

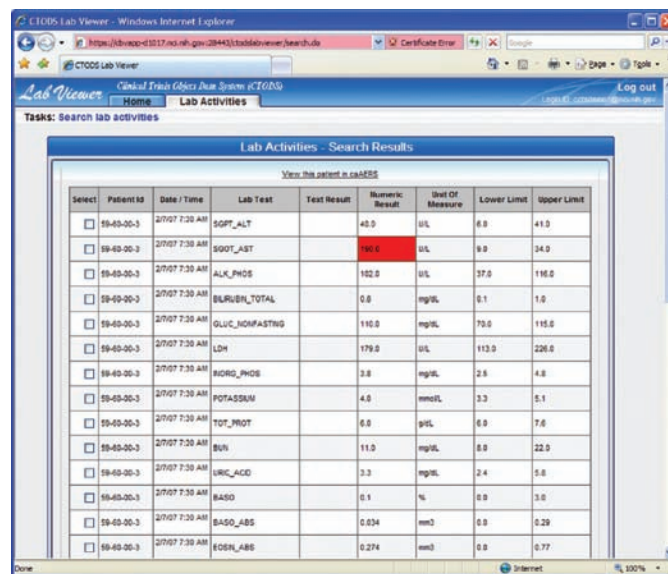
Cancer Data Exchange (caXchange)

Clinical data exchange

The Cancer Data Exchange (caXchange) system is a configurable hub for exchanging clinical trial information between applications and systems. For instance, caXchange can be used to map and transfer laboratory data from non-standard clinical care systems into a standard format suitable for receipt by clinical trials databases. caXchange also provides a "lab viewer" application that allows users to view and query laboratory data sent to the hub and select subsets of tests to be sent to a clinical trials database.

Features:

- Enables automatic transfer of clinical data from point-of-care systems, such as clinical chemistry laboratory systems
- Incorporates caXchange Lab Viewer, allowing viewing of clinical laboratory data imported from clinical chemistry and other lab systems
- caXchange Lab Viewer allows search by Medical Record Number (MRN) and date range
- Laboratory results can be selected for loading into clinical trials databases
- Automatically flags laboratory result values that may indicate toxicity
- Incorporates caAdapter mapping and translation tool to enable translation of any non-standard source and destination format
- Health Level Seven (HL7) version 2 and comma separated values (CSV) support
- Generates HL7 version 3 messages



The screenshot shows the 'Lab Activities - Search Results' window in a web browser. The table displays the following data:

Select	Patient ID	Date / Time	Lab Test	Text Result	Numeric Result	Unit Of Measure	Lower Limit	Upper Limit
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	SGPT_ALT		40.0	U/L	8.0	41.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	SGOT_AST		100.0	U/L	9.0	34.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	ALK_PHOS		102.0	U/L	37.0	116.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	BILRUIN_TOTAL		0.6	mg/dL	0.1	1.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	GLUC_NONFASTING		110.0	mg/dL	70.0	116.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	LDH		179.0	U/L	113.0	226.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	SGRO_PHOS		3.8	mg/dL	2.8	4.8
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	POTASSIUM		4.0	mmol/L	3.3	5.1
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	TOT_PROT		6.0	g/dL	6.0	7.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	BUN		11.0	mg/dL	8.0	22.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	URIC_ACID		3.3	mg/dL	2.4	5.6
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	ALSO		0.1	%	0.0	3.0
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	BASO_ABS		0.034	mm3	0.0	0.29
<input type="checkbox"/>	59-69-00-3	2/7/07 7:30 AM	EOSN_ABS		0.274	mm3	0.0	0.77

caXchange interface

Categories of Use:

- | | | | |
|---|--|--------------------------------------|---|
| <input type="checkbox"/> Biospecimens | <input type="checkbox"/> Data Sharing | <input type="checkbox"/> Imaging | <input type="checkbox"/> Proteomics |
| <input checked="" 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 type="checkbox"/> Infrastructure | <input type="checkbox"/> Pathways | <input type="checkbox"/> Vocabularies |



Architecture Overview

- **Application type:** Hub client, Web-based Lab Viewer
- **System requirements:** Hub client component only requires the Java Runtime Environment (JRE); Lab Viewer is a J2EE Web based application that runs in Tomcat

Installation and Administration:

- **caGrid Security Administration:** System administration, database administration, Web application administration
- **Infrastructure needed:** Database (Postgres or Oracle), application container (Tomcat), caGrid (optional, needed for multi-site interactions and deployment as part of the caBIG™ Clinical Trials Suite).
- **Long-term administration needs:** Standard database, Web, and system administration

Key Contributors:

- Ekagra Software Technologies
- Lombardi Comprehensive Cancer Center at Georgetown University
- ScenPro, Inc.

Other Clinical Trials Compatibility Framework Components:

- Cancer Adverse Event Reporting System (caAERS)
- Cancer Central Clinical Participant Registry (C3PR)
- Clinical Trials Object Data System (CTODS)
- Patient Study Calendar (PSC)

Resources

Tool Overview Page	https://cabig.nci.nih.gov/tools/LabIntegrationHub
Primary Workspace	Clinical Trials Management Systems (CTMS)
CTMS Workspace Lead	Derek Walker: walker_derek@bah.com
CTMS LISTSERVS	https://list.nih.gov/archives/cabig_ctms_cond_sig.html and https://list.nih.gov/archives/cabig_ctms-l.html
caBIG™ Tool Inventory	https://cabig.nci.nih.gov/inventory
NCI Center for Bioinformatics Applications Support	ncicb@pop.nci.nih.gov

