



# State of the TCG

*Christophe Arviset  
For the TCG*

# Technical Coordination Group



TCG

TCG	Chair	Vice-Chair
TCG	Christophe Arviset	Séverin Gaudet
IVOA Chair	Paolo Padovani	Ajit Kembhavi
Working Groups	Chair	Vice-Chair
Applications	Tom McGlynn	Mark Taylor
Data Access Layer	Patrick Dowler	Mike Fitzpatrick
Data Model	Mireille Louys	Jesus Salgado
Grid&Web Sevices	Matthew Graham	Paul Harrison
Registry	Ray Plante	Gretchen Greene
Semantics	Sebastien Derriere	Norman Gray
VOEvent	Rob Seaman	Roy Williams
VOTable (dormant)	François Ochsenbein	n/a
VO Query Language	Merged with DAL since May 2010	
Interest Groups	Chair	Vice-Chair
Data Curation & Preservation	Alberto Accomazzi	n/a
Knowledge Discovery in Databases	Giuseppe Longo	n/a
Theory	Herve Wozniak	Claudio Gheller
IVOA Committees	Chair	Vice-Chair
Standard and Processes	Francoise Genova	n/a
Science Priorities	Dave De Young	n/a

- Technical Coordination amongst WGs/IGs

- Liaison with IVOA Exec

- Specific role in Recommendation Process

- New WG/IG chairs since May

<http://www.ivoa.net/cgi-bin/twiki/bin/view/IVOA/IvoaTCG>



*International  
Virtual  
Observatory  
Alliance*

## The IVOA in 2010: Technical Assessment and Roadmap

Version 1.0, IVOA Note 2010-10-07

This version:

Version 1.0-7<sup>th</sup> of October 2010

Latest versions:

<http://www.ivoa.net/Documents/Notes/IVOATechRoadmap2009/>

<http://www.ivoa.net/Documents/latest/IVOARoadMap-2008.html>

<http://www.ivoa.net/Documents/latest/IVOARoadMap-2007.html>

<http://www.ivoa.net/Documents/latest/RoadMap-2006.html>

<http://www.ivoa.net/Documents/latest/RoadMap.html>

Previous version(s):

Editor:

Christophe Anisat, TCG Chair

Author(s):

IVOA Technical Coordination Group ([tcg@ivoa.net](mailto:tcg@ivoa.net)):

Christophe Anisat, Severin Gaudet – TCG

Paolo Padovani, Ajit Kembhavi – IVOA Exec

Tom MacGlynn, Mark Taylor – Application WG

Pat Dowler, Mike Fitzpatrick – DAL WG

Mireille Louys, Jesus Salgado – DM WG

Matthew Graham, Paul Harrison – GWS WG

Ray Plante, Gretchen Greene – Registry WG

Sebastien Derriere, Norman Gray – Semantics WG

Rob Seaman – VOEvent WG

Alberto Accomezzi – Data Curation and Preservation IG

Herve Wozniak, Claudio Gheller – Theory IG

Francoise Genova – Standards and Processes Committee

Dave de Young – Standing Committee on Science Priorities



TCG

- Main technical achievements since last year
- Upcoming Roadmap per WG / IG
- <http://www.ivoa.net/Documents/Notes/IVOATechRoadmap2010>

# IVOA Architecture Note



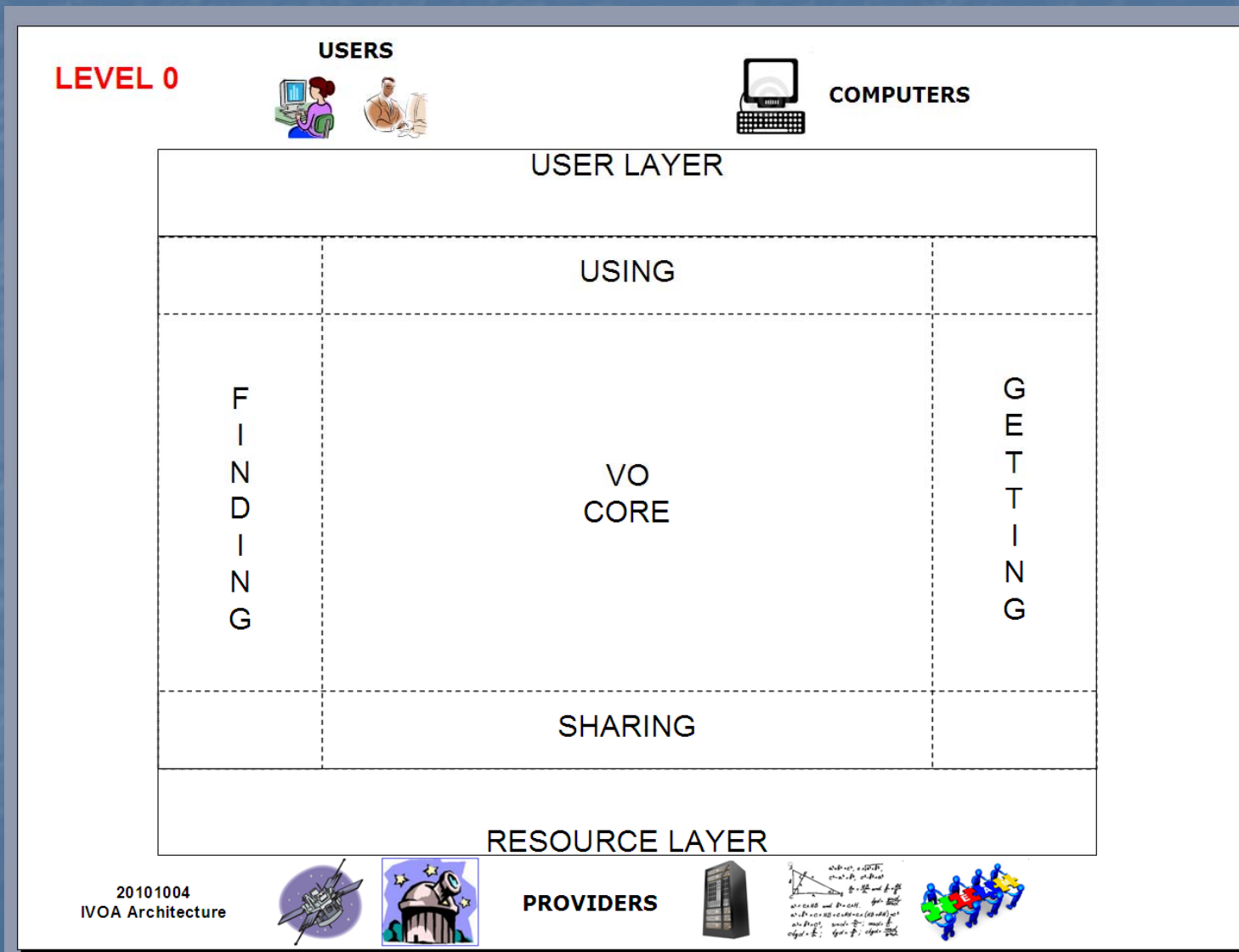
TCG

- Released on 23/Nov/2010
  - <http://www.ivoa.net/Documents/Notes/IVOOArchitecture/20101123/index.html>
- General description of IVOA Architecture
  - Level 0, 1, and 2 from general to VO specific
  - Present all IVOA standards in one slide (Level 2)
- For each existing and upcoming IVOA Std
  - Place in IVOA Architecture, link with other stds
  - General (not too technical) description

