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# The Canadian Virtual Observatory

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National Research Council Canada
Conseil national de recherches Canada

Canada

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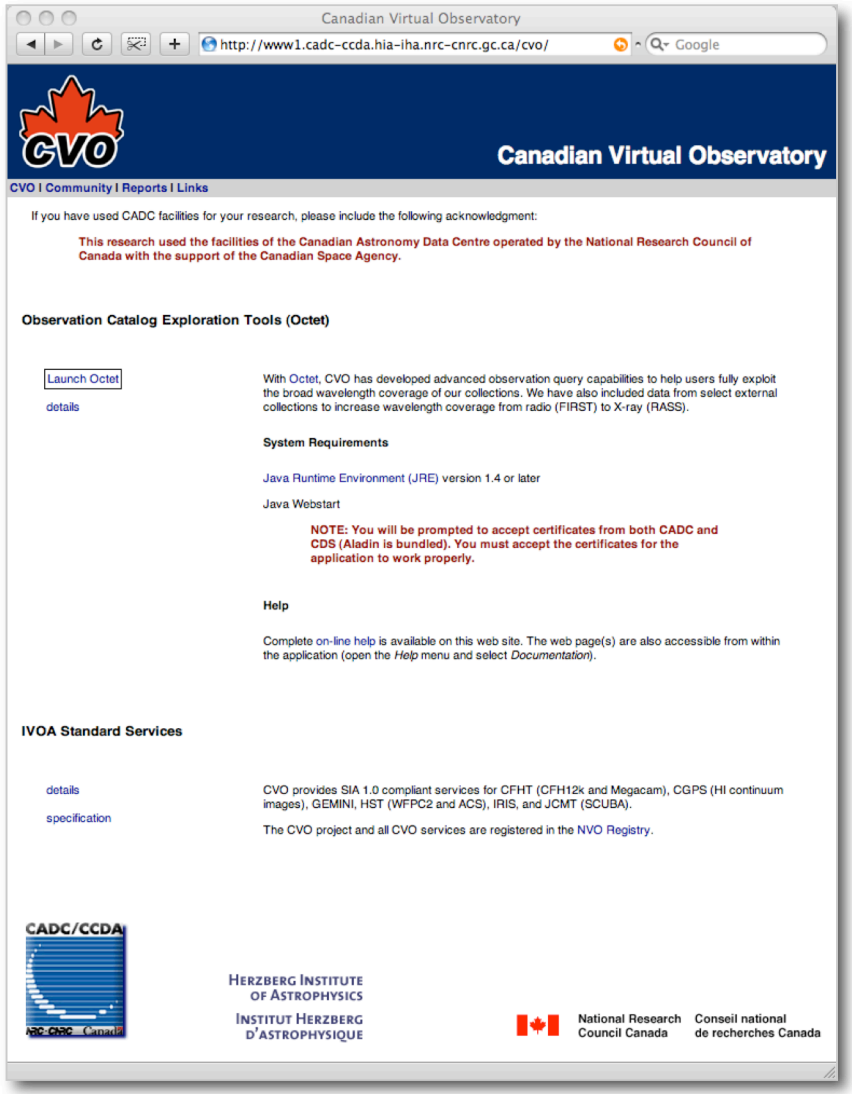
# Canadian Virtual Observatory

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



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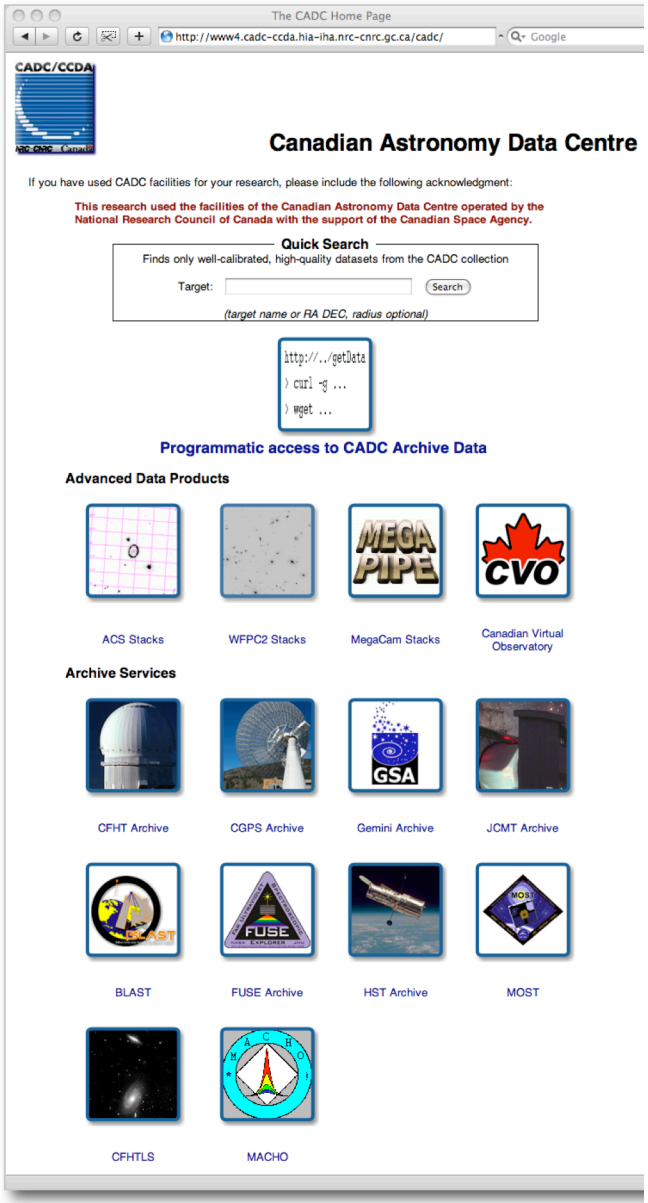
# CVO

