

VOQL WG Progress Report

May 28, 2004

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VOQL WG Agenda

- **1. Experience on ADQL and SkyNode, and improvements toward version 0.8**

Wil O'Mullane (implementation of ADQL 0.7.4 & SkyNode, openSkyQuery node)

Ramon Williamson (Java node)

Clive Page (Enhancement to ADQL, XMATCH)

Martin Hill (Units in ADQL)

Clive Page (Units in ADQL)

Yuji Shirasaki (Syntax of ADQL/s)

- **2. Relationship with other WGs, especially Registry, DAL and DM groups**

Martin Hill (Implementing a DAL with asynchronous Queries) followed by general discussion on this agenda

- **3. Our Roadmap in 12-24 months**

Discuss our roadmap in middle- and long-range.

- **4. AOB**

ADQL old and new

```
<Selection>
  <Items>
    <SelectionItem
xsi:type="ExprSelectionItem">
      <Expr xsi:type="ColumnExpr">
        <Column
xsi:type="AllColumnReference">
          <TableName>a</TableName>
        </Column> </Expr>
      </SelectionItem> </Items>
</Selection>
<TableClause>
  <FromClause>
    <TableReference>
      <Table>
        <Name>Tab</Name>
        <AliasName>a</AliasName>
      </Table> </TableReference>
    ..
```

Select a.* from Tab a

0.7.1

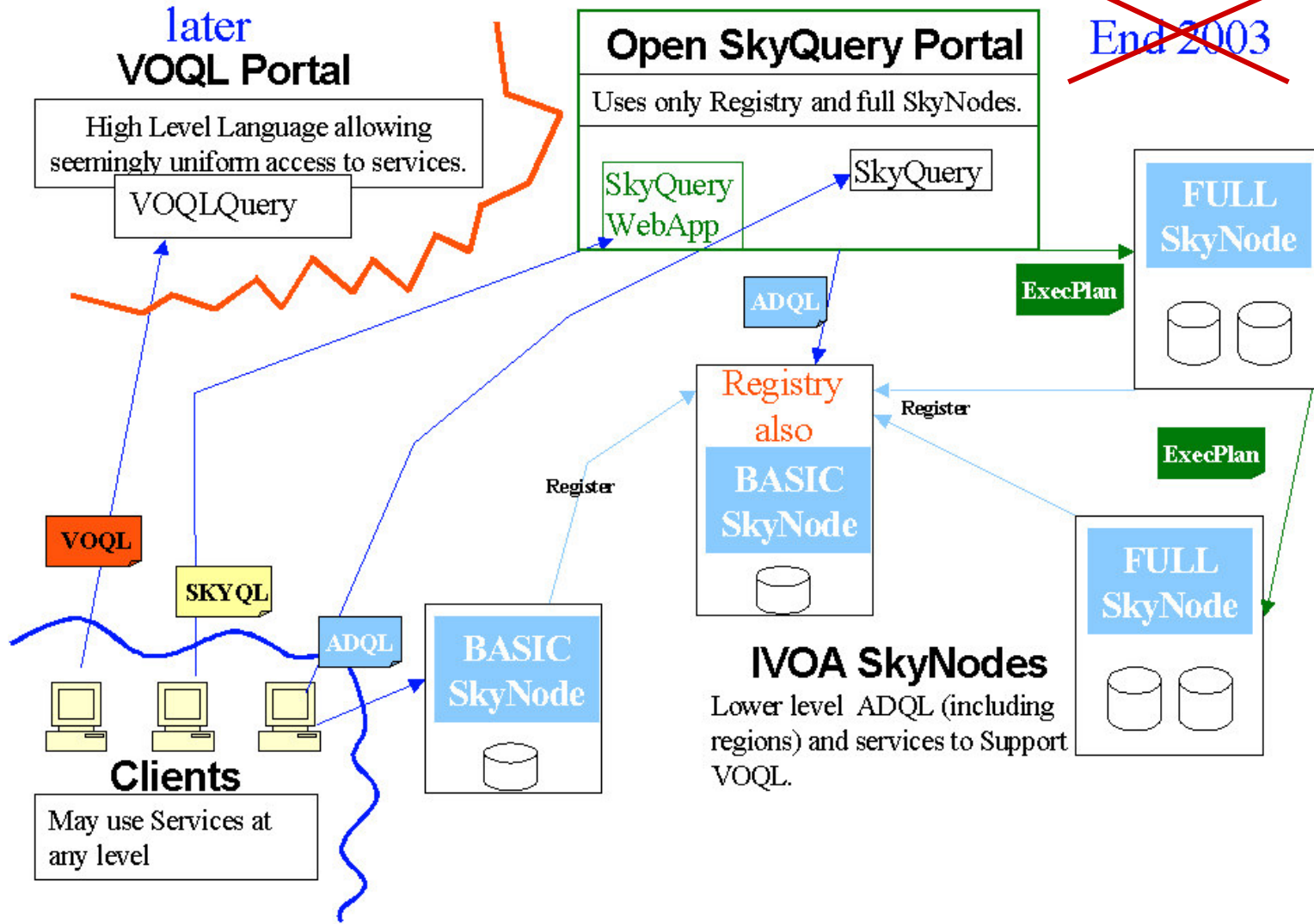
0.7.4

```
<Select xmlns:xsd...ADQL/v0.7.4">
  <SelectionList>
    <Item xsi:type="columnReferenceType" Table="a" Name="*" />
  </SelectionList>
  <From>
    <Table xsi:type="tableType" Name="Tab" Alias="a" />
  </From>
</Select>
```