# IVOA Architecture Level 0



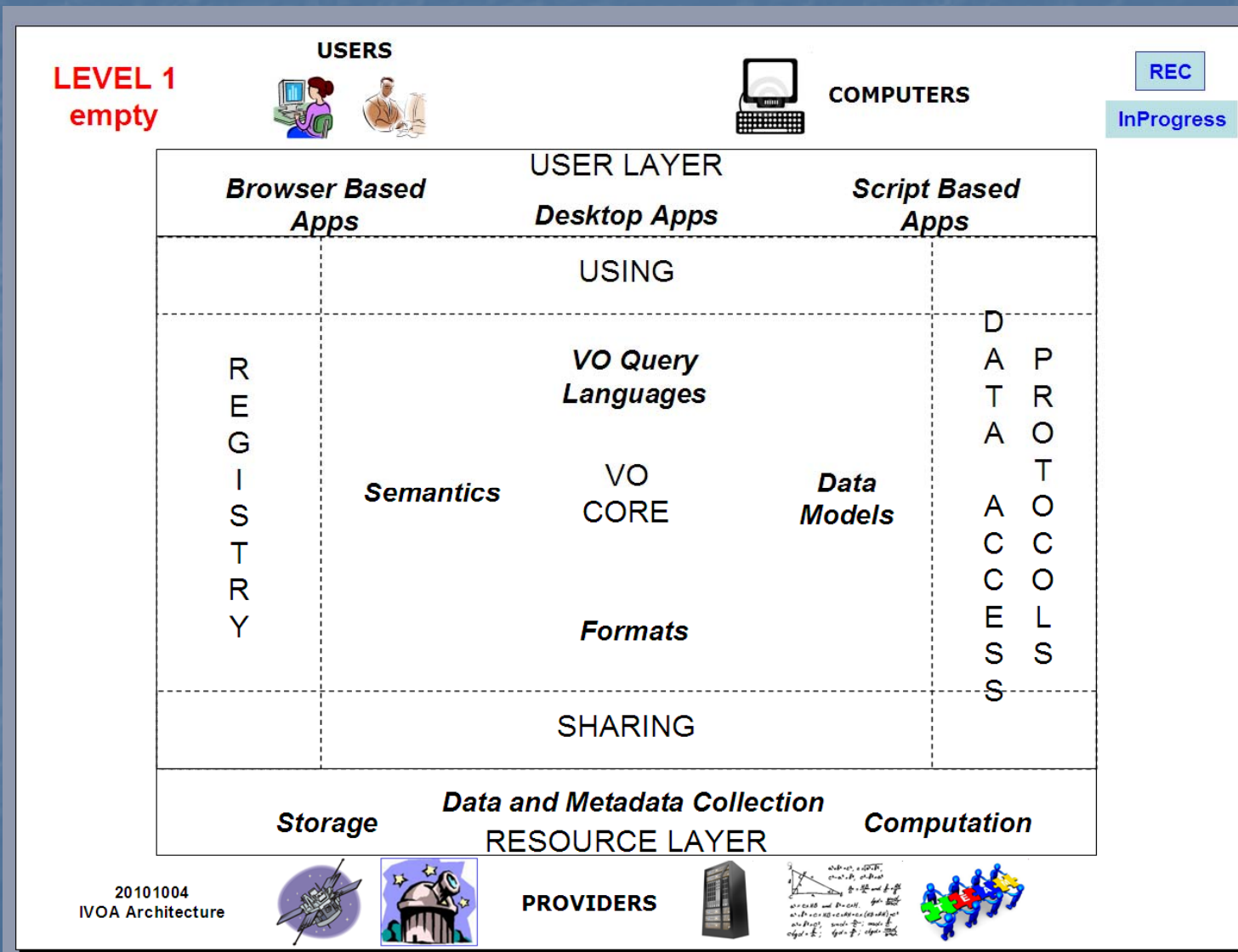
TCG



# IVOA Architecture Level 1



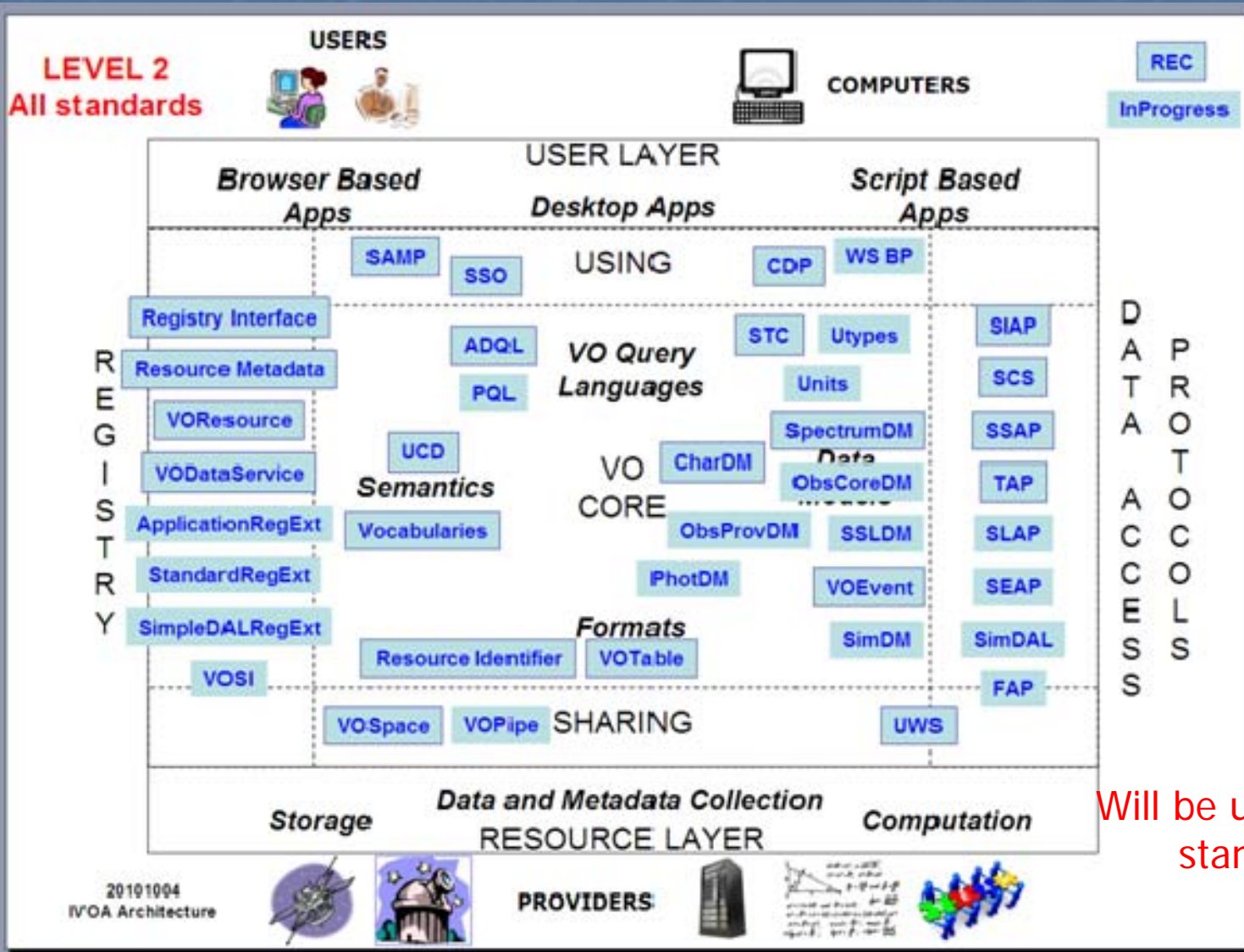
TCG



# IVOA Architecture Level 3



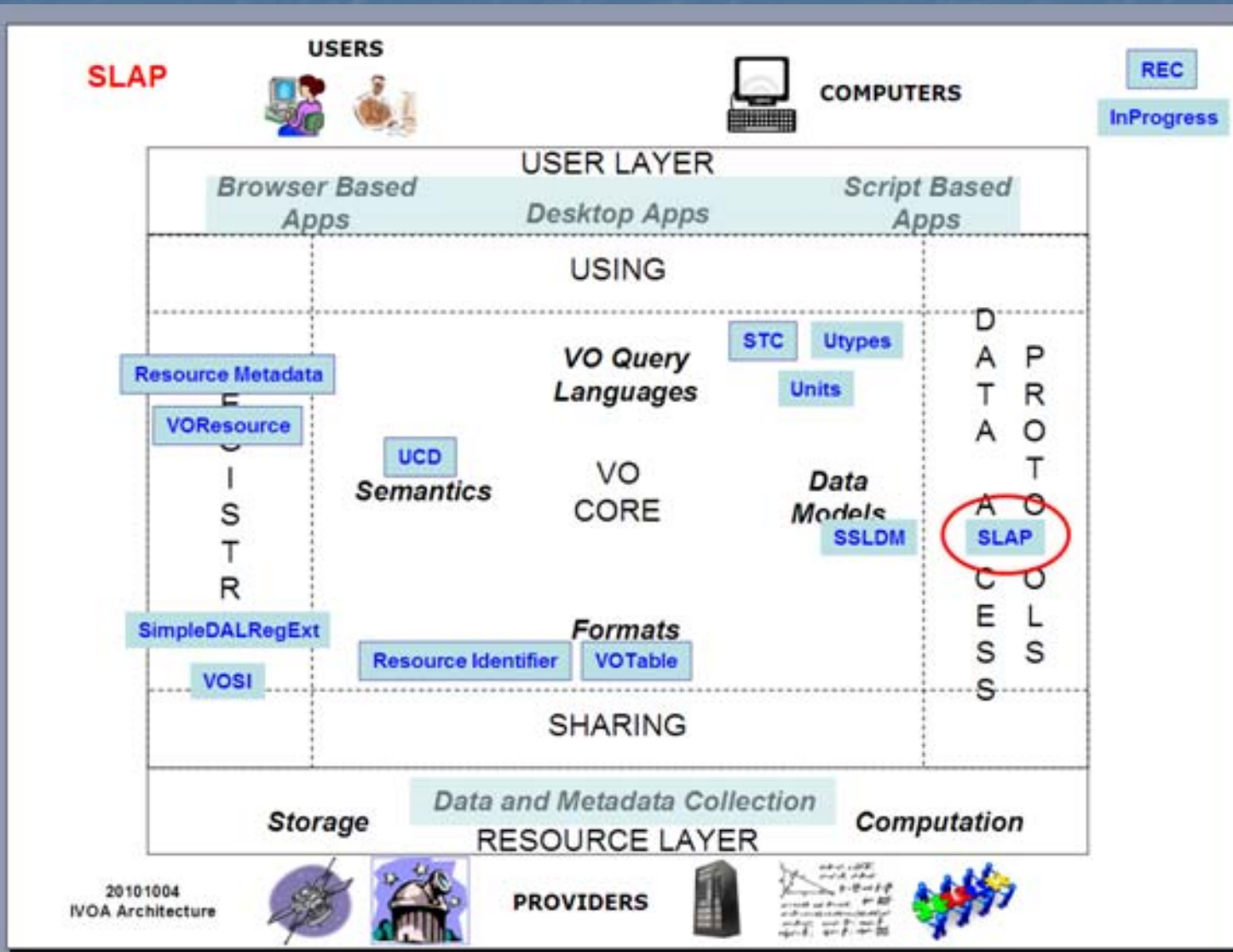
TCG



# Example : SLAP



TCG



- Used in the SLAP Document, together with the general description
- Similar concept to be used for any new IVOA standard



# TCG F2F meeting #02 – 6 Dec



TCG

- Meeting shorter than expected
  - ½ day instead of 1 day due to flying difficulties
  
- Clarify role and process for science use cases
  - Role of the Science Use Case Scientist
  - Role of the WG chairs
  - Role of the TCG
  
- Review status for the 3 science use cases
  - ObsTAP, SED builder, Search on list of Target and target type