- 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



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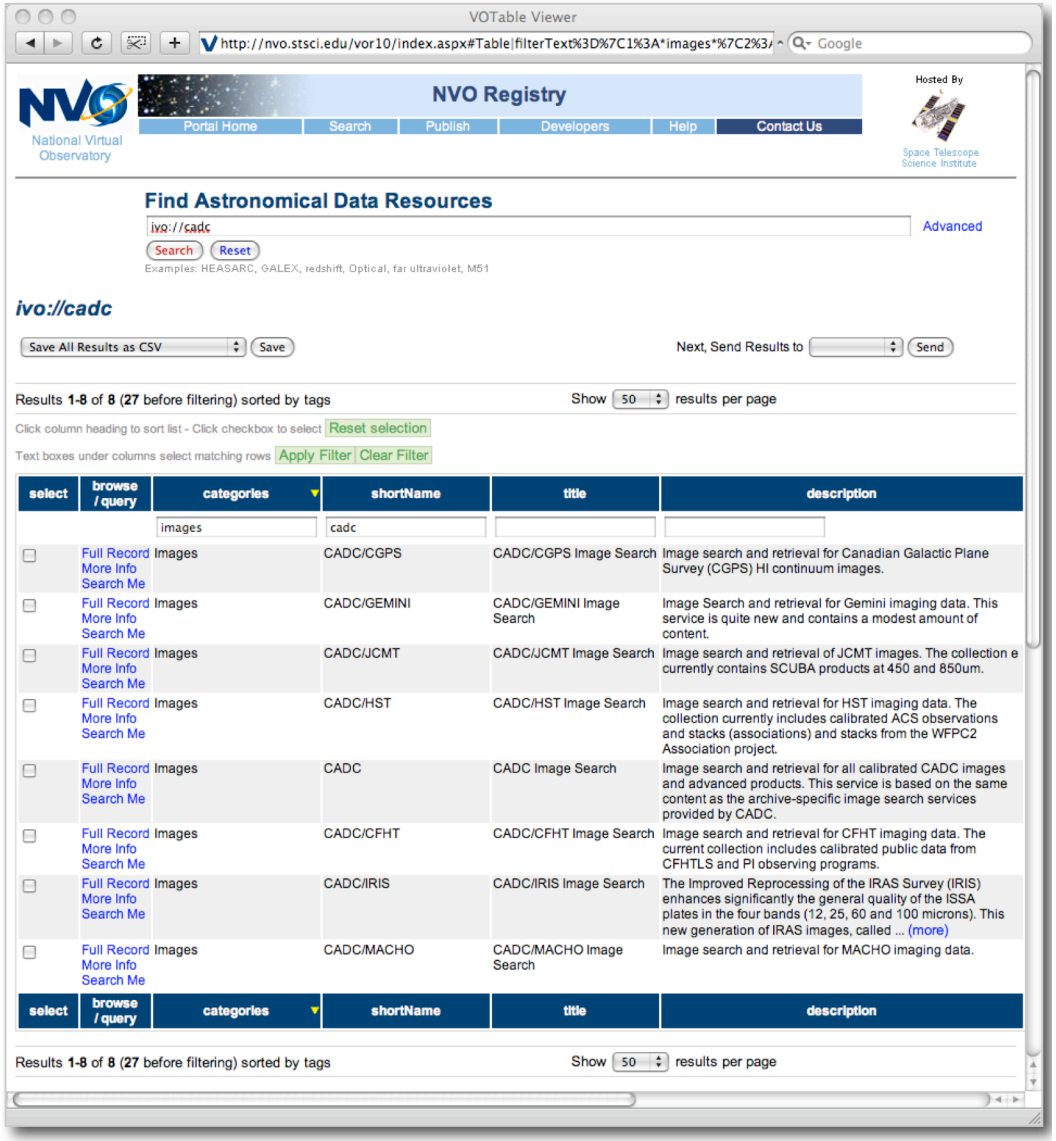
# CVO Services

- 8 SIA services
- 5 Data Collections
- 1 Application



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# CVO SIA Collections

| | Observations | SIA Images | Gigabytes |
|---|---|---|---|
| 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

