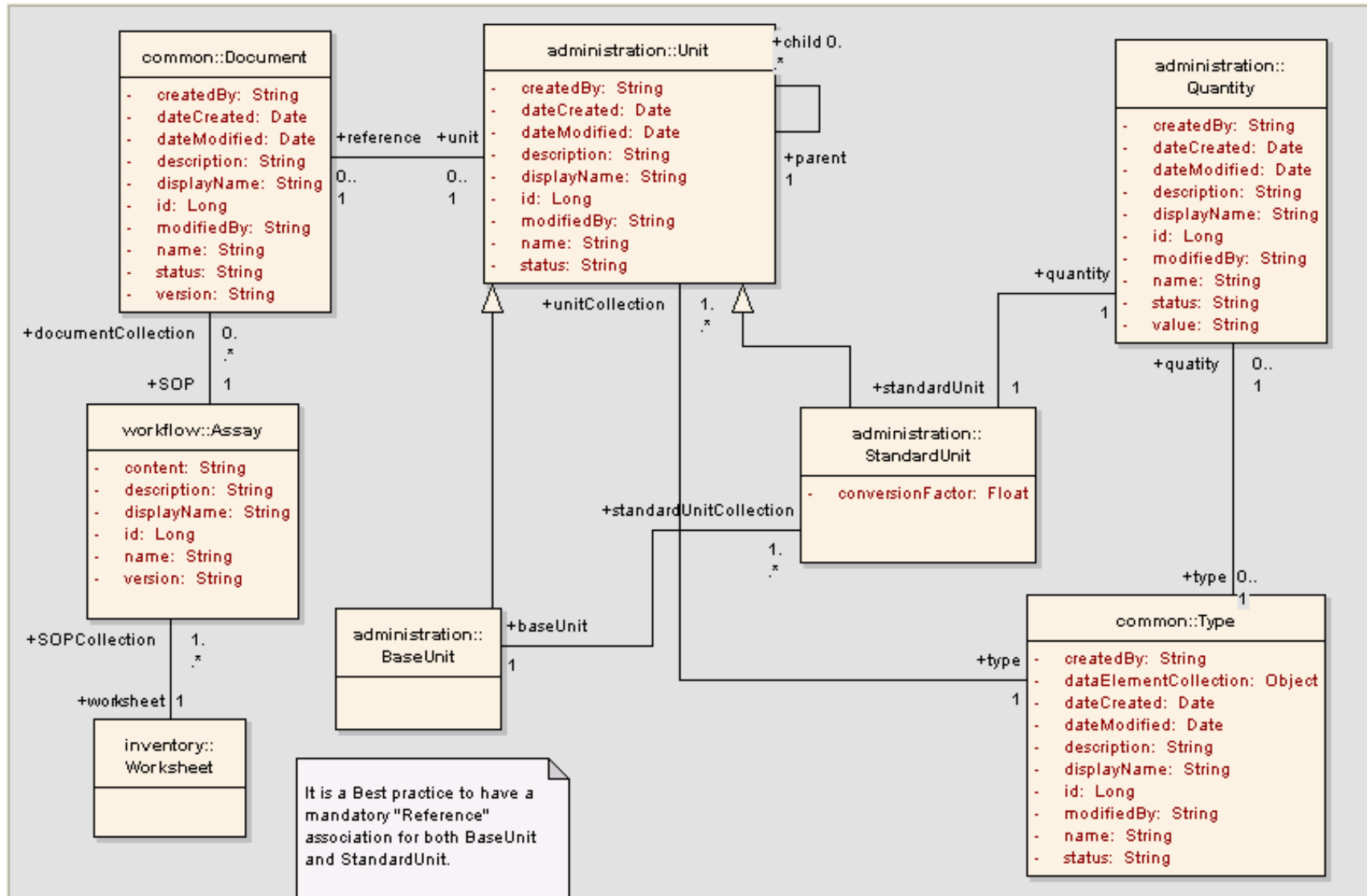


**Common classes:** Audit (dateCreated, dateModified, createdBy, modifiedBy), Status, Type, Document, File, FileExtension, FileFormatSpecification, Notes, SOP, EnvironmentalCondition, Task, Criterion, Parameter, ExternalIdentifier, NamingConvention, Word, Safety.

