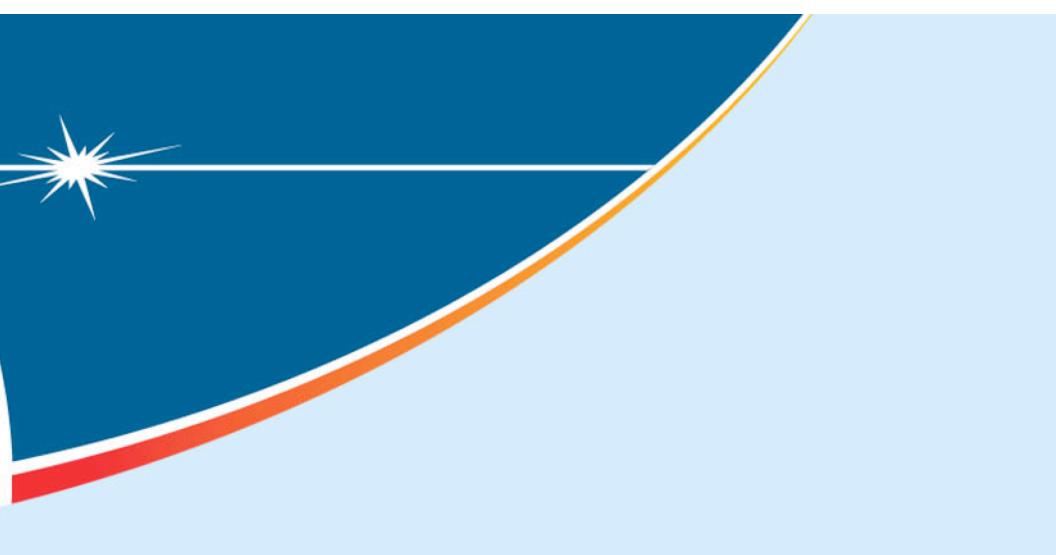




*Herzberg Institute
of Astrophysics*



The Canadian Virtual Observatory

**Séverin Gaudet, Jeff Burke, Daniel Durand,
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John Ouellette, Russell Redman, David Schade**



National Research
Council Canada

Conseil national
de recherches Canada

Canada



Canadian Virtual Observatory

The screenshot shows the Canadian Virtual Observatory (CVO) website interface. At the top, there's a navigation bar with links for "CVO", "Community", "Reports", and "Links". Below the navigation, a note about acknowledging CADC facilities is displayed, followed by a statement about the research using Canadian Astronomy Data Centre facilities. The main content area is titled "Observation Catalog Exploration Tools (Octet)". It includes a "Launch Octet" button and a "details" link. A note about Java Runtime Environment (JRE) version 1.4 or later and Java Webstart is present, along with a note about accepting certificates from both CADC and CDS. A "System Requirements" section lists the need for Java 1.4 or later and Java Webstart. A "Help" section provides information on online help and documentation. The bottom section is titled "IVOA Standard Services" and includes links for "details" and "specification", with a note about CVO providing SIA 1.0 compliant services for various astronomical datasets. The footer contains logos for CADC/CCDA, Herzberg Institute of Astrophysics, National Research Council Canada, and Conseil national de recherches Canada.

Canadian Virtual Observatory

<http://www1.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/cvo/>

CVO Canadian Virtual Observatory

CVO | Community | Reports | Links

If you have used CADC facilities for your research, please include the following acknowledgment:

This research used the facilities of the Canadian Astronomy Data Centre operated by the National Research Council of Canada with the support of the Canadian Space Agency.

Observation Catalog Exploration Tools (Octet)

[Launch Octet](#)

[details](#)

With Octet, CVO has developed advanced observation query capabilities to help users fully exploit the broad wavelength coverage of our collections. We have also included data from select external collections to increase wavelength coverage from radio (FIRST) to X-ray (RASS).

System Requirements

Java Runtime Environment (JRE) version 1.4 or later
Java Webstart

NOTE: You will be prompted to accept certificates from both CADC and CDS (Aladin is bundled). You must accept the certificates for the application to work properly.

Help

Complete on-line help is available on this web site. The web page(s) are also accessible from within the application (open the Help menu and select Documentation).

IVOA Standard Services

[details](#)

[specification](#)

CVO provides SIA 1.0 compliant services for CFHT (CFHT12k and Megacam), CGPS (HI continuum images), GEMINI, HST (WFPC2 and ACS), IRIS, and JCMT (SCUBA).

The CVO project and all CVO services are registered in the [NVO Registry](#).