Architecture not changed

March 2004

~~End 2003~~



Where units are needed

- Consider simple query like this:

```
SELECT * from t1, t2 WHERE  
  REGION('whatever')  
  AND properMotion > 100 ;
```

- What does the .100. mean?
- Vizier collection has 231 tables containing proper motions:

Agreements toward ver0.8

- **INTO** : MyDb, MySpace for both SELECT and INSERT
- **TOP** : tie down semantics
- **GCDIST** : in ADQL or just another function ?
Great Circle distance
- **JOIN** : Use Explicit JOIN syntax
- **Add units** : to ADQL/s, ADQL/x (need more metadata on table in SkyNode)
[Web services conversion tool is available in Oz](#)
- **Improve XMATCH** : Move sigma inside the bracket (or drop it ?) Add '+' for outer join and '?' for uncovered areas

Pseudo Tables/Virtual Columns

- Yuji Shirasaki -Could pretend to have a standard Image Table and do SIAP as an ADQL query

<http://www.ivoa.net/internal/IVOA/IvoaVOQL/VOQL-WG-yshirasa.ppt>



```
Select * from images where  
format='FITS' and region('circle  
j2000 180 23 0.1')
```

- make framework available to data centers which do all of this (M. Hill).

How is the Image Query Described in SQL ?

- SQL is a language for relational data base.
- Assume a **virtual data table** which has images for all possible location, size, shape, spectrum band, etc...
- The columns of the **virtual data table can be categorized as search condition column and data column.**

← search condition columns → data columns →

Region	SpectrumBand	Format	ImagePointer (SIAP?)	ImageEntity
((10,+20),0.1)	'B'(400nm .. 500nm)	'FITS'	http://xxx/getImage?POS=...?...	 FITS
((10,+30),0.2)	'R'(600nm .. 700nm)	'JPEG'	http://xxx/getImage?POS=...?...	 JPEG

```
select SpectrumBand, ImageEntity from optImage
where Region = (('ICRS', 10, +20), 0.1) and Format='FITS'
and (100nm .. 1000nm) ~ SpectrumBand
```


Expressions to specify a point and a region in Space Coordinate

A point in the Sky Coordinate (.SkyPoint. data type):

`('Gala J2000', 180, 30)` -- Galactic coordinate (J2000) in degree

`(180, 30)` -- Default coordinate frame of each data service is applied.

`('ICRS', 12:00:00.0, +30:00:00.0)` -- Equatorial in Sexagecimal

A region in the Sky Coordinate (.SkyROI. data type):