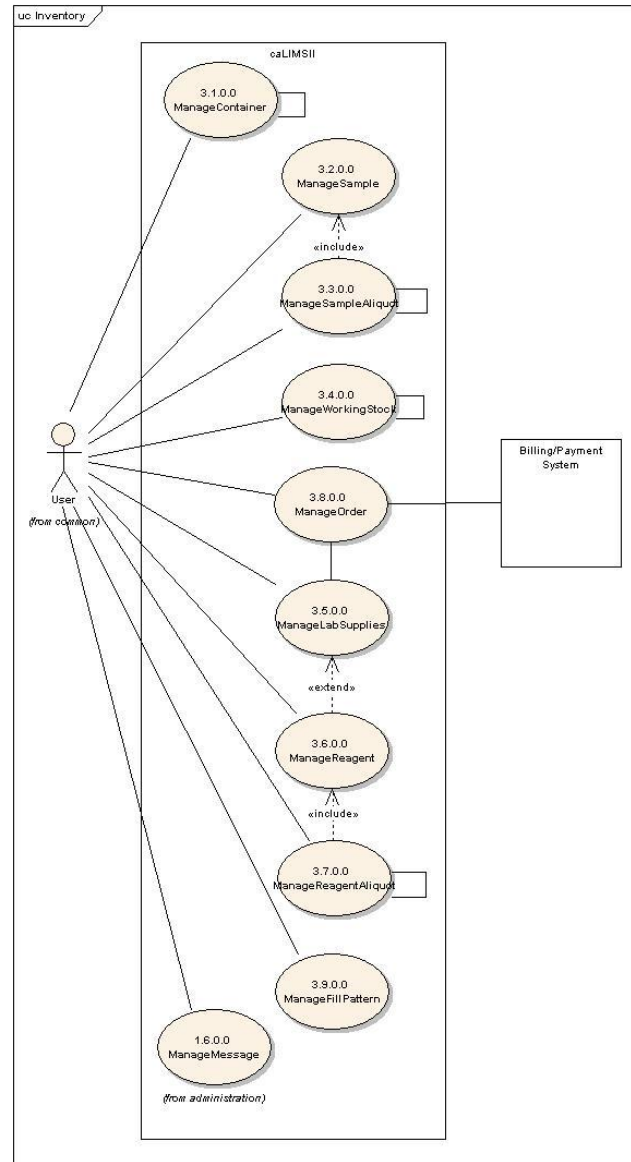
# Administration Module



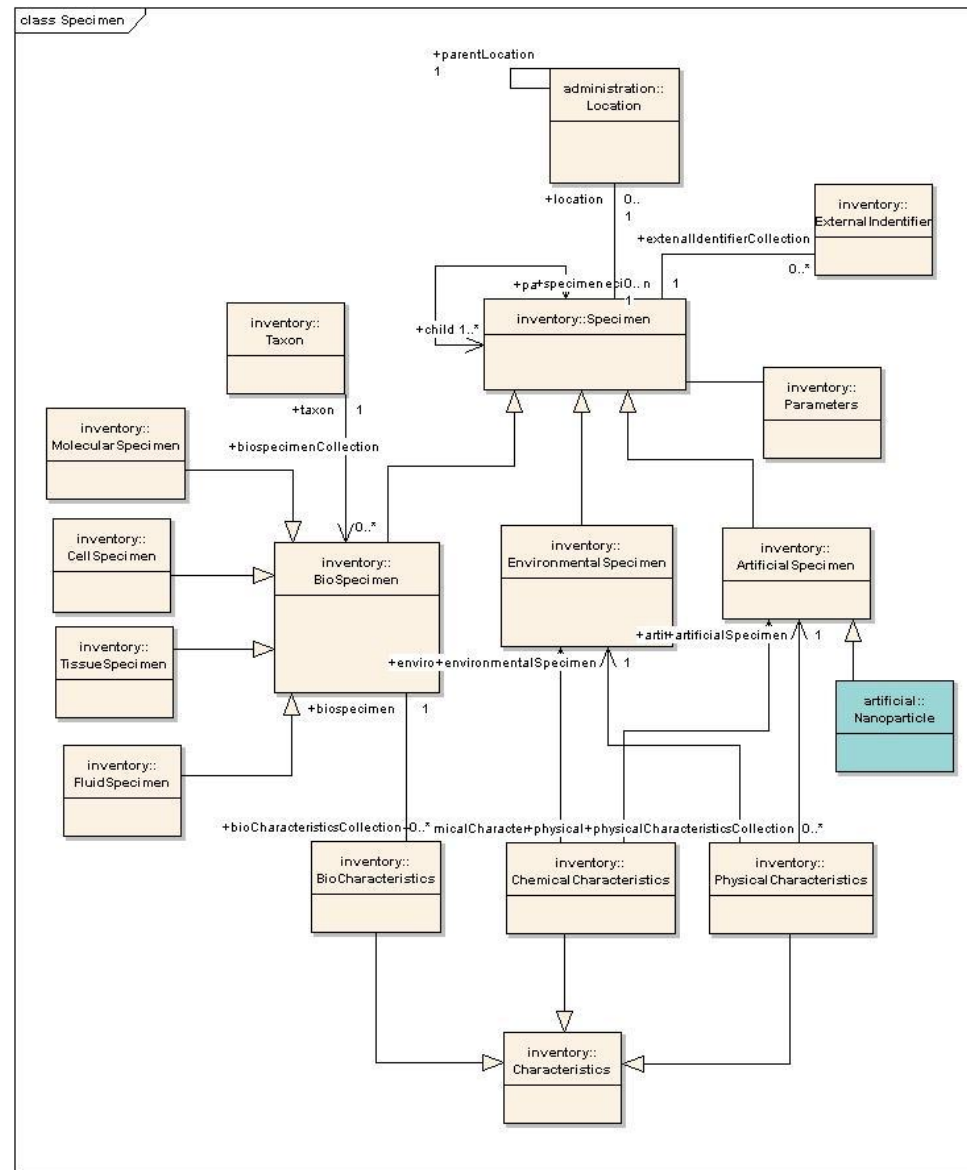
# Administration – Units OM



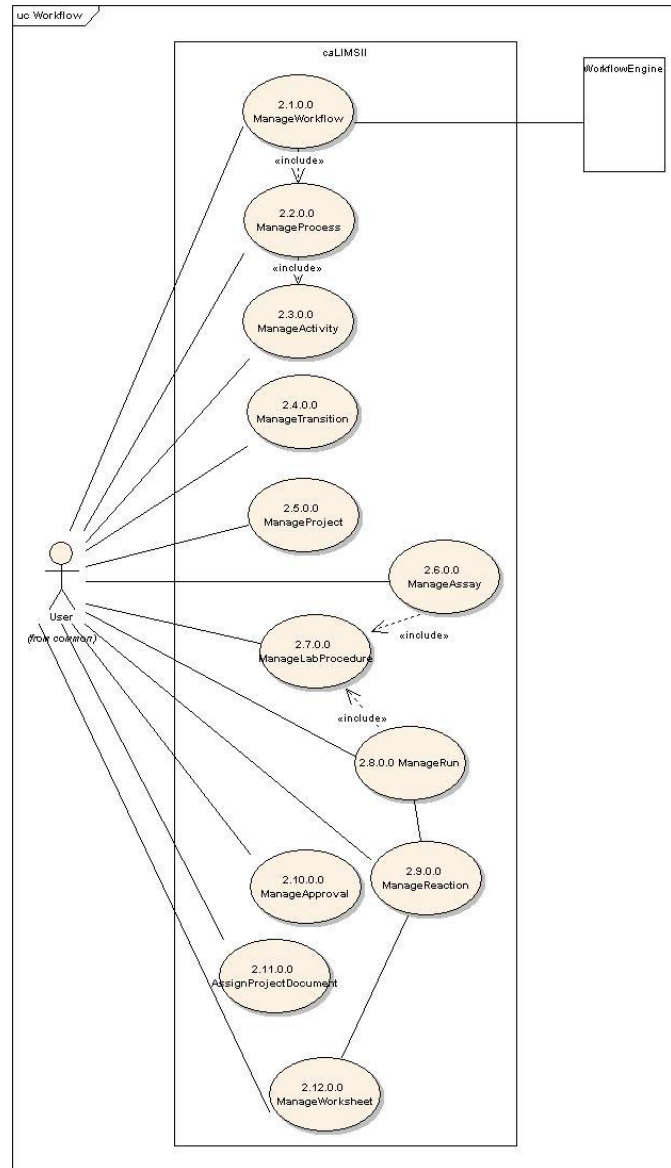
# Inventory Module



# Inventory module – *Specimen*

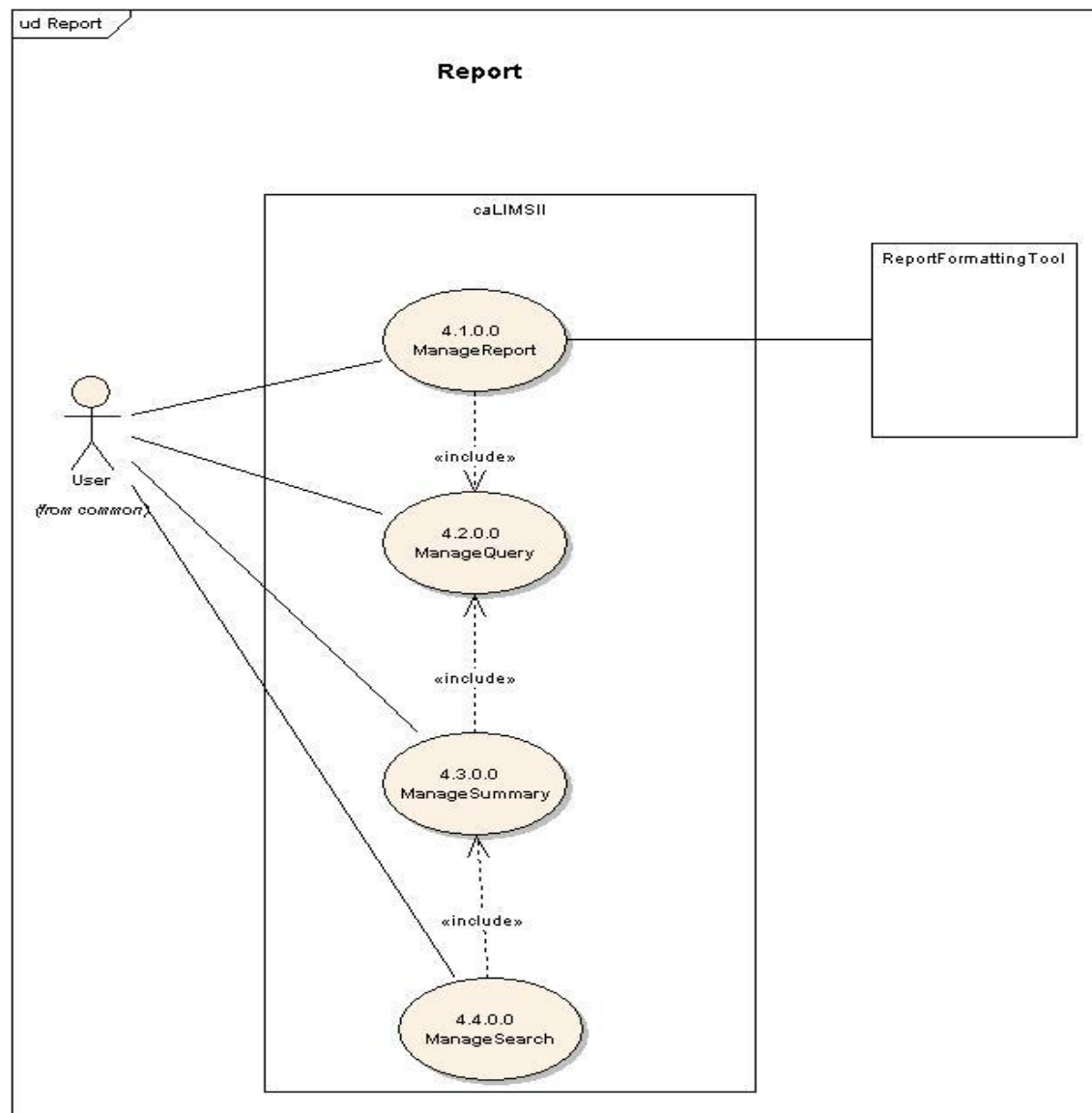


# Workflow Module

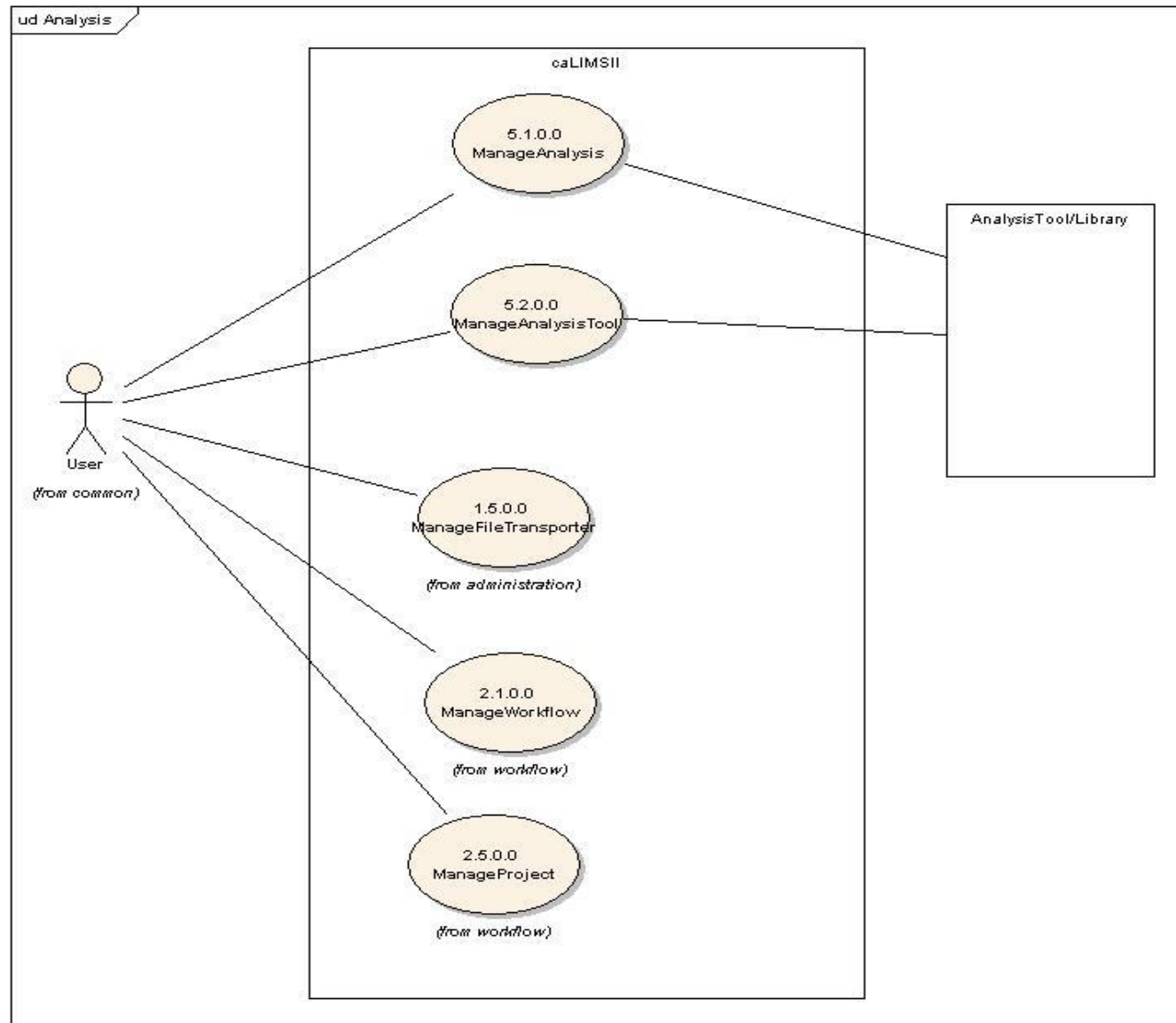




# Report Module



# Analysis Module



# caLIMS2 GForge site: Documentation

NCICB GForge: caLIMS II: Document Manager: Display Document - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://gforge.nci.nih.gov/docman/index.php?group\_id=166&selected\_doc\_group\_id=1019&language\_id=1