CADC/CCDA

HERZBERG INSTITUTE OF ASTROPHYSICS

INSTITUT HERZBERG D'ASTROPHYSIQUE

National Research Council Canada Conseil national de recherches Canada

- Goals
- Services
- Collections
- Usage statistics
- Recent efforts
- Future directions



CVO

- Developed and hosted at CADC
- Goals
 - Publish data from nationally hosted collections
 - Contribute to IVOA development
- Activities
 - Operate VO services
 - Develop and implement data models and protocols
 - Transform and publish data collections
 - Participate in working groups and Exec
- Funding
 - Long-Range Plan for Astronomy in Canada
 - Canadian Space Agency
 - Herzberg Institute for Astrophysics

The screenshot shows the CADC Home Page with the URL <http://www4.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/cadc/>. The page features the CADC logo and a search bar. Below the search bar is a section titled "Programmatic access to CADC Archive Data" with a link to "http://.../getdata". To the right are sections for "Advanced Data Products" (ACS Stacks, WFPC2 Stacks, MegaCam Stacks, Canadian Virtual Observatory), "Archive Services" (CFHT Archive, CGPS Archive, Gemini Archive, JCMT Archive), and specific mission archives (BLAST, FUSE Archive, HST Archive, MOST). There are also links for CFHTLS and MACHO.

CVO Services

- 8 SIA services
- 5 Data Collections
- 1 Application

VOTable Viewer http://nvo.stsci.edu/vor10/index.aspx#Table|filterText%3D%7C1%3A*images%7C2%3D/ Google

NVO Registry

Hosted By  Space Telescope Science Institute

Find Astronomical Data Resources

ivo://cadc [Advanced](#)

Examples: HEASARC, GALEX, redshift, Optical, far ultraviolet, M51

ivo://cadc

Save All Results as CSV [Save](#) Next, Send Results to [Send](#)

Results 1-8 of 8 (27 before filtering) sorted by tags Show 50 results per page

Click column heading to sort list - Click checkbox to select [Reset selection](#)

Text boxes under columns select matching rows [Apply Filter](#) [Clear Filter](#)

select	browse /query	categories	shortName	title	description
		images	cadc		
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/CGPS	CADC/CGPS Image Search	Image search and retrieval for Canadian Galactic Plane Survey (CGPS) HI continuum images.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/GEMINI	CADC/GEMINI Image Search	Image Search and retrieval for Gemini imaging data. This service is quite new and contains a modest amount of content.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/JCMT	CADC/JCMT Image Search	Image search and retrieval of JCMT images. The collection currently contains SCUBA products at 450 and 850μm.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/HST	CADC/HST Image Search	Image search and retrieval for HST imaging data. The collection currently includes calibrated ACS observations and stacks (associations) and stacks from the WFPC2 Association project.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC	CADC Image Search	Image search and retrieval for all calibrated CADC images and advanced products. This service is based on the same content as the archive-specific image search services provided by CADC.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/CFHT	CADC/CFHT Image Search	Image search and retrieval for CFHT imaging data. The current collection includes calibrated public data from CFHTLS and PI observing programs.
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/IRIS	CADC/IRIS Image Search	The Improved Reprocessing of the IRAS Survey (IRIS) enhances significantly the general quality of the ISSA plates in the four bands (12, 25, 60 and 100 microns). This new generation of IRAS images, called ... (more)
<input type="checkbox"/>	Full Record Images More Info Search Me		CADC/MACHO	CADC/MACHO Image Search	Image search and retrieval for MACHO Imaging data.