**ObsTAP Service**

USERS



COMPUTERS

REC

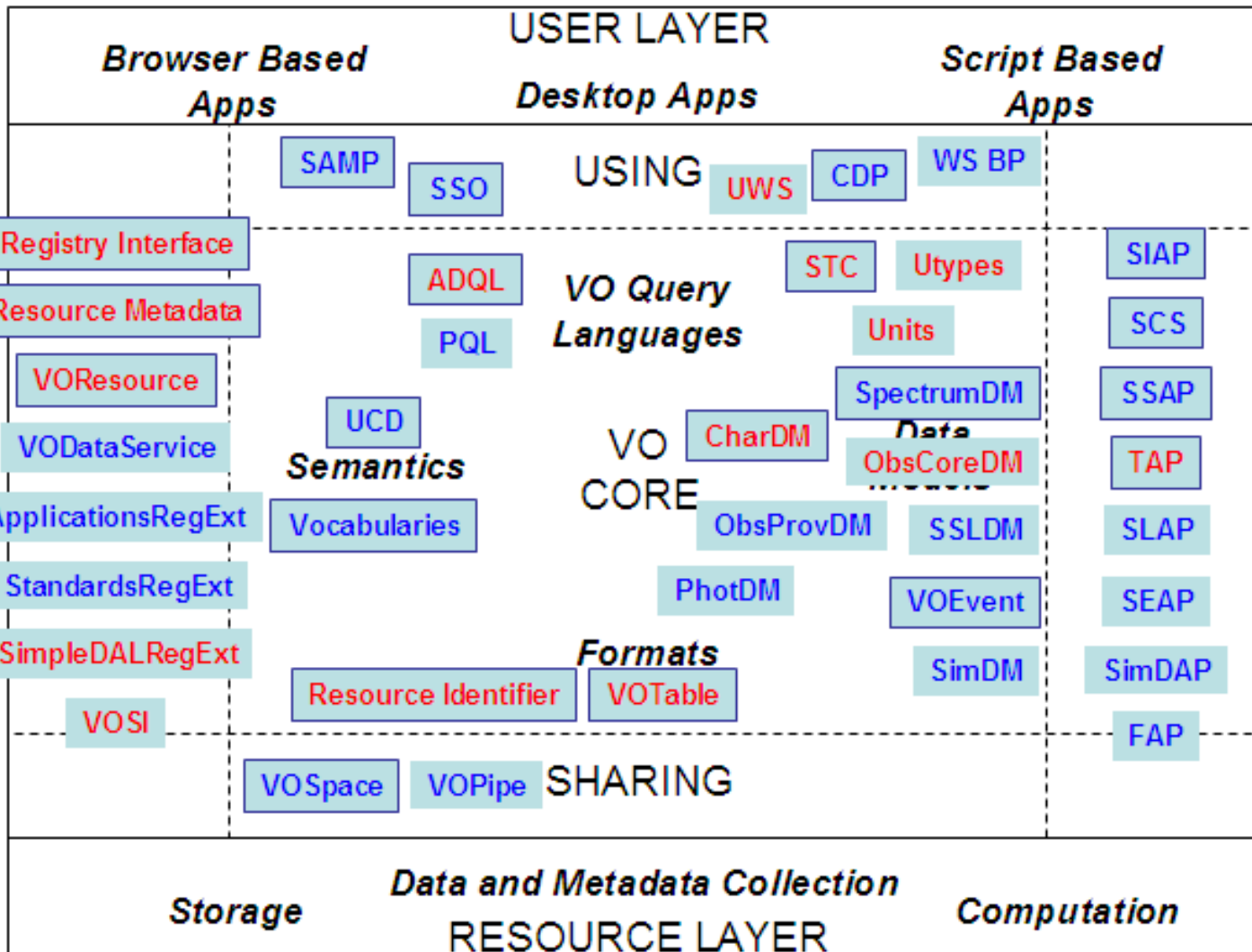
InProgress

REC used

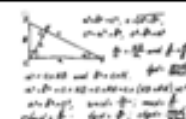
Std to be updated or created

R  
E  
G  
I  
S  
T  
R  
Y

D  
A  
T  
A  
P  
R  
O  
T  
O  
C  
O  
L  
S  
A  
C  
C  
E  
S  
S



PROVIDERS



# SED Builder

USERS



COMPUTERS



REC

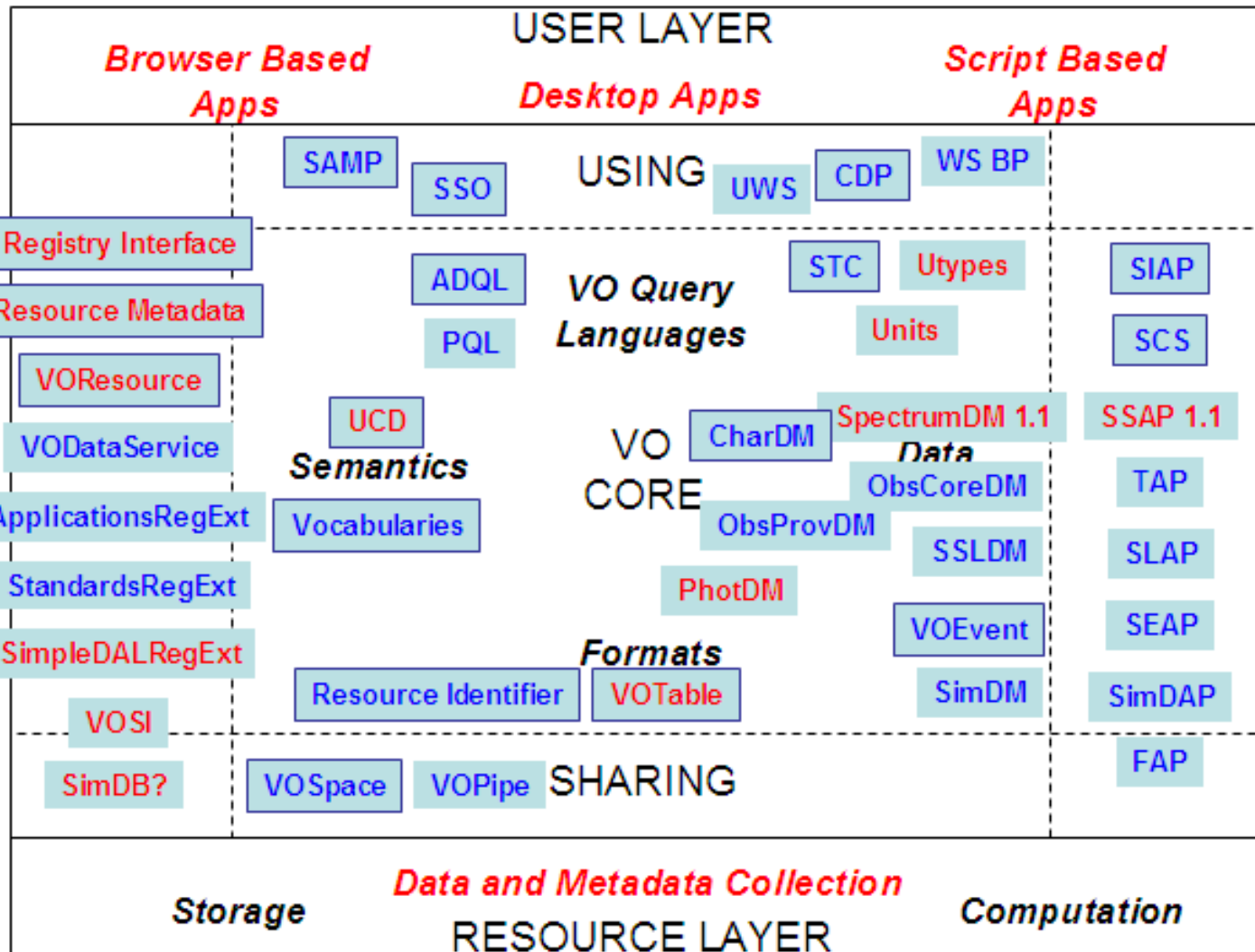
InProgress

REC used

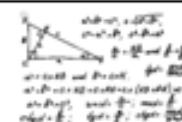
Std to be updated or created

REGISTRY

D  
A  
T  
A  
P  
R  
O  
T  
O  
C  
O  
L  
S  
A  
C  
C  
E  
S  
S



PROVIDERS



**Search**  
 - by list of source  
 - by class of sources

**USERS**



**COMPUTERS**

REC

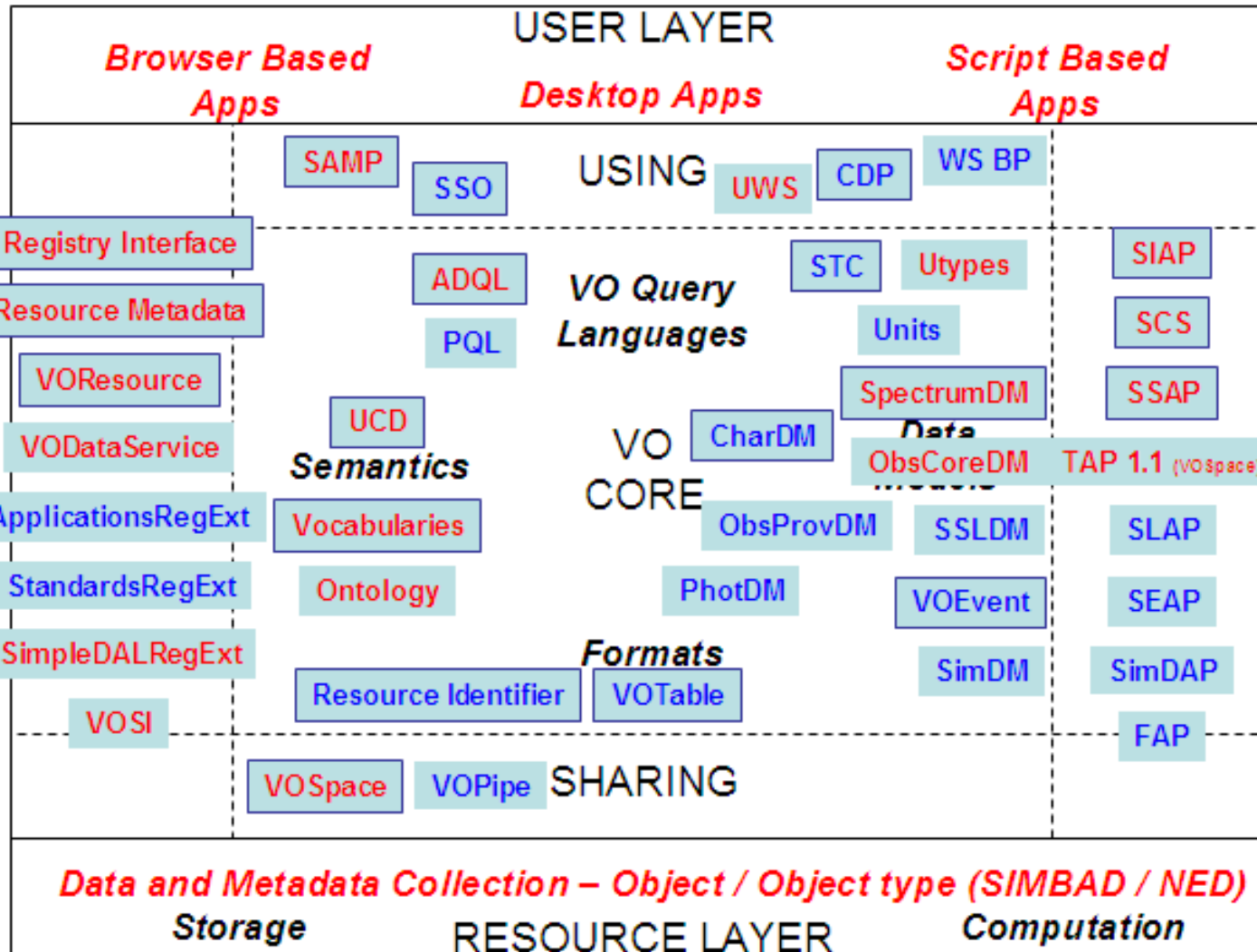
