



VIRTUAL ASTRONOMICAL OBSERVATORY

# Review of implementations of standards

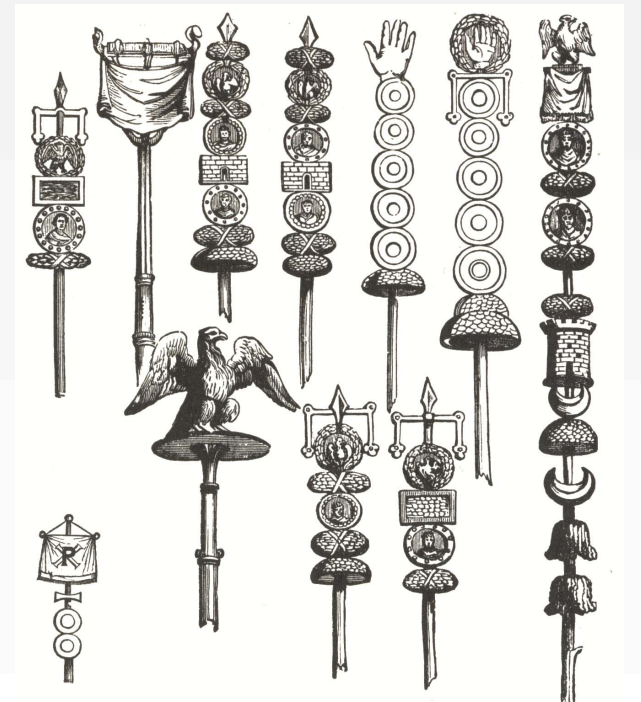
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The VAO is operated by the VAO, LLC.

# GWS Standards

- IVOA Single-Sign-On Profile: Basic Authentication Mechanisms
- IVOA Credential Delegation Protocol
- Universal Worker Service (UWS)
- WS Basic Profile
- VO Support Interface (VOSI)
- VOSpace
  - 1.0
  - 1.15
  - 2.0





# Single-Sign-On Profile

- **Purpose:**

Describes approved client-server authentication mechanisms for SSO:

- Digital signatures (SOAP services)
- TLS with passwords (user sign-on points)
- TLS with client certificates (everything else)

- **Status:**

IVOA Recommendation 24 January 2008 (v1.01)

- **Implementations:**

- Astrogrid
- NVO (NOAO portal, NESSSI)
- VOSpace 1.x
- CADC?

- **Issues:**

- Certificate authorities



# Credential Delegation Protocol (CDP)

- **Purpose:**

Allows a client program to delegate a user's credentials to a service such that that service may make requests of other services in the name of that user

- **Status:**

IVOA Recommendation 18 February 2010 (v1.0)

- **Implementations:**

- Astrogrid
- NCSA
- CADC

- **Issues:**



# Universal Worker Service Pattern (UWS)

- **Purpose:**

Defines how to manage asynchronous execution of jobs on a service

- **Status:**

IVOA Recommendation 10 October 2010 (v1.0)

- **Implementations:**

- Astrogrid (CEA)
- TAP
- VOSpace 2.0
- CDS

- **Issues:**

- RUN phase



# Web Services Basic Profile

- **Purpose:**

Describes rules to take into account when implementing SOAP-based web services

- **Status:**

IVOA Proposed Recommendation 20 October 2010 (v1.0)

- **Implementations:**

Not applicable

- **Conforming services:**

- VOSpace 1.x
- Footprint and spectrum services
- Registry interface
- CDS access service

- **Issues:**

- REST equivalent



# VO Support Interfaces

- **Purpose:**

Describes minimum required interface to participate in the IVOA as a web service

- **Status:**

IVOA Proposed Recommendation 11 March 2010  
(v1.0)

- **Implementations:**

- VOSpace 1.x
- TAP

- **Issues:**

- Mandates **all** VO services provide capabilities and availability interfaces



# VOSpace

- **Purpose:**

- IVOA interface to distributed storage

- **Status:**

- IVOA Recommendation 24 January 2008 (v1.02)
  - IVOA Recommendation 07 October 2009 (v1.15)
  - IVOA Working Draft 12 November 2010 (v2.0)

- **Implementations:**

- Astrogrid
  - NVO/VAO (Caltech, JHU)
  - CDS
  - CADC

- **Issues:**