Results 1-8 of 8 (27 before filtering) sorted by tags Show 50 results per page

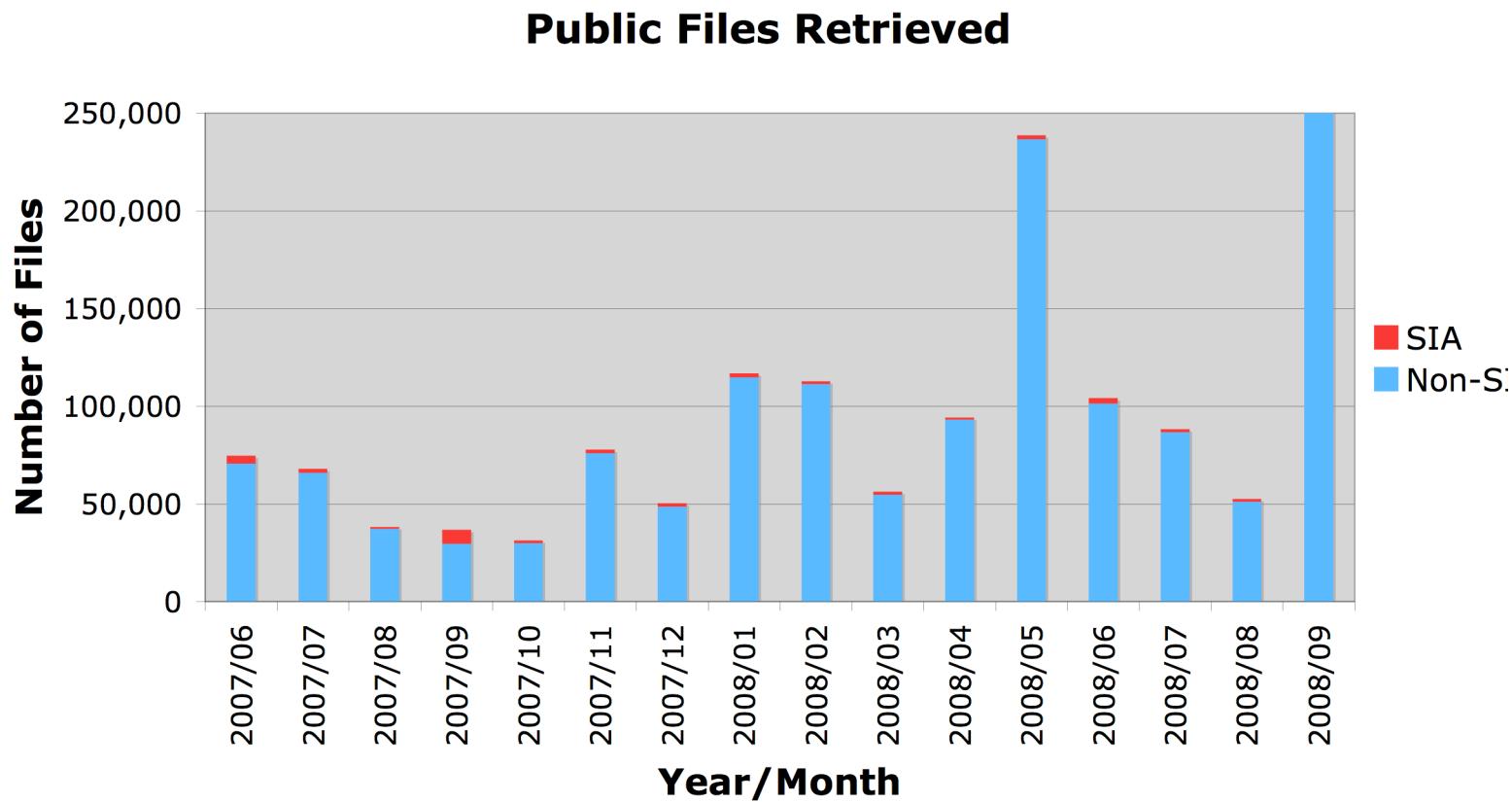
CVO SIA Collections

	<i>Observations</i>	<i>SIA Images</i>	<i>Gigabytes</i>
CFHT	46,195	1,214,202	25,830
CGPS	166	166	1
Gemini	1,072	1,072	32
HST	61,055	135,551	5,707
IRIS	1,720	1,720	2
JCMT	4,571	8,797	3
MACHO	114,826	1,695,586	7,654
	229,605	3,057,094	39,230

