Speaker	Title
Ashish Mahabal	Introduction/plans
Sharmad Navelkar	Use with Large Data Transfers
Sajeeth Philip	Data Extraction and Portfolio Growth
Sudhanshu Barway	The South Africa scene
Ashish Mahabal	Selective summary from Oxford IAU meeting

VOEvent Session

IVOA Pune
Ashish Mahabal
(with Matthew Graham's slides modified)

Transient astronomy

- A field endorsed by the Astro2010 Decadal Survey
- Has a burgeoning multi-wavelength multi-level community
  - CRTS, PTF, Pan-STARRs, Fermi/SWIFT, MOA/OGLE, IAUT/CBAT/ATEL, AAVSO, GAIA, LOFAR, SkyMapper, LIGO, LSST, A(SKA)P, …
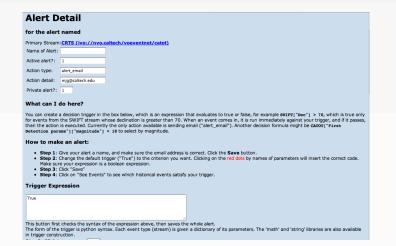- Already embracing VO technologies (VOEvent)
  - > 47000 VOEvents sent to date (including ~26000 from CRTS)
  - 46 mentions in literature since 2005 (44 for IRAF over same initial period)
- Wants robust and reliable tools for production, subscription, and discovery leveraging VAO capabilities
  - LSST will produce ~10^7 events per night (~50000 / 120 s.)
  - SKA will detect 1 core-collapse SNe / s over the sky
- Great potential for EPO

SkyAlert (http://www.skyalert.org)

- Excellent prototype of requested brokering service

- Users use a Web interface to define tasks that are performed when an appropriate event is received
  - messaging, archive retrieval, computation, etc.

- Community user base (currently ~300 subscribers)
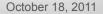
- Independent funding to 2012

Ensuring interoperability

- Current event infrastructure is an ad hoc arrangement mixing unwritten agreements, ideology and hacks that works

- Need to formalize:
  - VOEvent infrastructure metadata descriptions
  - VOEvent transport protocol(s)
  - Infrastructure components particularly repository and inter -repository communication
  - Event/portfolio access protocol
  - Portfolio

Proposed: VAO Transient Facility

- "Keep it simple":

  o Notifications – just report the basics and use references for anything else

  o Transport – speed and scalability are concerns but Jabber/XMPP is OK for general use

  o Querying – just RA, Dec + time

- "Let the computer do the work":

  o Subscription – Python-like expression syntax (a la SkyAlert)

  o Annotation – user-provided plugins for sophisticated event reponses

Roadmap

- VOEventRegExt (end of 2011)
- SEAP + repository definition (spring 2012)
  - Two tier approach:
    - Simple cone search-like (RA, Dec, time)
    - Full VOEvent data model (Who, What, WhereWhen, How, Why)
- Transport protocols (2012)
  - IVOA Recommendation on use of Jabber and TCPV definition (currently a Note)
- Event portfolios (2012/13)
  - Tied to DAL DataLink?

- External science drivers:
- LSST 2012 Data Challenge (30% data rate test)
- GAIA 2013 Real Event Challenge

VOEVENT NEEDS
YOU