MAST/VAO Portal Development

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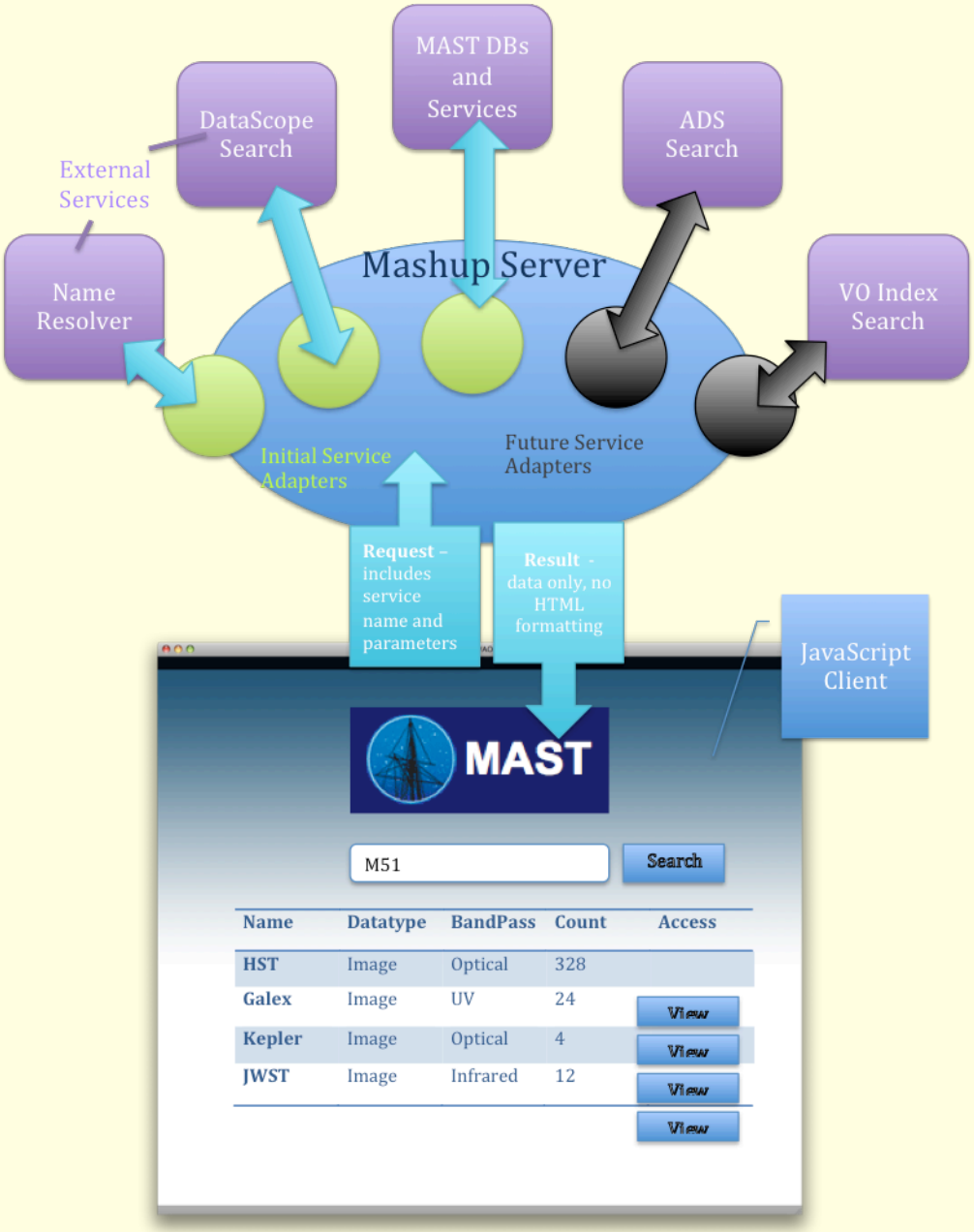
Agenda

- Project Goals (5 min)
- Accomplishments (7 min)
- Demo (8 min)
- Future Plans (5 min)
- Questions (5 min)

Project Goals

- Unify web access to MAST data and services
  - Data Discovery and Exploration
  - Visualization
  - Download and analysis
  - Mission-specific features
- Share infrastructure between MAST and VAO Portals
  - Efficient use of limited resources
  - Seamless access to VAO data and services
- Extensible and flexible architecture
  - Allow growth to Mobile, Desktop and Script access
  - Allow for the evolution of client and server technologies
  - Allow utilization of existing services