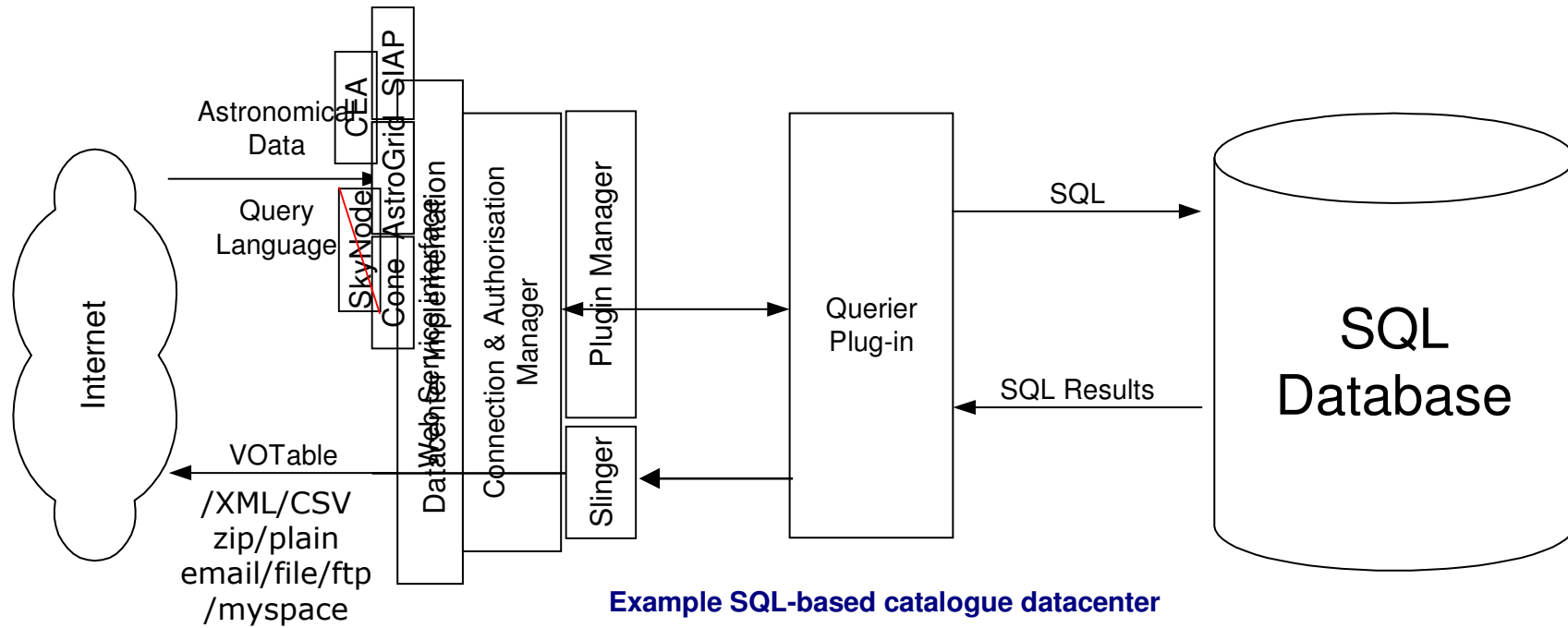
`((180, 30), 1.0 deg)` -- A circle centered at (180, 30) and 1 deg radius.

`((180, 30), (181, 31))` -- A rectangle whose coordinate of opposite points are at (180, 30) and (181,31).

`(('ICRS', 10, 20), (12, 20), (12, 22), (10, 22), (10, 20))` -- A polygon. Coordinate frame specified in the first point is inherited by the following points.

.SkyPoint. and .SkyROI. are sub data types of .Sky. data type

Architecture (Martin Hill)



Roadmap

- **May 2004 version 0.7.4**
- **May 24-28, 2004 Interop meeting**
- Implementation based on ADQL 0.8, and review its functionality and performance.
Discuss via emails how to incorporate requests from Registry/DAL/DM groups
Prepare proposals toward ADQL 0.9, including brushing-up the XML schema and so on.
Submission by the chair to our group.
- **Work to include Units, XMATCH – Ad Hoc Group (Wil, Clive, Martin, Yuji and chair)**
- **Need to describe semantics of ADQL more clearly**
- **Submit ADQL-0.8 in July**
- **Sep 2004 Interop meeting**
Agreement --> ADQL 0.9 & interaction between us and Registry/DAL/DM groups
After interaction with Registry/DAL/DM groups and discussion within our group, we prepare a draft for ADQL 1.0.
When it has been approved by the IVOA executive committee, it will become ADQL 1.0
- **Sep/Oct (?) 2004 GGF12 @ Brussels** : to report activities of the VO community
- **Work toward January Demos**
- **Jan 2005 Demos** by ADQL-1.0 & SkyNode-1.0
- **Improvements including New data types proposed by Shirasaki**
- **May 2005 Interop meeting / GGF joint WS in Japan (??)**
- **Discussion on ADQL-1.x, SkyNode-1.x ?**