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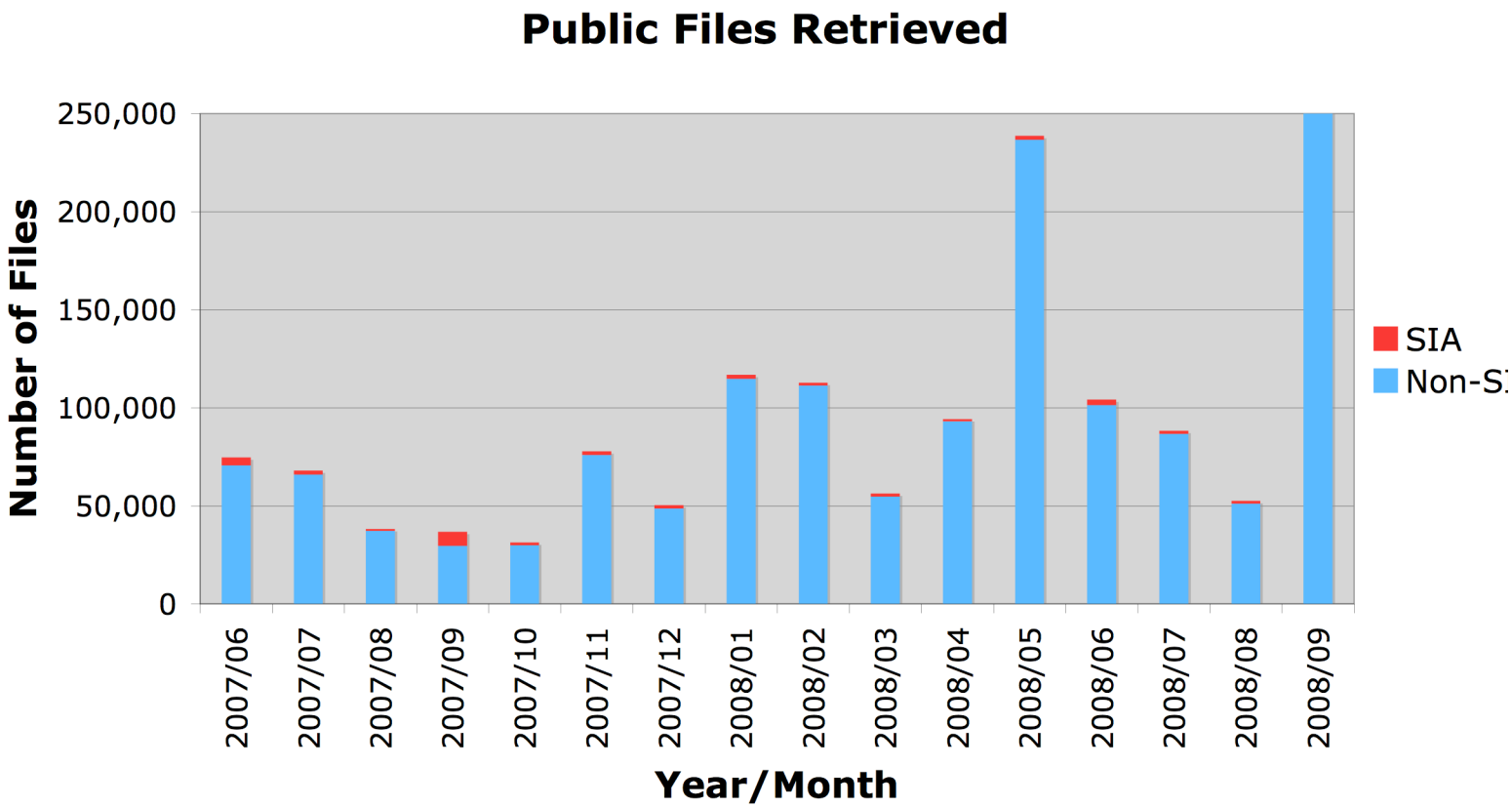
# SIA Usage