InProgress

REC used

Std to be updated or created

REGISTRY

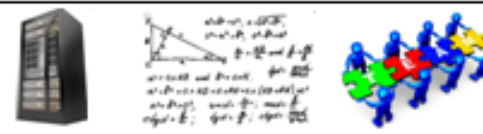
DATA ACCESS



20100525  
 IVOA Architecture



**PROVIDERS**



# TCG F2F meeting #02 – 6 Dec



TCG

- Review interactions between Theory standards and other WGs (DAL, DM, Registry)
  - Specific session this week (Friday 16:00-17:30)
  
- Review status of Units and Utypes standards
  
- Not time to tackle
  - Update of existing standard docs with IVOA Architecture
  - WG/IG web pages
  - TCG roadmap for SLiCAP
  - Registry schema extension process

# Standards into REC since last Interop



TCG

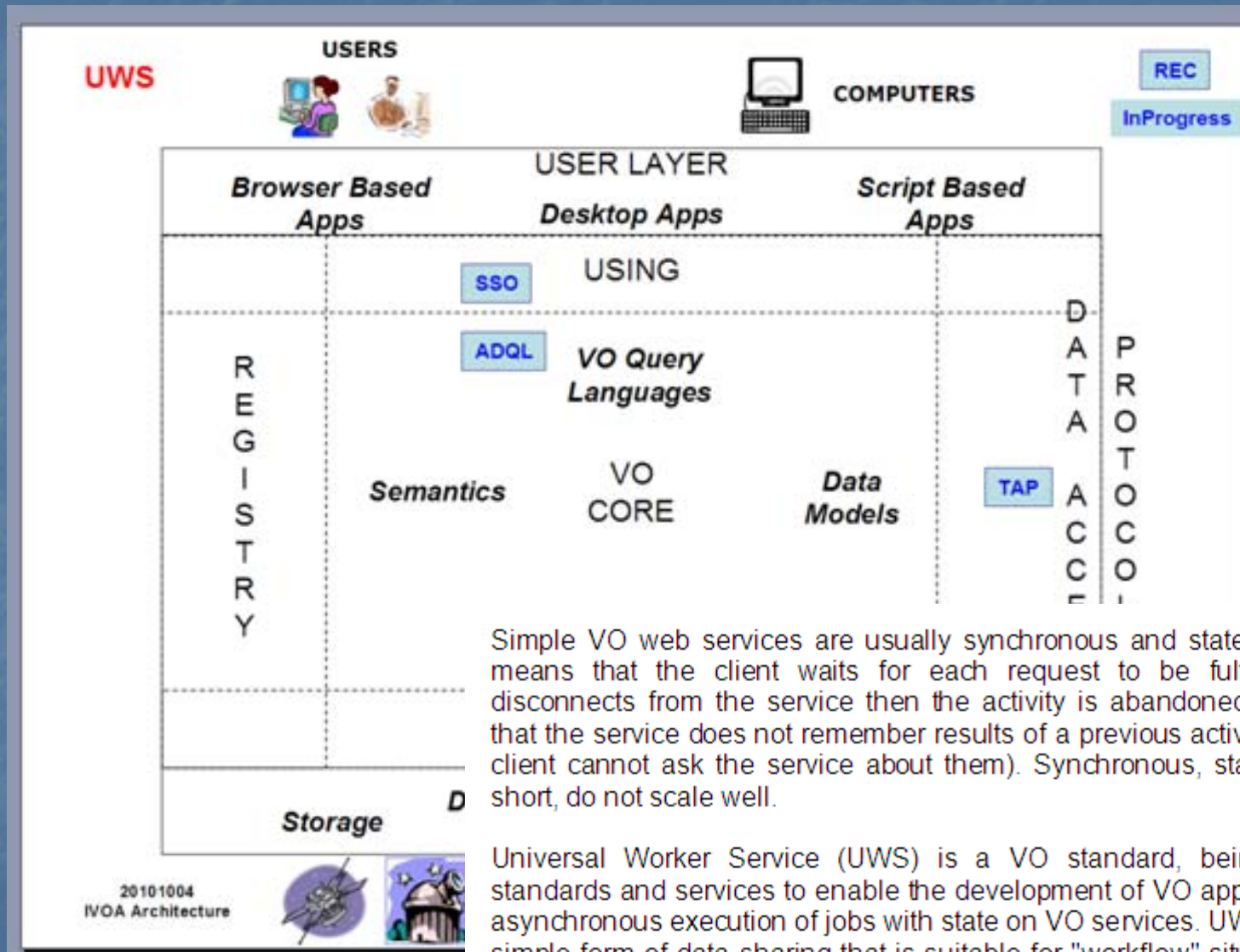
- [GWS] UWS 1.0
- [Registry] VODataService 1.1
  - Both in October 2010
  