Accomplishments - Mashup Server



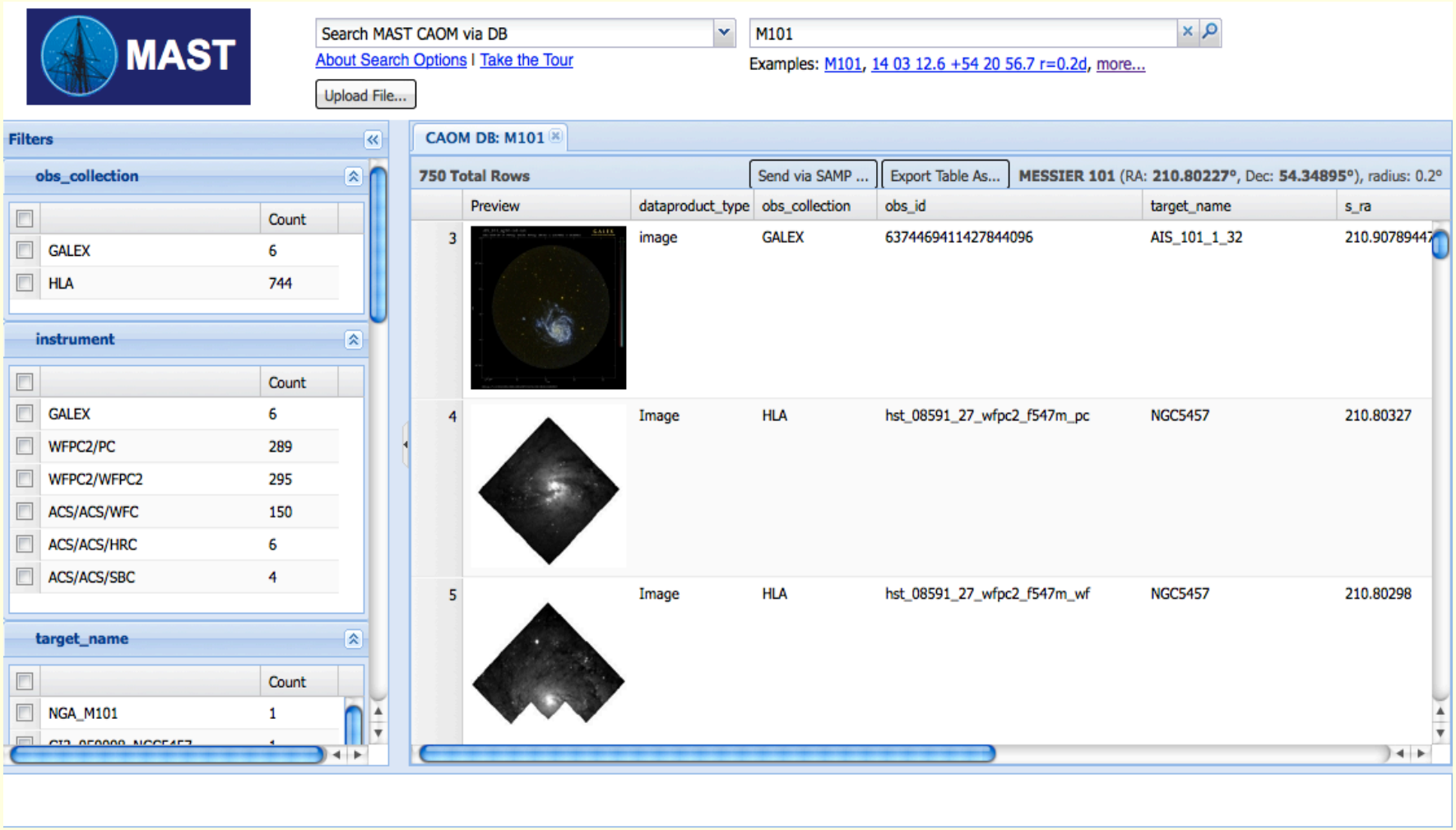
Accomplishments - Mashup Server

- Unifies access to variety of data resources
  - MAST databases
    HLA, GALEX, CAOM, HLSP
  - MAST and External VO services
    - Vo Inventory, DataScope, All Cone and SIAP services
  - Other web services
    - MAST Name Resolver
  - Uploaded Data Files
- All queries return data only, not html.
  - Clients decide how to present the data.
- Data available in multiple formats
  - JSON for client use.
  - Csv, xls and VO Table for user download
  - Formatted html, for viewing or printing

Accomplishments - Web Client

- Client GUI written entirely in JavaScript
  - Runs in all modern web browsers
  - No GUI components are generated by the server
    - GUI can be rearranged/rewritten without server modifications
- GUI provides access to Mashup Server queries
  - Supports multiple simultaneous queries
- Results displayed in flexible data grids
  - Scrollable, even for thousands of data rows
  - Faceted filtering
  - Column manipulation
    - Sorting, hiding, reordering, resizing
  - Supports embedded graphics such as image thumbnails
  - Can be exported to multiple formats

Demo


MAST
Search MAST CAOM via DB
M101
About Search Options | Take the Tour
Examples: M101, 14 03 12.6 +54 20 56.7 r=0.2d, more...
Upload File...
Filters
obs_collection
Count
GALEX 6
HLA 744
instrument
Count
GALEX 6
WFPC2/PC 289
WFPC2/WFPC2 295
ACS/ACS/WFC 150
ACS/ACS/HRC 6
ACS/ACS/SBC 4
target_name
Count
NGA_M101 1
CAOM DB: M101
750 Total Rows
Send via SAMP ...
Export Table As...
MESSIER 101 (RA: 210.80227°, Dec: 54.34895°), radius: 0.2°
Preview
dataproduct_type
obs_collection
obs_id
target_name
s_ra
3 image GALEX 6374469411427844096 AIS_101_1_32 210.9078944
4 Image HLA hst_08591_27_wfpc2_f547m_pc NGC5457 210.80327
5 Image HLA hst_08591_27_wfpc2_f547m_wf NGC5457 210.80298

Future Plans

- Queries based on observation metadata
  - Smart One-Box search
- All-Sky image browser with overlay graphics
  - Observation footprints
  - Catalog objects
- Custom image cutouts
- Publication links and searches
- Integrate all MAST mission data
  - Download access to all products
- Server-side user data storage and workspace