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**National Cancer Institute** U.S. National Institutes of Health | www.cancer.gov

**caBIG™** Cancer Biomedical Informatics Grid™

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-  [EA Model for V0.5](#) Last Updated: May 1, 2008, 8:28 am
-  [EAP Model](#) Last Updated: October 5, 2006, 1:06 pm
-  [EAP Model: 27-Jul-2007](#) Last Updated: July 27, 2007, 1:26 pm
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Done

# NCI CBIIT LIMS Consortium

## 4<sup>th</sup> Monday: Regular Monthly Meetings

- **June 2, 2008**                      **1 pm EDT CENTRA\*** rescheduled 5/24
  - **July 28, 2008**                    **1 pm EDT CENTRA\***
  - **August 25, 2008**                **1 pm EDT CENTRA\***
- *\*those in DC/VA/MD area welcome to come to our location [NCI CBIIT and LPG] at 2115 Jefferson, Rockville, MD.*

### **SIGs now combined with caLIMS2 Design & Development meetings - Tuesday 10 am ET:**

- **ISIG – Interface SIG (UI & API)**
- **OM SIG – Object Model SIG**
- **Analytic Service SIG - TBD**

# Communication

- ▶ **caLIMS2 project site:**

<http://gforge.nci.nih.gov/projects/calims2>

- ▶ **NCICB LIMS Consortium LISTSERV:**

<https://list.nih.gov/archives/nci-lims-consortium.html>

- ▶ **Web based design artifacts**

<http://lpgws.nci.nih.gov/calims2/index.htm>

- ▶ **Contacts:**