- All fully calibrated data products



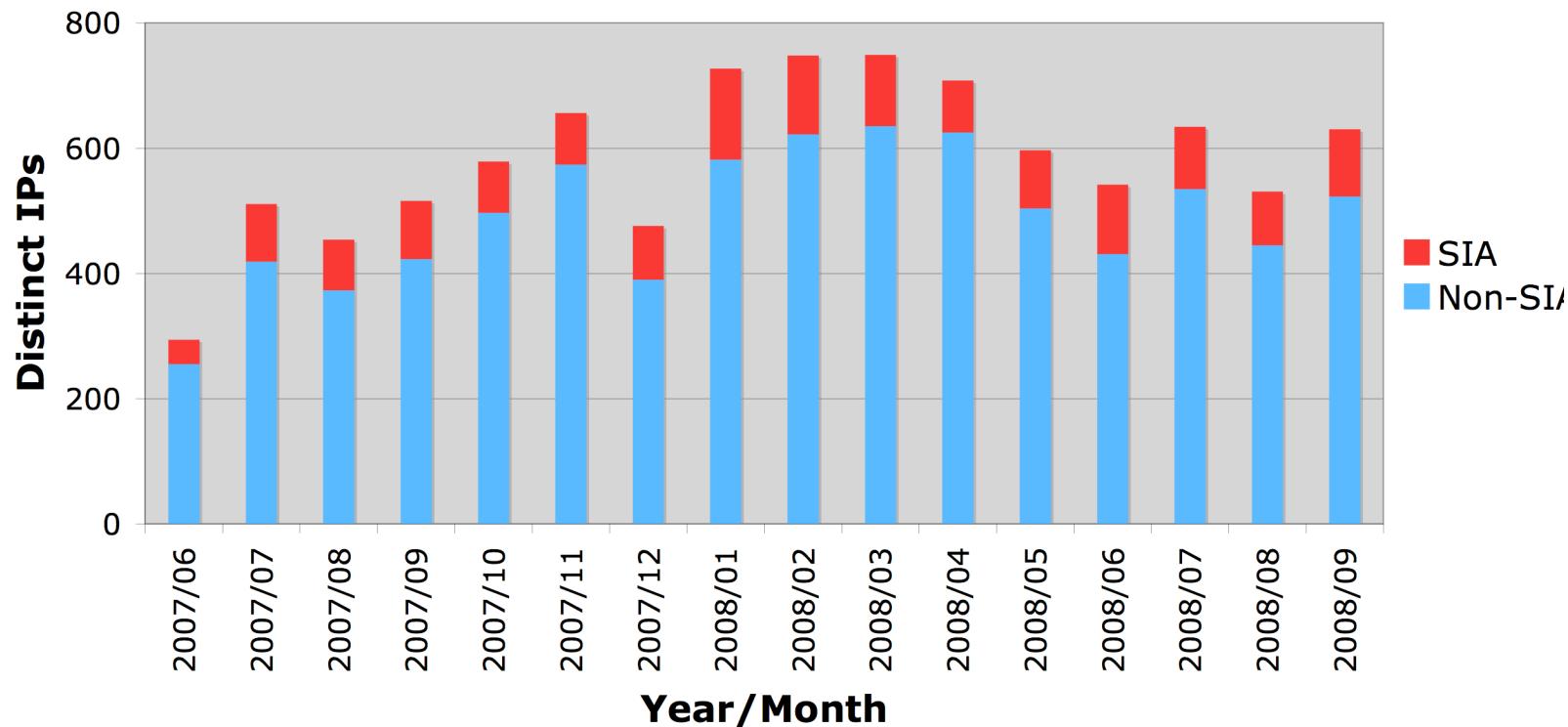
SIA Usage



- 16 months: 34,290 files, 343 GB
- Average 2% of public files, 0.7% of volume

SIA Usage

Public File Destinations



- 1,311 distinct IP address
- 20% of all public file destinations



Recent Activities

- VOQL
 - TEG participation (PD)
- TAP/QL Prototype
 - ADQL, UWS (PD)
- Data Modeling (PD, JB, DJ, team)
 - Ingestion tool development
 - Query interface development
 - 2 collections transformed
 - Other collections started

The screenshot shows a web browser window titled "CVO/UWS" with the URL <http://www.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/tapServer/>. The page features a large red maple leaf logo and the text "CVO". Below it, the "Canadian Virtual Observatory" logo is displayed. A message encourages users to acknowledge CADC facilities. The "Universal Worker Service (UWS)" section includes a "Create a sample UWS job" button. The "Table Access Protocol (TAP)" section includes "Get TAP service metadata" and "Create a new asynchronous query" buttons. Logos for "CADC/CCDA" and "HERZBERG INSTITUTE OF ASTROPHYSICS" are present, along with the "National Research Council Canada" and "Conseil national de recherches Canada" logos.

<http://www.cadc.hia.nrc.gc.ca/tapServer/>

Recent Activities

- VOQL
 - TEG participation (PD)
- TAP/QL Prototype
 - ADQL, UWS (PD)
- Data Modeling (PD, JB, DJ, team)
 - Ingestion tool development
 - Query interface development
 - 2 collections transformed
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The screenshot shows two overlapping web browser windows. Both windows have the URL <http://www.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/tapServer/> in the address bar. The top window displays the "Canadian Virtual Observatory" logo and a message asking users to acknowledge the use of CADC facilities. Below this, it lists "Table Access Protocol (TAP) Service Metadata". Under "Table: observation.plane", there is a table:

column name	datatype	units	UCD
obsID	int	null	TODO
collection	string	null	TODO
collectionID	string	null	TODO
project	string	null	TODO
instrument	string	null	TODO
shape	polygon	deg	TODO

