VOQL WG
Progress Report

May 28, 2004

Masatoshi Ohishi

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

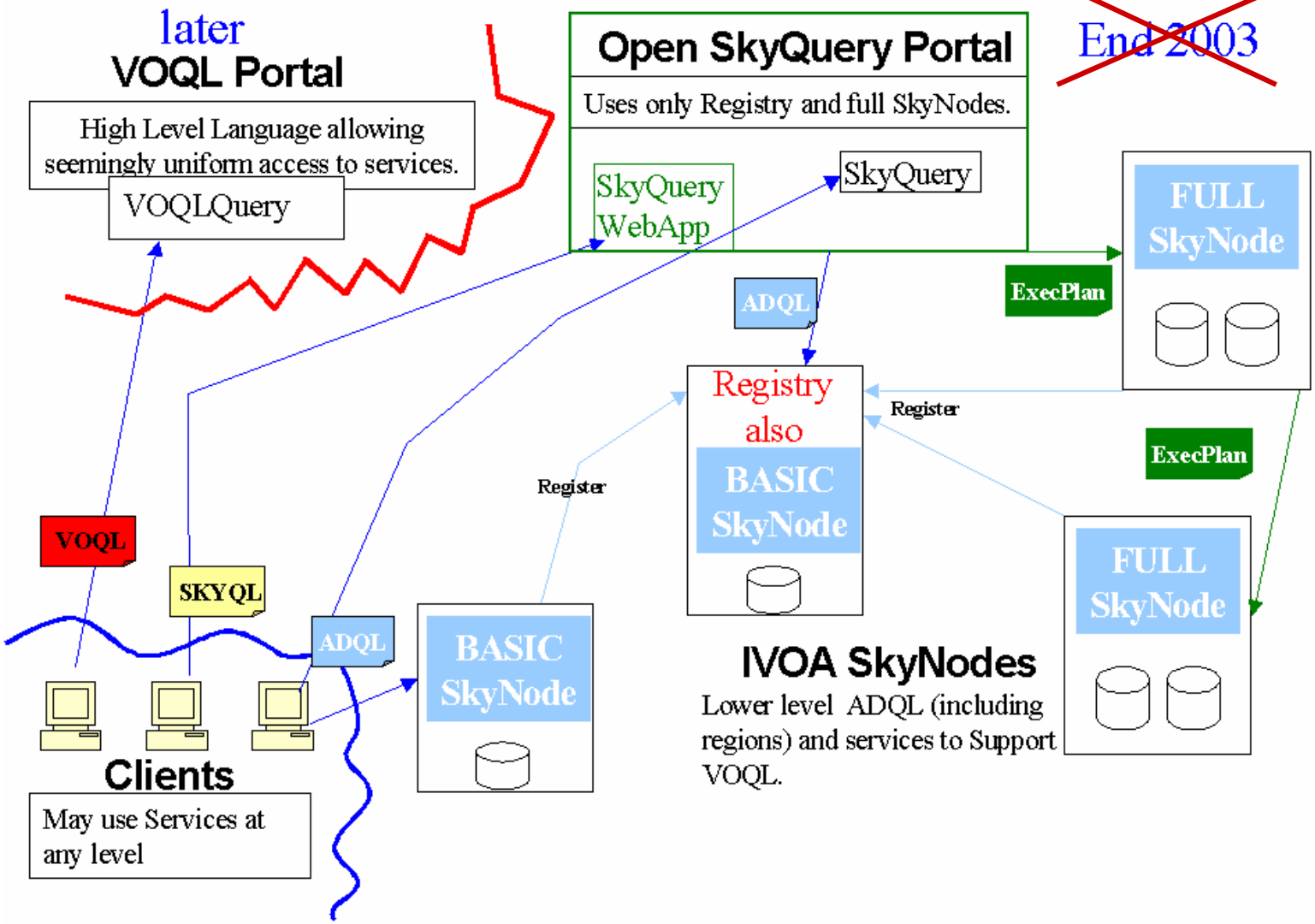
0.7.1

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



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

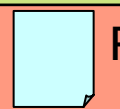
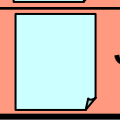
```
Select * from images where
  format='FITS' and
  region('circle j2000 180 23
  0.1')
```

- 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):

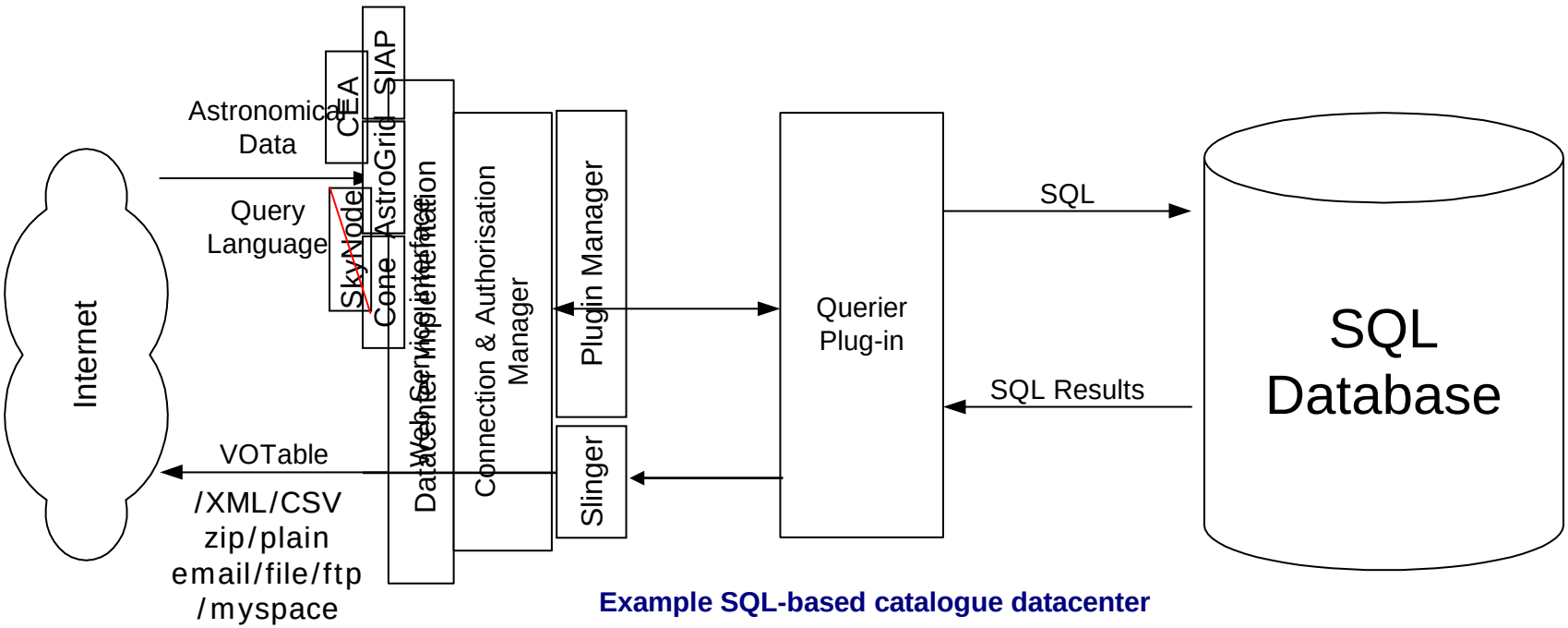
((180, 30), 1.0 deg) -- A circle centered at (180, 30) and 1 deg radius.

((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)



Example SQL-based catalogue datacenter

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 ?