- [DAL] SLAP 1.0
- [DM] SSLDM 1.0
  - Both in November 2010



# UWS 1.0 – REC in Oct 2010



TCG



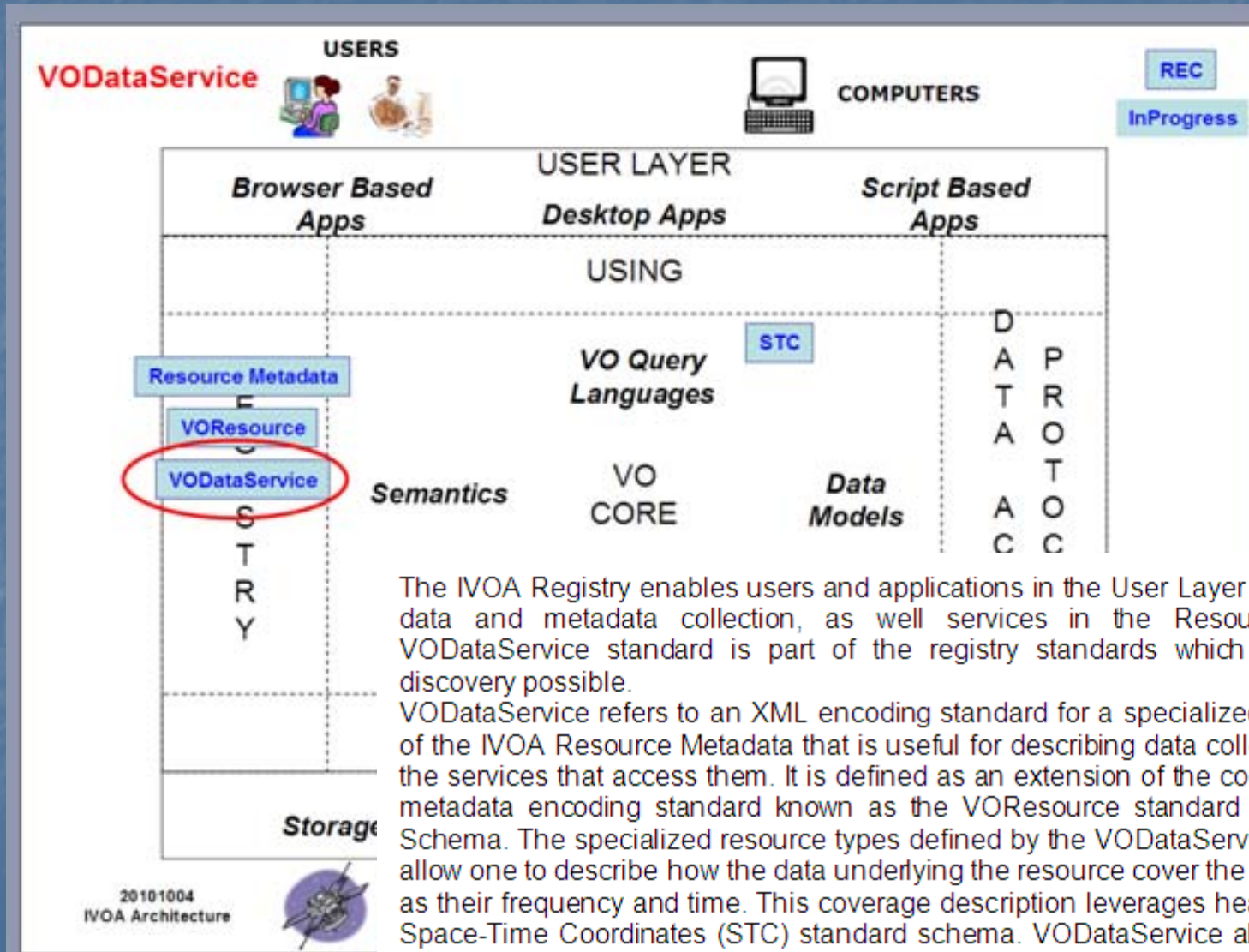
Simple VO web services are usually synchronous and stateless. Synchronous means that the client waits for each request to be fulfilled; if the client disconnects from the service then the activity is abandoned. Stateless means that the service does not remember results of a previous activity (or, at least, the client cannot ask the service about them). Synchronous, stateless services, in short, do not scale well.

Universal Worker Service (UWS) is a VO standard, being used by other standards and services to enable the development of VO applications managing asynchronous execution of jobs with state on VO services. UWS pattern allows a simple form of data sharing that is suitable for "workflow" situations and can be used by Data Access Services (currently TAP) or ADQL services. It utilizes IVOA standards for security (SSO) if it is desired that a non-public UWS be created.

# VODataService 1.1 – REC in Oct 2010



TCG



The IVOA Registry enables users and applications in the User Layer to discover data and metadata collection, as well services in the Resource Layer. VODataService standard is part of the registry standards which make this discovery possible.

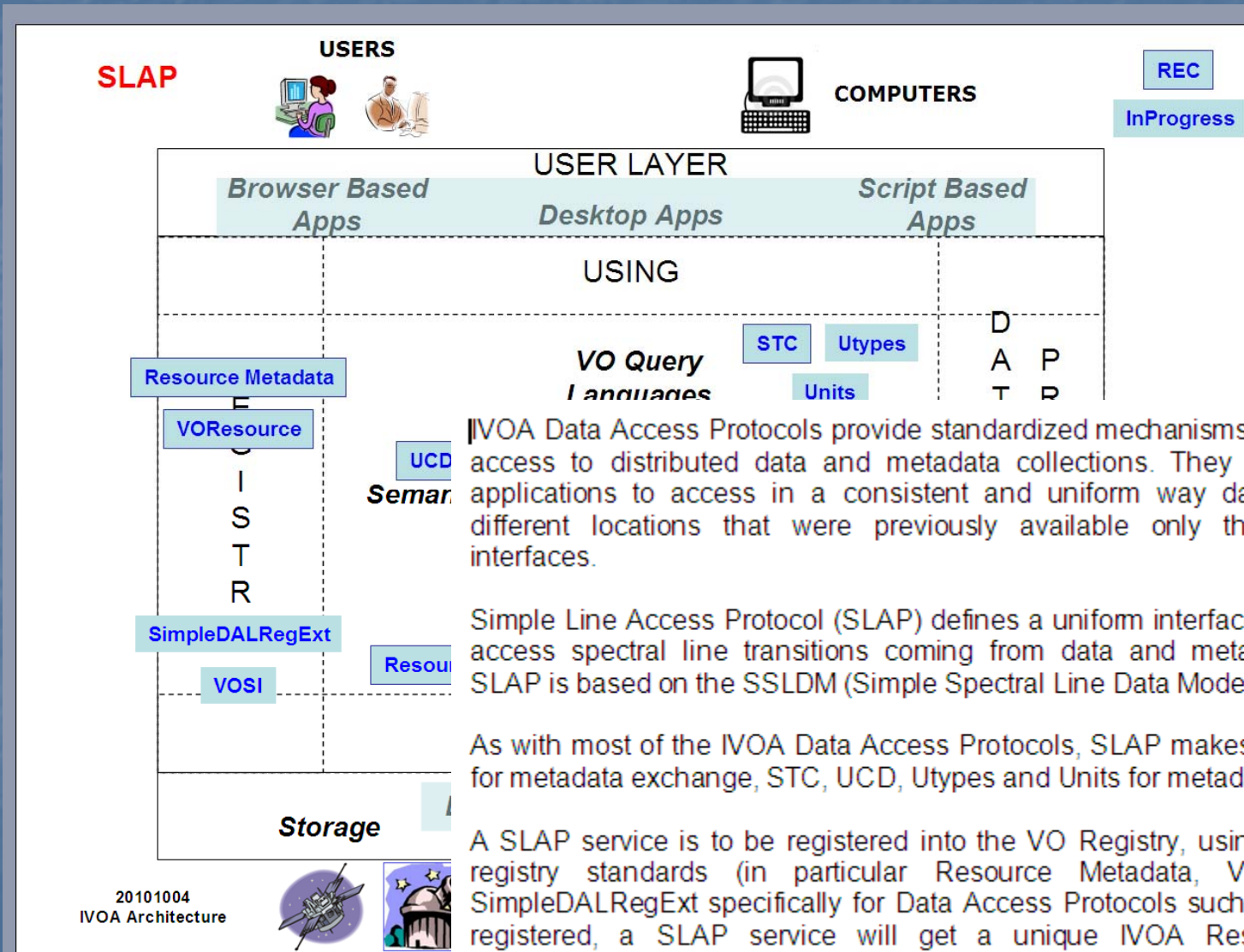
VODataService refers to an XML encoding standard for a specialized extension of the IVOA Resource Metadata that is useful for describing data collections and the services that access them. It is defined as an extension of the core resource metadata encoding standard known as the VOResource standard using XML Schema. The specialized resource types defined by the VODataService schema allow one to describe how the data underlying the resource cover the sky as well as their frequency and time. This coverage description leverages heavily on the Space-Time Coordinates (STC) standard schema. VODataService also enables detailed descriptions of tables that include information useful to the discovery of tabular data.