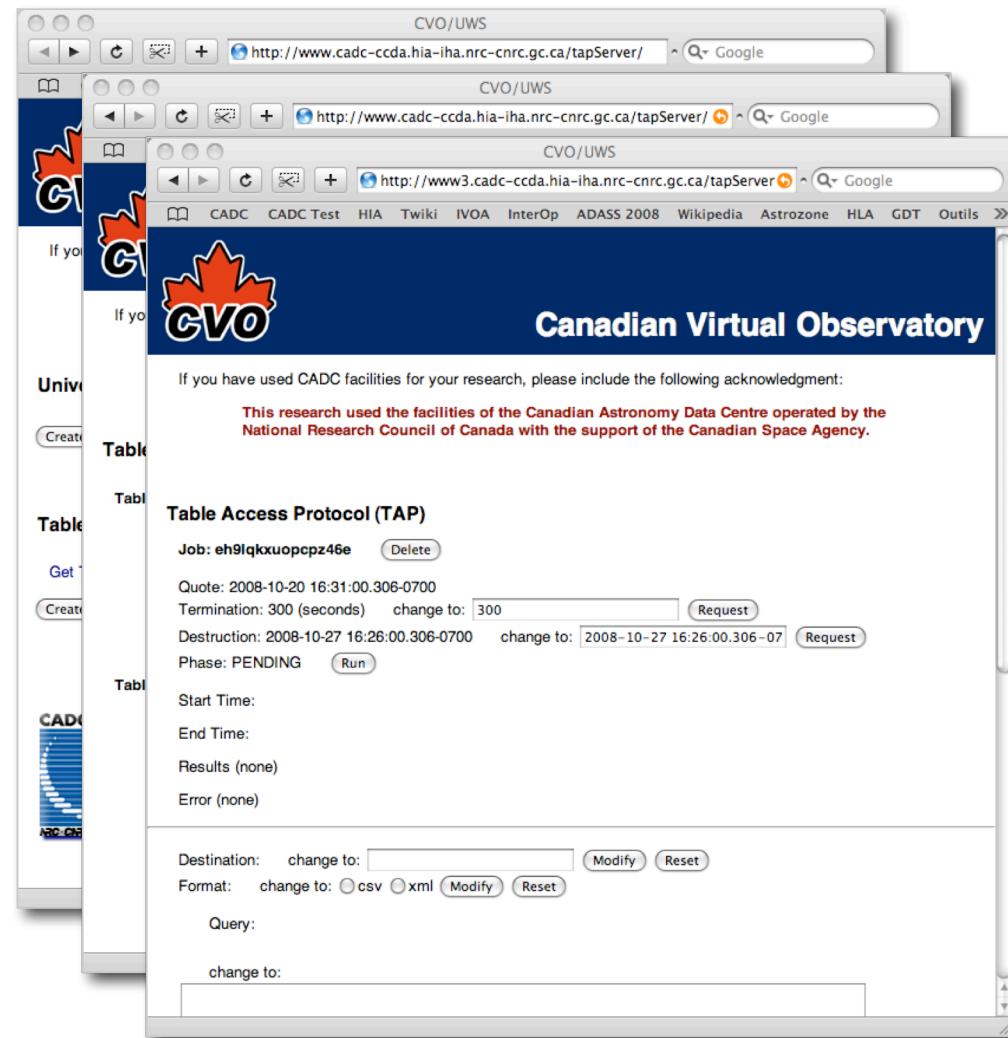
Under "Table: observation.spatial", there is another table:

column name	datatype	units	UCD
obsID	int	null	TODO
ctype1	string	null	TODO
ctype2	string	null	TODO
naxis1	int	null	TODO
naxis2	int	null	TODO
crpix1	double	null	TODO
crpix2	double	null	TODO
crval1	double	null	TODO
crval2	double	null	TODO
cdl_1	double	null	TODO
cdl_2	double	null	TODO
cd2_1	double	null	TODO
cd2_2	double	null	TODO

<http://www.cadc.hia.nrc.gc.ca/tapServer/>

Recent Activities

- VOQL
 - TEG participation (PD)
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<http://www.cadc.hia.nrc.gc.ca/tapServer/>



Future Activities

- On-going
 - Complete migration of collections
 - Porting to a new database
 - Query interface
- New
 - Cube data
 - Catalogues
 - SSA
 - TAP
 - CANFAR

Search Results: CADC Advanced Search <http://test.cadc-cda.hia-pha.nrc-cnrc.gc.ca/AdvancedSearch/find>

CADC CADC Test HIA Twiki adass2008 Wikipedia PMP SPIE Astrozone HLA GDT Utils Google Map Apple - Mac OS X

cvo Canadian Virtual Observatory

If you have used CADC facilities for your research, please include the following acknowledgment:
This research used the facilities of the Canadian Astronomy Data Centre operated by the National Research Council of Canada with the support of the Canadian Space Agency.