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

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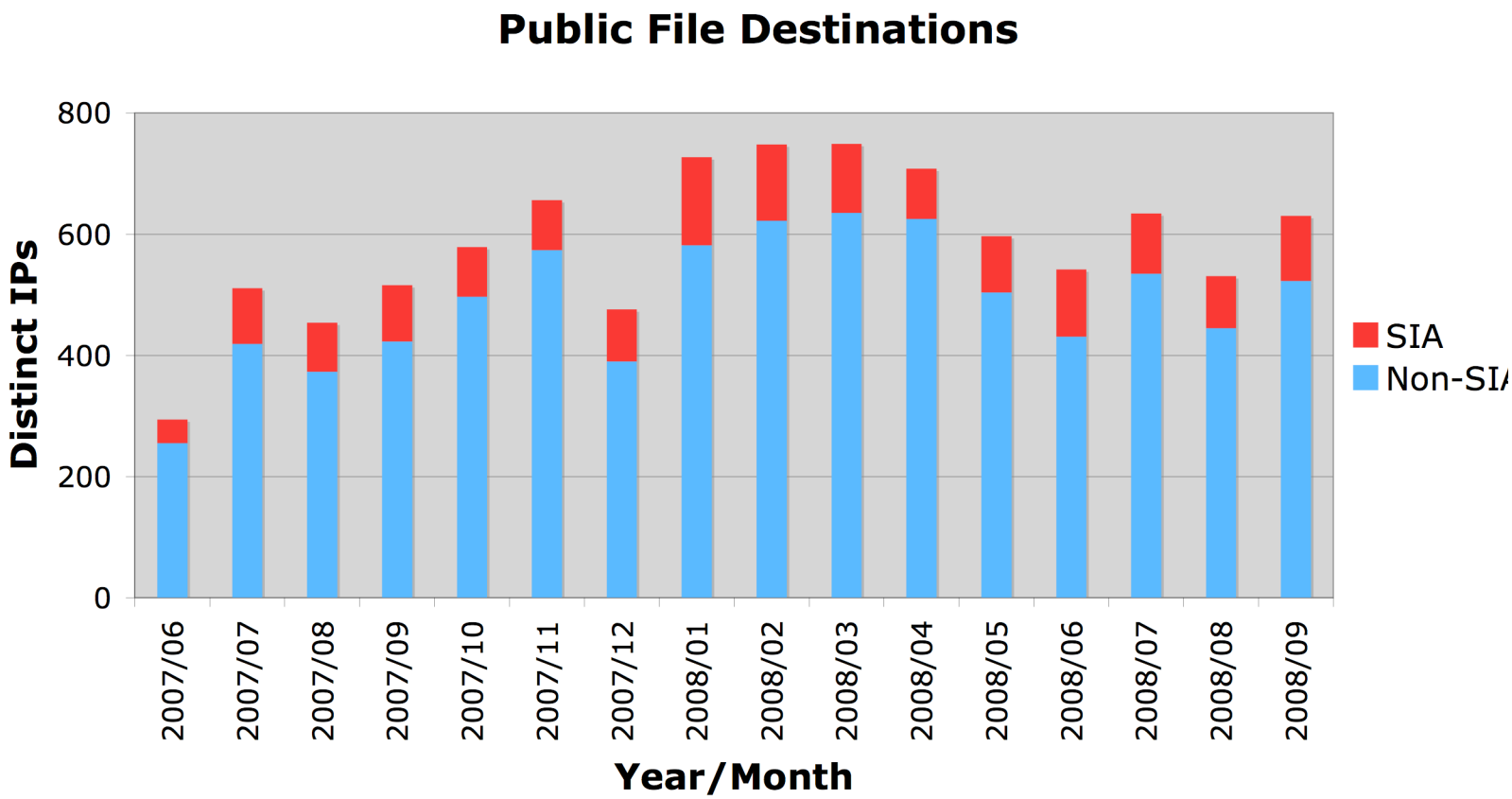
# SIA Usage




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

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# 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

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

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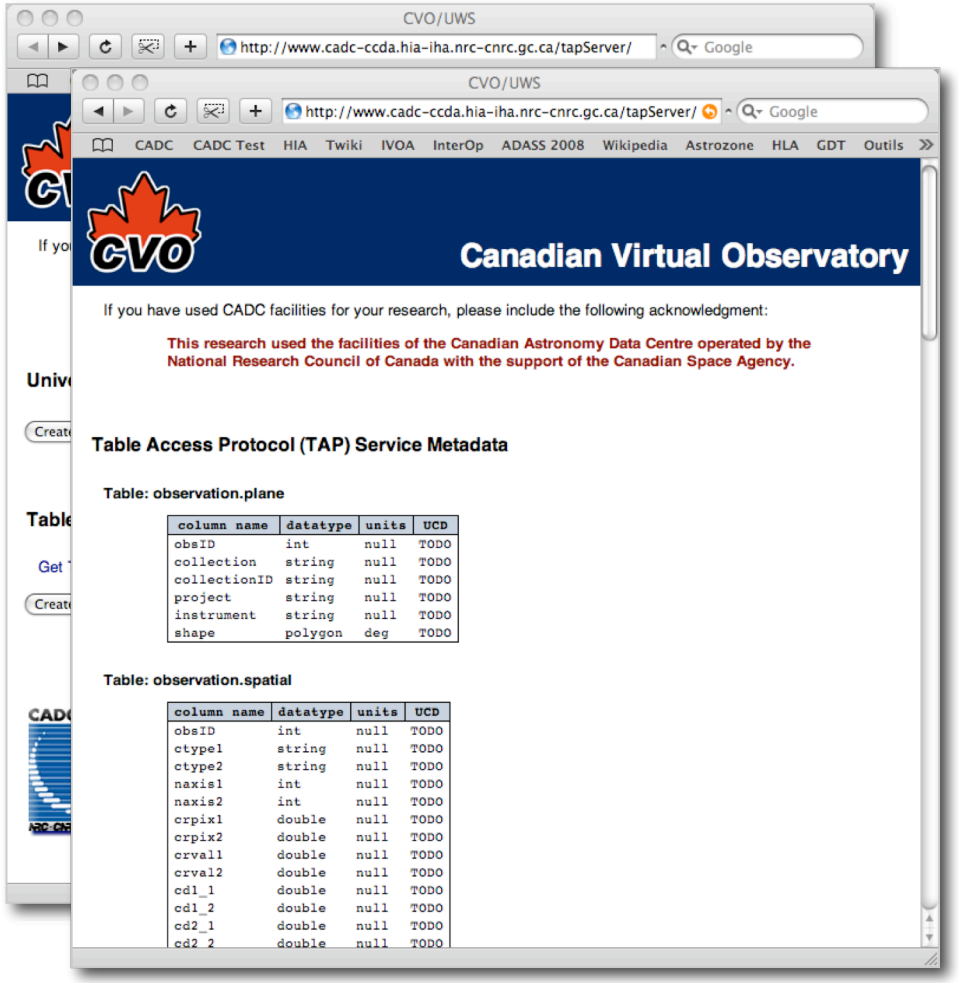