# Simple Line Access Protocol – REC in Nov 2010



TCG



IVOA Data Access Protocols provide standardized mechanisms for querying and access to distributed data and metadata collections. They allow users and applications to access in a consistent and uniform way datasets stored in different locations that were previously available only through dedicated interfaces.

Simple Line Access Protocol (SLAP) defines a uniform interface to discover and access spectral line transitions coming from data and metadata collections. SLAP is based on the SSLDM (Simple Spectral Line Data Model).

As with most of the IVOA Data Access Protocols, SLAP makes use of VOTable for metadata exchange, STC, UCD, Utypes and Units for metadata description.

A SLAP service is to be registered into the VO Registry, using the associated registry standards (in particular Resource Metadata, VOResource and SimpleDALRegExt specifically for Data Access Protocols such as SLAP). Once registered, a SLAP service will get a unique IVOA Resource Identifier. Furthermore, SLAP services should be registered with its supported interfaces via the VOSI standard.

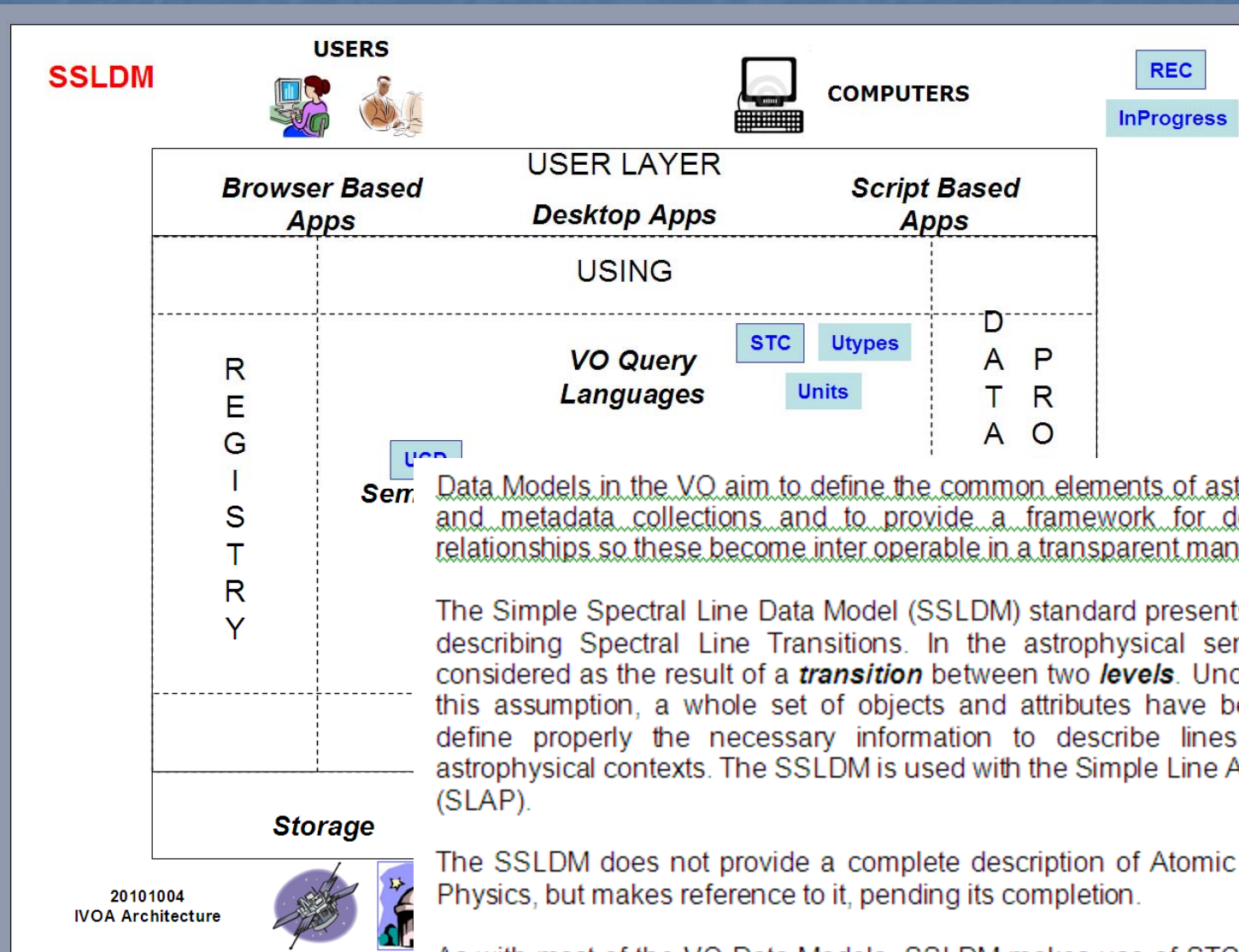
20101004  
IVOA Architecture



# Simple Spectrum Line DM – REC Nov 2010



TCG



**VO Query Languages**

**Registry**

**Storage**

**Data Models:** STC, Utypes, Units, DAPAO

**Service:** Data Models in the VO aim to define the common elements of astronomical data and metadata collections and to provide a framework for describing their relationships so these become inter operable in a transparent manner.

The Simple Spectral Line Data Model (SSLDM) standard presents a data model describing Spectral Line Transitions. In the astrophysical sense, a **line** is considered as the result of a **transition** between two **levels**. Under the basis of this assumption, a whole set of objects and attributes have been derived to define properly the necessary information to describe lines appearing in astrophysical contexts. The SSLDM is used with the Simple Line Access Protocol (SLAP).

The SSLDM does not provide a complete description of Atomic and Molecular Physics, but makes reference to it, pending its completion.