Data Source

Collection	Project	Instrument	Filter
All (8 Collections) CFHT CFHTSG CGPS GEMINI HST IRIS JCMT	All (1 Project) null	All (2 Instruments) GMOS-N GMOS-S	g_G0325 i_G0327 r_G0326 u_G0332

Position
Target:
RA: DEC: ICRS degrees

Energy
Energy From: m To: m Tolerance:

Time
Observation Date

27 observations found

download	collection	collectionID	RA	DEC	area (sq.deg)	pixel size (arcsec)	filter name	wavelength (m)	date (MJD)	exptime (s)
<input type="checkbox"/>	GEMINI	MRGS2004071680129_ADD	03:38:52.3	-35:22:20.1	1.175E-2	0.1462	g	4.75E-7	53202.39	125
<input type="checkbox"/>	GEMINI	MRGS2004071780033_ADD	10:44:58.6	-59:42:55.6	1.175E-2	0.1462	g	4.75E-7	53203.02	2
<input type="checkbox"/>	GEMINI	MRGS2004072080169_ADD	20:17:17.3	-70:45:37.4	1.175E-2	0.1462	g	4.75E-7	53206.42	150
<input type="checkbox"/>	GEMINI	MRGS2004072080173_ADD	20:16:42.0	-70:46:51.1	1.176E-2	0.1462	g	4.75E-7	53206.43	150
<input type="checkbox"/>	CFHTSG	MRGS20040720801102_ADD	01:14:42.8	-21:40:31.6	1.175E-2	0.1462	r	4.75E-7	53201.70	200



CANFAR

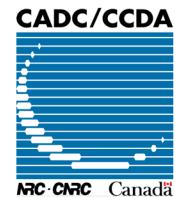
- Canadian Advanced Network for Astronomical Research
- Enable leading-edge scientific discovery
- Turning Grid resources into a Cloud for astronomy
 - Deliver a network-enabled platform for the delivery, processing, storage, analysis and distribution of large astronomical datasets
- Support the changing sociology of science
 - Survey/project teams
- 2½ year project; 24.5 FTE
- 4-6 survey projects
- IVOA technologies core to the design

