



ADQL 2.1

Astronomy Data Query Language

IVOA interop, Maryland USA
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D.Morris
Institute for Astronomy,
Edinburgh University
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Whitespace and comments

Imported text from errata

“The rules on where whitespace is allowed and required are as in SQL92; essentially, any <token> may be followed by a <separator>.”

It doesn't mention comments .. is that OK ?

Text added, svn 5217





TIMESTAMP

TIMESTAMP was added to maintain compatibility with VOTable

Constructor syntax was defined to match geom constructors

```
SELECT .. WHERE obs_creation_date > TIMESTAMP('2015-01-01')
```

Needs text recommending when to use TIMESTAMP vs more accurate types

Is this for 'low resolution' values ?

Format allows milliseconds

```
YYYY-MM-DD['T'hh:mm:ss[.SSS]]
```

Discussed in May interop
Agreed to keep this in 2.1.

TODO – volunteers to help with text ?





STC REGION

Import the text from TAP 1.0 as an appendix in ADQL 2.1

TAP 1.0 has a whole section on this – do we want all of this ?

6 Use of STC-S in TAP (informative)

- 6.1 Simple STC-S BNF
- 6.2 Example ICRS circle
- 6.3 Example Galactic position
- 6.4 Example Cartesian BOX
- 6.5 Example Local BOX
- 6.6 Example Unconnected POLYGONs
- 6.7 Example POLYGON with a hole
- 6.8 Dynamic STC-S values (string concat)

Balance – how much is enough ?

Too much detail or not enough ?

Discussed in May interop
Agreement to adopt the text from TAP

TODO – volunteers to vet the text



Data types and xtypes

Add a prefix or not ?

Prefix xtypes only ?

Prefix DALI xtypes too ?

CHAR

CHAR

CHAR

INTEGER

INTEGER

INTEGER

DOUBLE

DOUBLE

DOUBLE

TIMESTAMP

TIMESTAMP

DALI:TIMESTAMP

POINT

POINT

DALI:POINT

CIRCLE

CIRCLE

DALI:CIRCLE

BLOB

ADQL:BLOB

ADQL:BLOB

REGION

ADQL:REGION

ADQL:REGION



Boolean functions

The intention was to replace

```
SELECT .. WHERE 1 = CONTAINS(...)
```

With user friendly

```
SELECT .. WHERE CONTAINS(...)
```

Gain – simpler queries

Cost – obscure error messages when we get it wrong

Discussed in May interop
No clear conclusion





Set operations

UNION, EXCEPT, INTERSECT

Questions about the accuracy of the BNF

- Need to hear from implementors.
- Please send suggested fixes.
- Is it “good enough” for 2.1 ?

Discussed in May interop
Needs a second pair of eyes to review BNF

TODO - volunteers to review BNF ?





String functions

Request from existing implementations

Probably harmless

UPPER

Probably not ready for 2.1, bounce to 2.2

STR_LEN

SUB_STR ..

PEG grammar in 3.x is more important

TODO





SQL comparison

Requested by new developers

Appendix listing the differences between ADQL and SQL

Probably not ready for 2.1, bounce to 3.x ?

PEG grammar in 3.x is more important

TODO – not yet





Next steps

Only accepting minor changes for 2.1

Work in progress for 2+ independent implementations

Non-trivial changes will get bounced to 2.2

Version 3.x will have PEG grammar

TODO – more implementations ?





Questions for 3.0

Partial implementation of geometry functions ?

Only allowed in specific locations (first part of WHERE clause) ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

```
SELECT .. FROM .. WHERE ({geometric constraint}) AND ({sql constraint})
```

<https://ned.ipac.caltech.edu/Documents/Guides/Interface/TAP>

https://irsa.ipac.caltech.edu/docs/program_interface/planck_api.html

TODO – what changes do you need ?





Questions for 3.0

Partial implementation of JOINS ?

Only allowed between specific tables ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

TODO – what changes do you need ?