As with most of the VO Data Models, SSLDM makes use of STC, Utypes, Units and UCDs. SSLDM can be serialized with a VOTable

# Standards to become REC soon



TCG

## ■ Standards in REC process

### ■ SAMP 1.2

- TCG completed, Exec review this week

### ■ Web Service Basic Profile 1.0

- TCG completed, Exec review this week

## ■ VO Service Interface

- In RFC in May 2010, need update to move forward

# Existing IVOA REC standards - 1



TCG

Standards	WG	Date	Comments
<b>2003</b>			
IVOA Document Standards v1.0	Standards & Process Committee	October 2003	IVOA Doc Std v1.2 in 2010
<b>2004</b>			
VOTable v1.10 VOTable Format Definition	VOTable	August 2004	VOTable v1.2 in 2009
<b>2005</b>			
UCD v1.10 An IVOA Standard for Unified Content Descriptors	Semantics	August 2005	
<b>2006</b>			
Maintenance of the list of UCD words v1.20	Semantics	May 2006	
VOEvent v1.11 Sky Event Reporting Metadata	VOEvent	November 2006	
<b>2007</b>			
Standards	WG	Date	Comments
IVOA Identifiers v1.12	Registry	March 2007	
Resource Metadata for the Virtual Observatory v1.12	Registry	March 2007	
UCD 1+ v1.23 The UCD1+ controlled vocabulary	Semantics	April 2007	UCD 1+ v1.3 expected in 2009
STC v1.33 Space-Time Coordinate Metadata for the VO	DM	October 2007	
SpectraDM v1.01 Spectral Data Model	DM	October 2007	

More details can be found on the IVOA Document pages at: <http://www.ivoa.net/Documents/>

# Existing IVOA REC standards - 2



TCG

2008			
Standards	WG	Date	Comments
SSO v1.03 Single-Sign-On Profile: Authentication Mechanisms	GWS	January 2008	
VOSpace v1.02 VOSpace service specification	GWS	January 2008	VOSpace v1.15 in September 2009
VOResource v1.03 VOResource: an XML Encoding Schema for Resource Metadata	Registry	February 2008	
SCS v1.03 Simple Cone Search	DAL	February 2008	
SSAP v1.04 Simple Spectra Access Protocol	DAL	February 2008	
CharDM v1.13 Data Model for Astronomical DataSet Characterization	DM	March 2008	
ADQL v2.0 Astronomical Data Query Language	VOQL	October 2008	
2009			
Standards	WG	Date	Comments
SAMP 1.11 Simple Application Messaging Protocol	Apps	April 2009	
Vocabularies 1.16	Semantics	September 2009	
VOSpace 1.5	GWS	September 2009	Update from VOSpace 1.0
Registry Interface 1.01	Registry	September 2009	
SIAP 1.0 Simple Image Access Protocol	DAL	November 2009	
VOTable v1.2 VOTable Format Definition	VOTABLE	November 2009	Update from VOTable 1.10
CDP 1.0 Credential Delegation Protocol	GWS	November 2009	

More details can be found on the IVOA Document pages at: <http://www.ivoa.net/Documents/>

# Existing IVOA REC standards - 3



TCG

2010			
Standards	WG	Date	Comments
TAP 1.0 Table Access Protocol	DAL	February 2010	
IVOA Document Standards v1.2	Standards & Process Committee	March 2010	Update from IVOA Document Standards v1.0
UWS 1.0 Universal Worker Service	GWS	October 2010	
VODataService 1.1	Registry	October 2010	
SSLDM 1.0 Simple Spectra Line DM	DM	November 2010	
SLAP 1.0 Simple Line Access Protocol	DAL	November 2010	
WS BP 1.0 Web Service Basic Profile	GWS		Exec Review this week
SAMP 1.2 Simple Application Messaging Protocol	Apps		Minor updates from SAMP 1.1 Exec Review this week

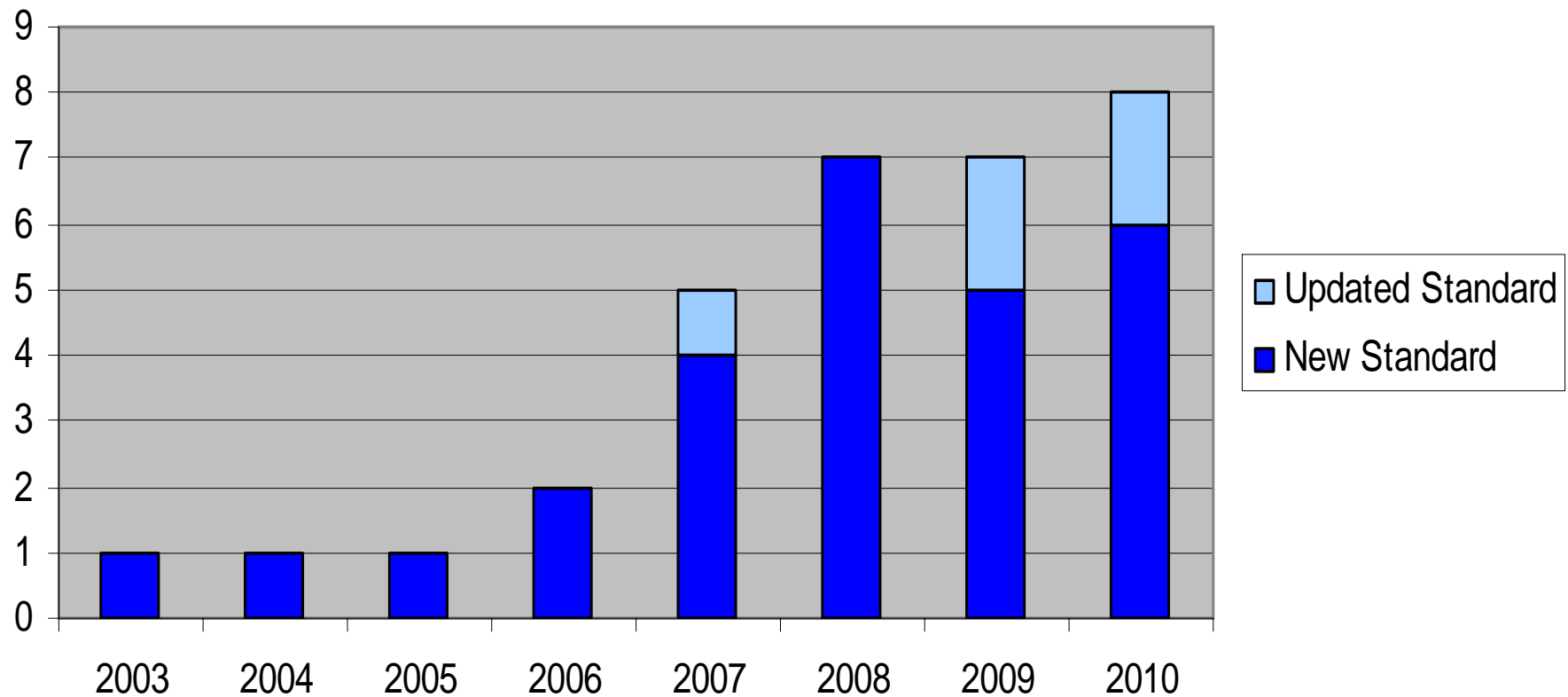
More details can be found on the IVOA Document pages at:  
<http://www.ivoa.net/Documents/>

# IVOA Standards per year



TCG

## IVOA Standards issued per year



# Changes in the Program



TCG

- Cancelled: KDD Thursday 9:00–10:30
- Added: Registry/DAL Joint Session Wednesday 14:00–15:30 Room 1+2
- Changed : Theory 3 -> Theory/DAL Joint Session Friday 16:00–17:30 Room 4