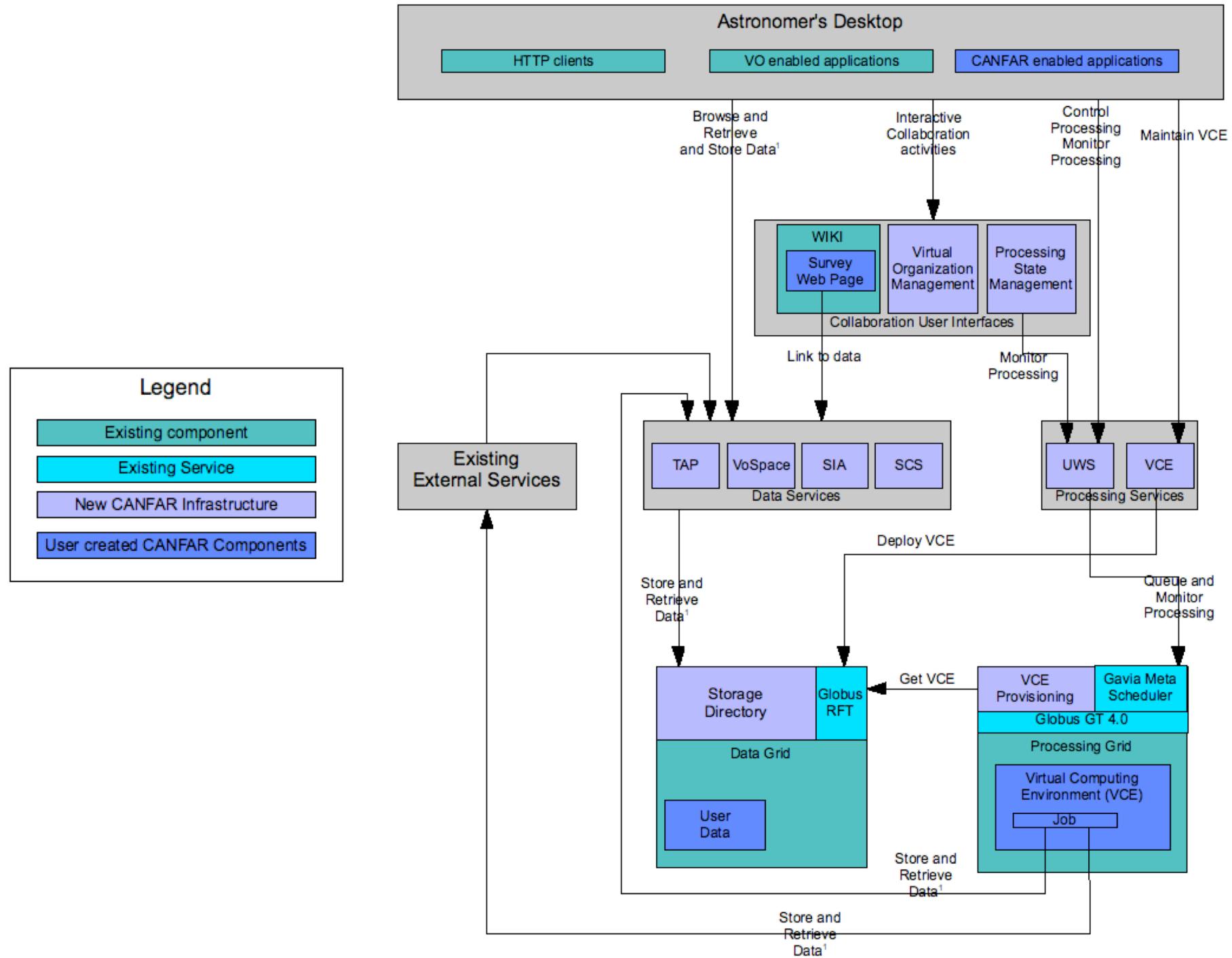


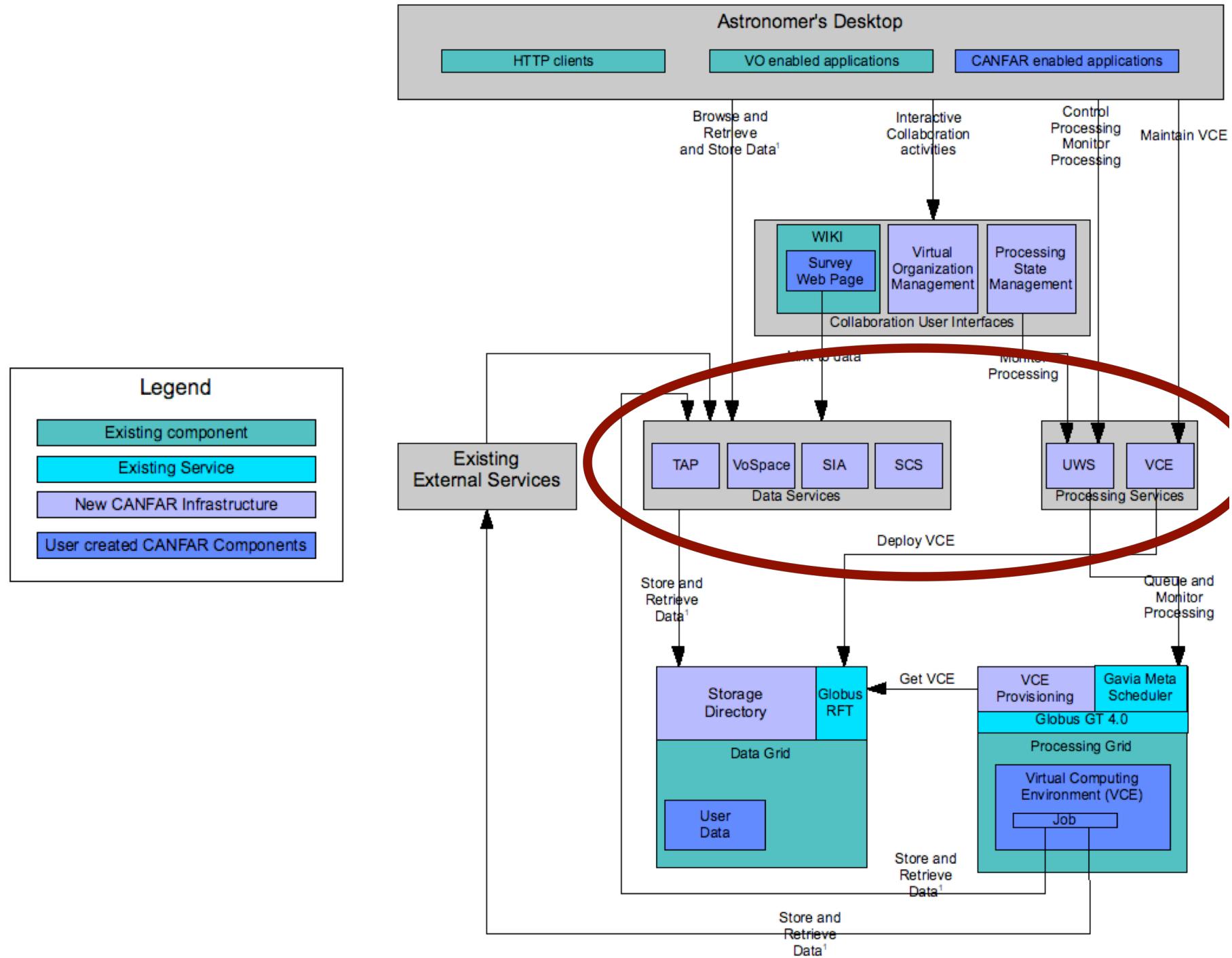
University
of Victoria