- ▶ **Bob Clifford:** [clifforr@mail.nih.gov](mailto:clifforr@mail.nih.gov)

- ▶ **Jenny Kelley:** [kelleyj@mail.nih.gov](mailto:kelleyj@mail.nih.gov)

- ▶ **Anand Basu:** [basuan@mail.nih.gov](mailto:basuan@mail.nih.gov)

# Current Status

- ▶ Use Case design phase completed
- ▶ OM or Class design for beta 0.5 release completed and approved by EVS team; registration in caDSR this week; we will need to register more classes for the full 1.0
- ▶ Data Model for beta 0.5 release will be completed this week; will need to complete additional data tables for 1.0; will need to optimize and normalize as the application is tested
- ▶ Coding for beta 0.5 release (includes core system and specimen management) is scheduled for end of May/early June 2008
- ▶ Beta 0.5 release with Java APIs/web services and a very basic web UI is estimated for the end of June 2008
- ▶ Beta 1.0 release is estimated for the end of 2008 (depending on resources available from caBIG™ and Consortium)

# Discussion

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- ▶ Questions?
- ▶ Input on vision, use cases, model, etc.
- ▶ Explore ways to work together

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- ▶ NCICB LIMS Consortium LISTSERV:

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- ▶ Jenny Kelley: [kelleyj@mail.nih.gov](mailto:kelleyj@mail.nih.gov)

