ESAC DMMapper

BasicSkyNode with support to Source Catalogue DM

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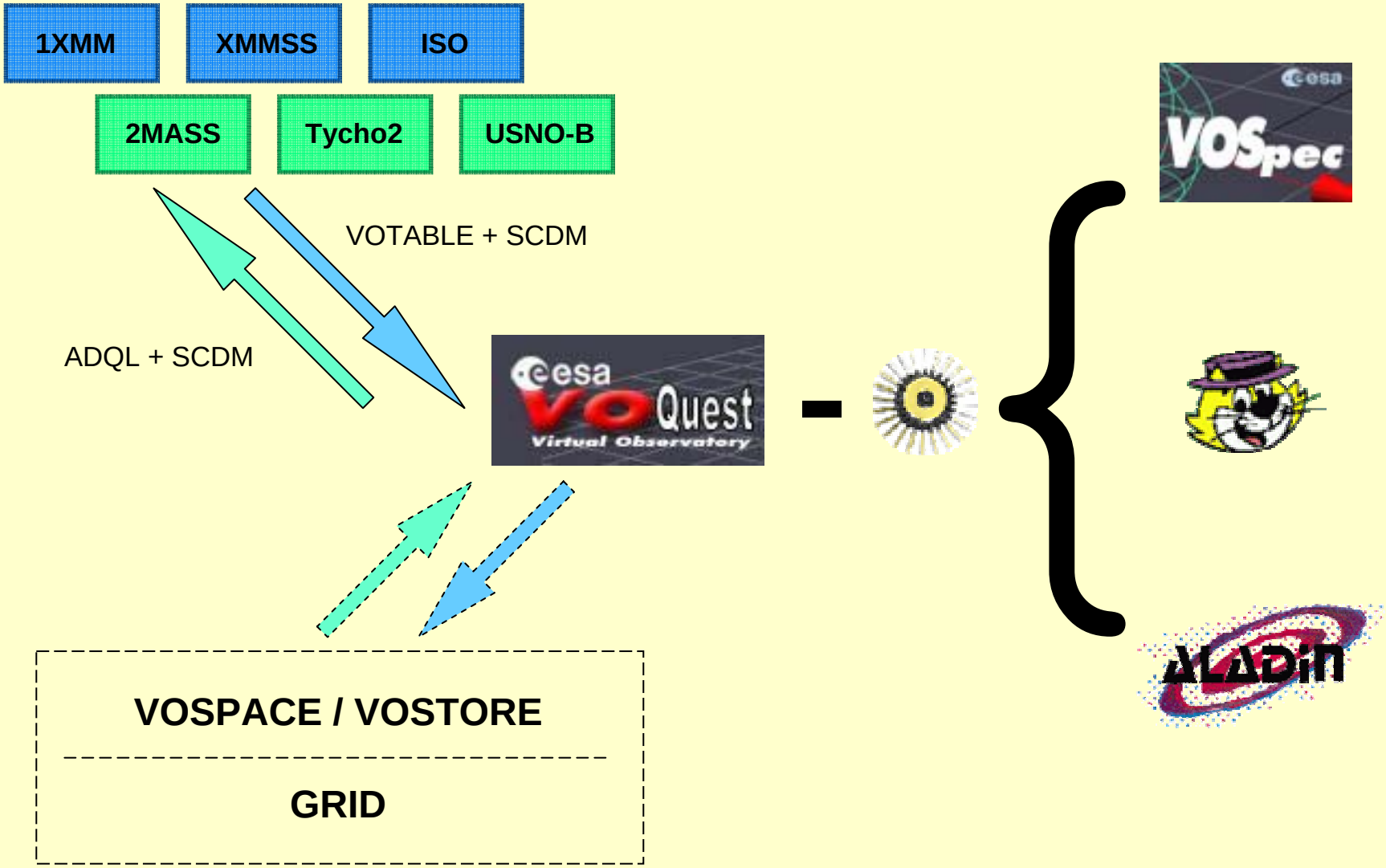
System Architecture