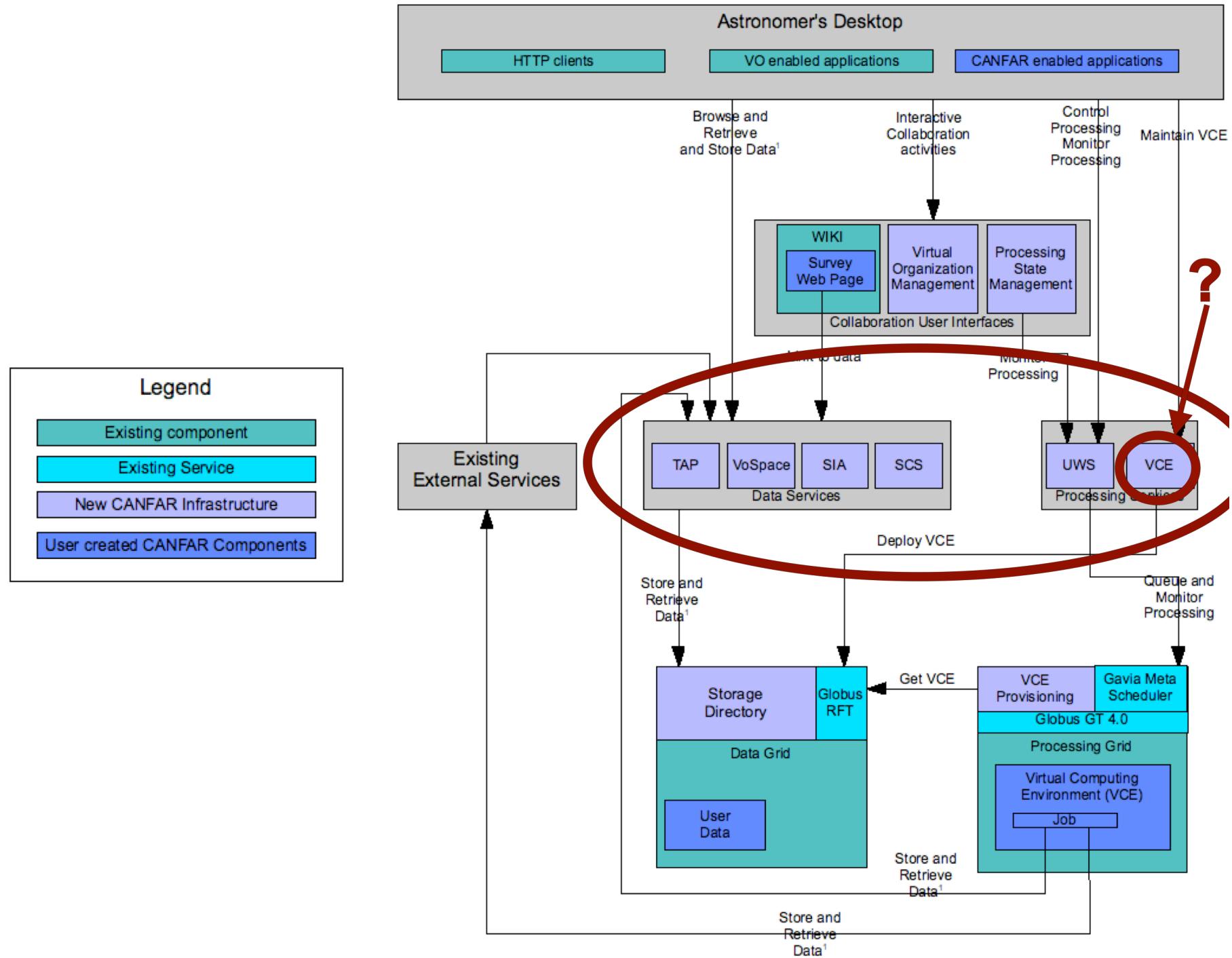


University of
British Columbia











www.cadc.hia.nrc.gc.ca