ESCAPE
European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

ConeSearch
status & discussion

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The need for a ConeSearch revision

Simple Cone Search
Version 1.03

IVOA Recommendation 22 February 2008

- ## 2 milestones to work on
  - The protocol is not up to date with **current landscape**
  - A new requirement comes in from the **Time Domain**

- ## 3rd one (1/2 milestone)
  - Registry & Capabilities

- ## 1 decision to take
  - **1.1** or **2.0**

Landscape Update

- Some updates already done (~2 years ago)

- Some didn't reach agreement

- ...and some smaller editorial matters to fix

   (wait a few slides or look at the etherpad for finer details)

- 1 new **optional** parameter: **TIME**
  - the time **interval** to be searched for data
    - open or closed interval with numeric values
  - interpreted as MJDs
    - values interpreted as **UTC time scale and UNKNOWN reference position**
      - as specified in DALI in the section on literal values
    - MJD values always in days
  - constraint is satisfied if the interval intersects the time coverage of the observation

- (VOTable) response addition
  - exactly one FIELD, representing the time of the observation, **MUST**
    - have **ucd="time.epoch;meta.main"**
    - have **datatype** set to "**float**" or "**double**" (ISO? [char])

Registry & Capabilities

- (currently) inclusion of SimpleDALRegExt
  - Need to follow "**caproles**" discussion

- Time Domain addition
  - Discovery of services **w/ or w/o time filtering** feature

(wait a couple of slides or look at the etherpad for finer details)

Landscape, time, registry and interface description …

… makes it more complicated to keep a minor revision

but …

Switching MAJOR revisions has its own hurdles …
  - Take up
  - Clean transition

https://indico.in2p3.fr/event/20005/sessions/13085/attachments/57308/76506/MajorRevisionProcess_hack-a-thon.txt

ConeSearch-1.03-Erratum-1: <INFO name="Error"> uniqueness clarification

- Longer the title than the issue
  - https://wiki.ivoa.net/twiki/bin/view/IVOA/SCS-1_03-Err-1

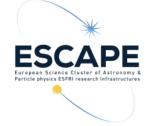| in running document	1.x	2.0	Time Domain related	new issue?
NO	Add		NO	1.x: yes 2.0: no

- DALI compliant instead of ConeSearch custom solution
  - Kept heritage as deprecated solution

in running document	1.x	2.0	Time Domain related	new issue?
YES	keep deprecate	DALI only	NO	NO

Resource Registration

- Copy/pasted content from SimpleDALRegExt to replace custom solution
  - With "caproles" discussion may need to be revisited

in running document	1.x	2.0	Time Domain related	new issue?
YES	?	?	YES	YES

NOTE: filtering TIME capable service!

RA & Dec datatype

- Simply relaxed to allow float alongside double
  - If 2.0 there may be discussion on parameter choices
    - e.g. POS vs. RA,Dec,SR

in running document	1.x	2.0	Time Domain related	new issue?
YES	keep	?	NO	1.x: no 2.0: yes?

MAXREC & RESPONSEFORMAT

- Added following DALI
  - SR=0 for metadata, kept
  - VOTable mandatory response, kept

in running document	1.x	2.0	Time Domain related	new issue?
YES	keep?	DALI only	NO	NO

NOTE: suggest usage of RESPONSEFORMAT for binary output.

- Added support for capabilities & availability
  - Issue with heritage <GET-EXTRA-ARGS>
  - "caproles" discussion

in running document	1.x	2.0	Time Domain related	new issue?
YES	?		NO	YES

VOTable response version

- Relaxed version number
  - Never closed discussion on back-compatibility
  - Needs examples to be fixed

in running document	1.x	2.0	Time Domain related	new issue?
YES	VOTable 1.0+	VOTable 1.4+	YES TIMESYS	YES

- ## Added MAXREC=0
  - ## – Kept heritage SR=0

in running document	1.x	2.0	Time Domain related	new issue?
YES	keep heritage	DALI only	NO	NO

- Allowing POST alongside GET (DALI)
  - But <GET-EXTRA-ARGS> ?

in running document	1.x	2.0	Time Domain related	new issue?
YES	?	?	NO	YES

RESOURCE type & number

- There exist 1.03 services not using the RESOURCE@type
- To allow DataLink the number of RESOURCE/TABLE has to be relaxed

in running document	1.x	2.0	Time Domain related	new issue?
NO	?		NO	YES

ReST vs query-param

- Would solve many issue
  - Minor revision would get messy

in running document	1.x	2.0	Time Domain related	new issue?
NO	?		NO	YES

- ## Move to UCD1+ strictly?

in running document	1.x	2.0	Time Domain related	new issue?
NO	?		YES	YES

NOTE: no back-compatibility chance with minor revision.

- Correct choice of sky positions at different server-side epochs

in running document	1.x	2.0	Time Domain related	new issue?
NO	?		YES	YES

- Get whole catalogue
  - Possibly allow TIME (or other) filtering

in running document	1.x	2.0	Time Domain related	new issue?
NO	?	?	YES	?

NOTE: SR=180, leave it to DALI, …

- As a filtering parameter
- Possibly leave it for later, i.e. 2.0 or even 2.1+

in running document	1.x	2.0	Time Domain related	new issue?
NO	NO	?	YES	?

- Based on all the updates/feature described previously...
- Considering the transition hurdles...
- ... and the take-up time span ...

- GitHub (ivoa-std) repo
  - https://github.com/ivoa-std/ConeSearch

- Simple Cone Search on DAL TWiki
  - https://wiki.ivoa.net/twiki/bin/view/IVOA/ConeSearch

- Etherpad for this session's discussion
  - https://yopad.eu/p/IVOA_Virtual2020_ConeSearch (*)

* Later persisted within https://wiki.ivoa.net/twiki/bin/view/IVOA/InterOpMay2020DAL contents