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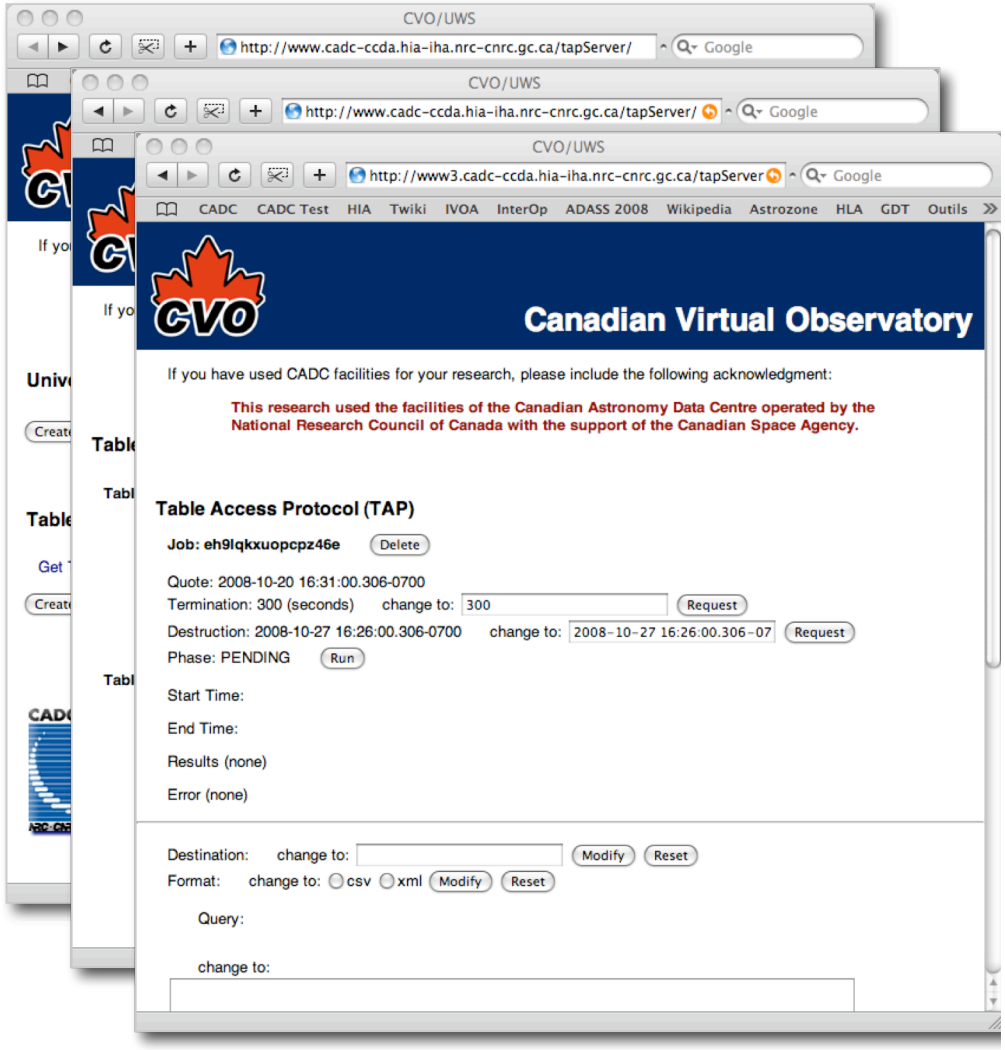


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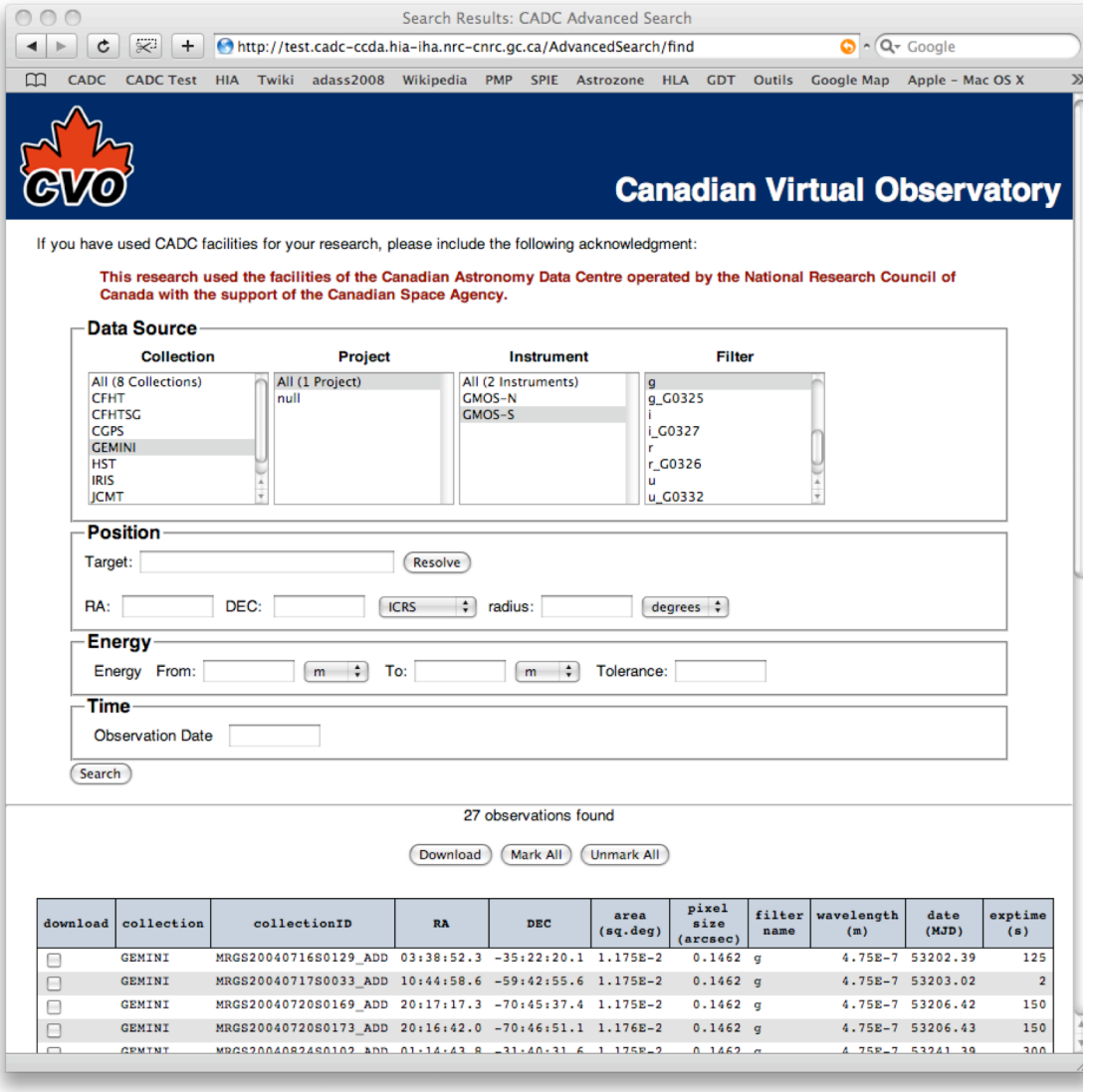
# Future Activities

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



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# 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

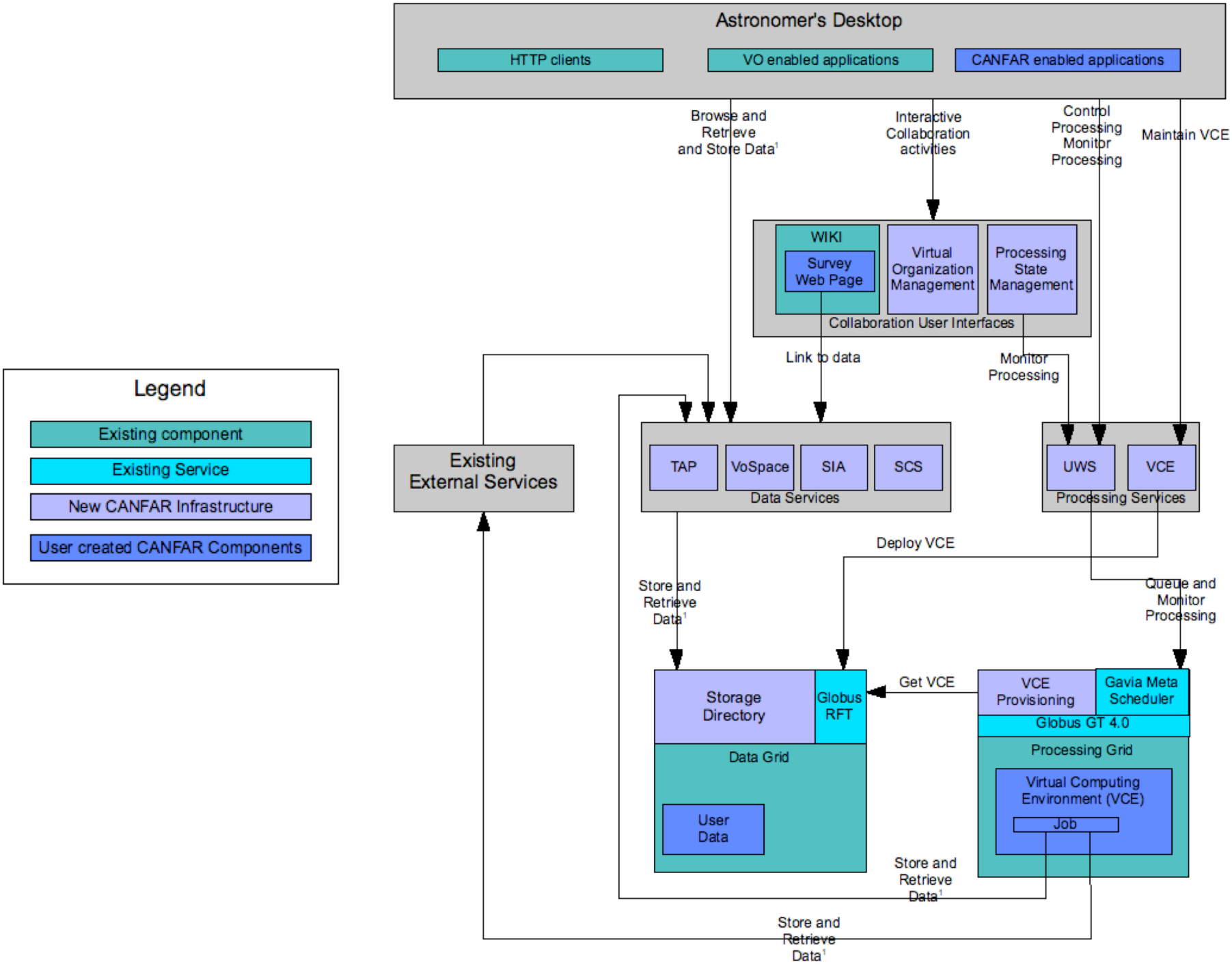
- 2½ year project; 24.5 FTE
- 4-6 survey projects
- IVOA technologies core to the design

University of Victoria

UBC University of British Columbia

CADC/CCDA
NRC·CNRC Canada

CANARIE
Canada's Advanced Network | Le réseau évolué du Canada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Existing Service
New CANFAR Infrastructure
User created CANFAR Components
Astronomer's Desktop
HTTP clients
VO enabled applications
CANFAR enabled applications
Browse and Retrieve and Store Data[1]
Interactive Collaboration activities
Control Processing Monitor Processing
Maintain VCE
WIKI
Survey Web Page
Virtual Organization Management
Processing State Management
Collaboration User Interfaces
Link to data
Monitor Processing
Existing External Services
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VoSpace
SIA
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Data Services
UWS
VCE
Processing Services
Deploy VCE
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Queue and Monitor Processing
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Globus RFT
Data Grid
User Data
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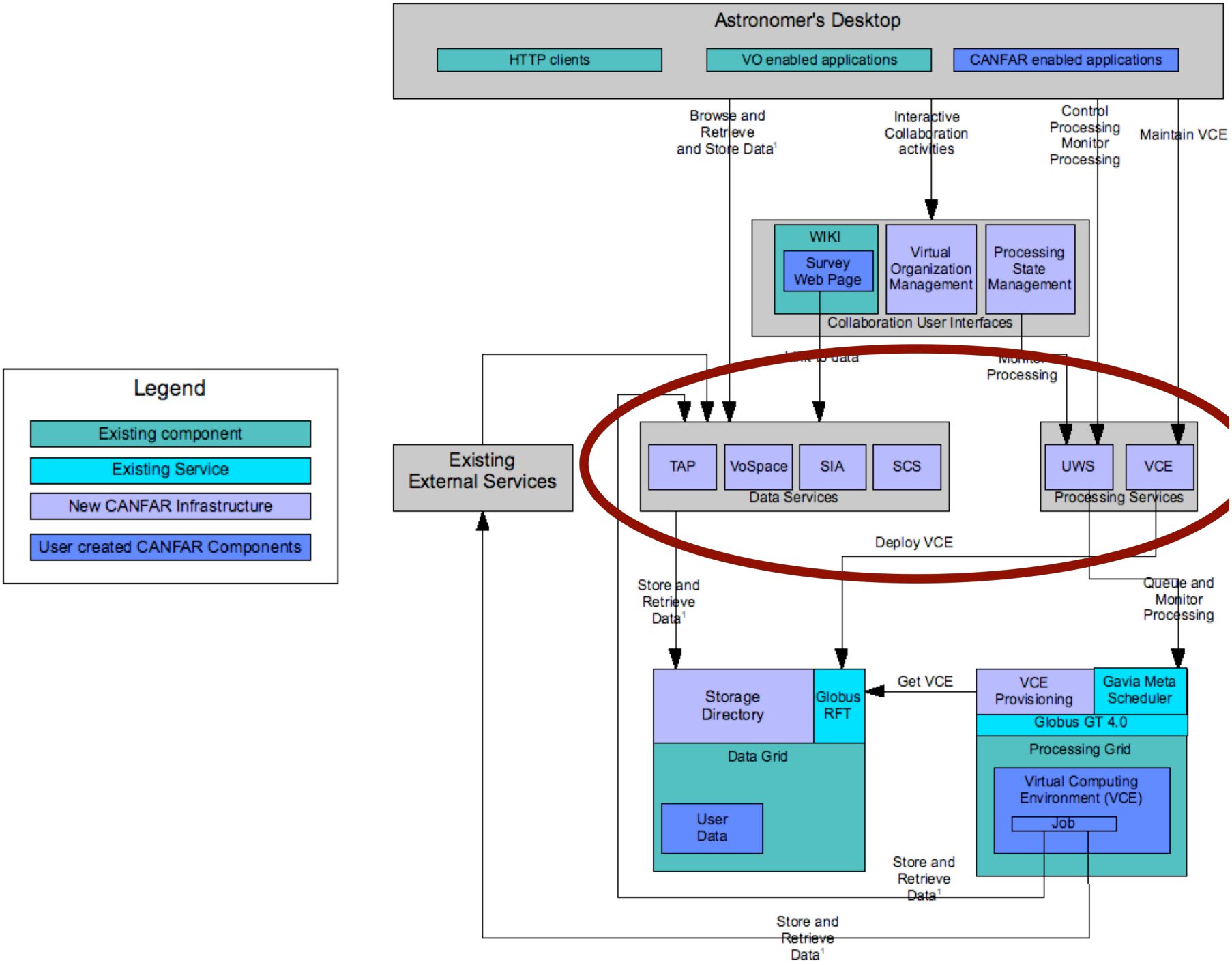
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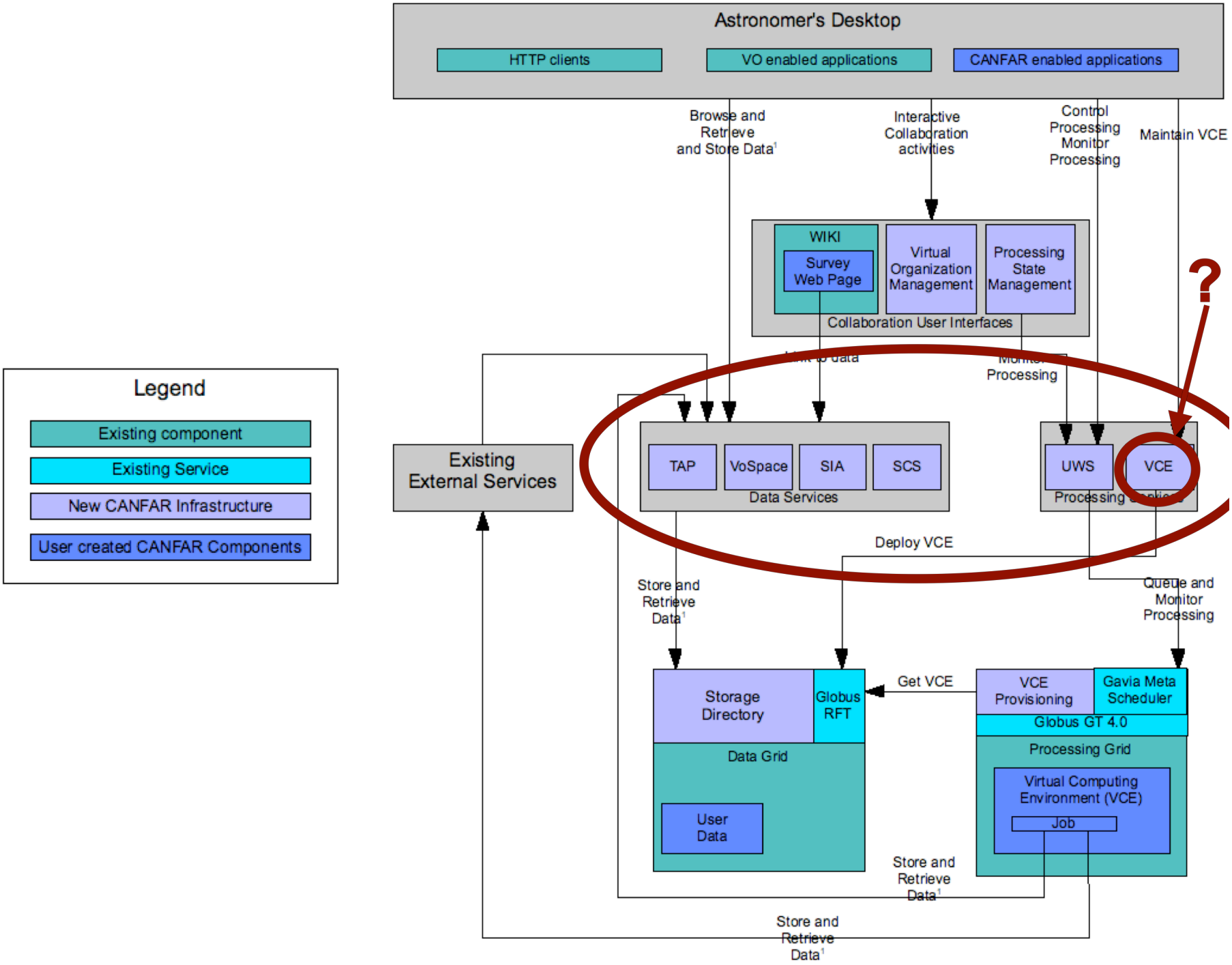
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