Inputs / Outputs

Inputs : ADQL + SCDM

- Support for various versions of ADQL : 0.7.4 / 0.8 / 0.9 / 1.0
- Enhanced Queries : ADQL with uTypes pointing to SCDM
- Normal Queries : ADQL with tables and columns names
- Mixed Queries : mixed enhanced and normal queries

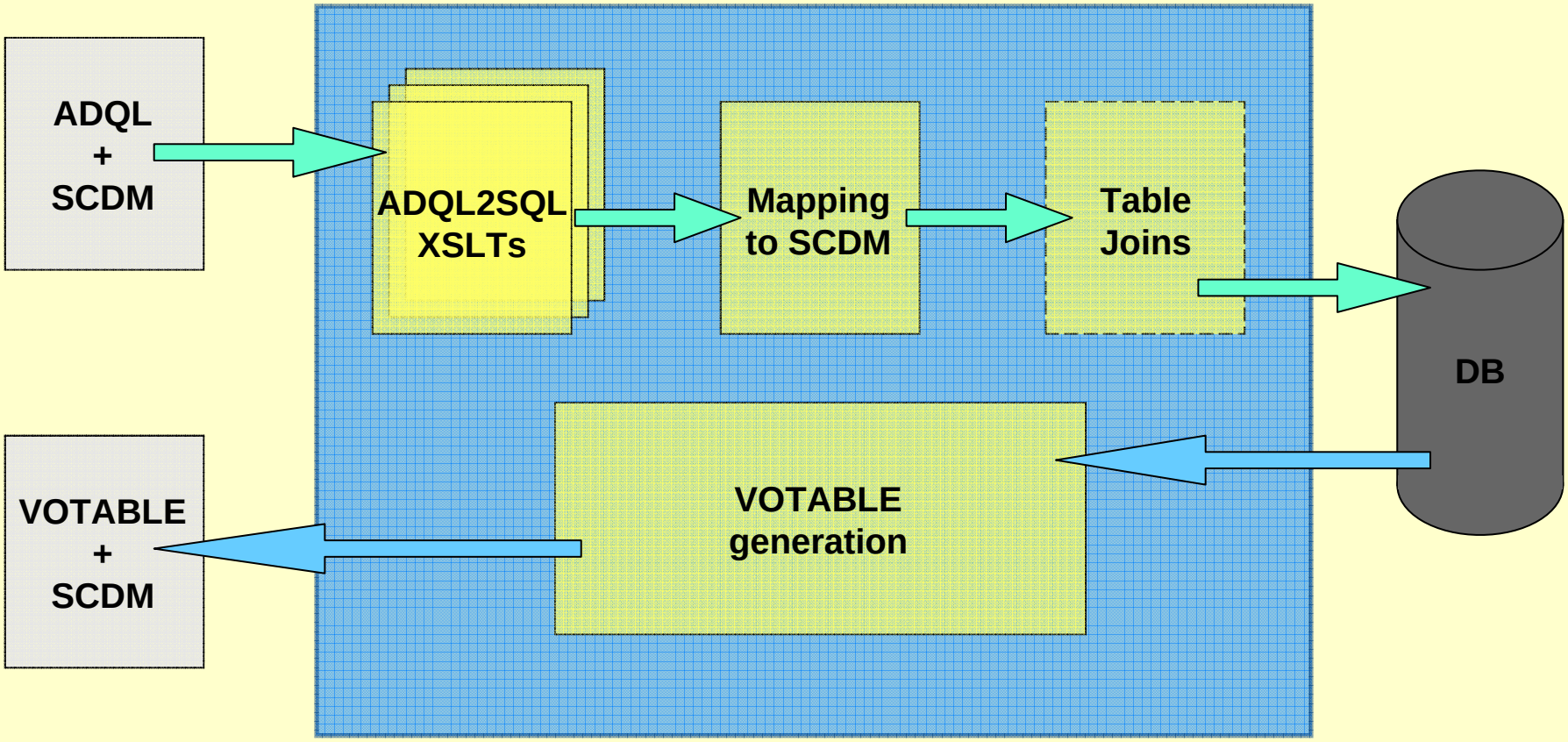
Outputs : VOTABLE + SCDM

- Fill the uType attributes with SCDM pointers
- Complete info for FIELDs from “Columns” config file

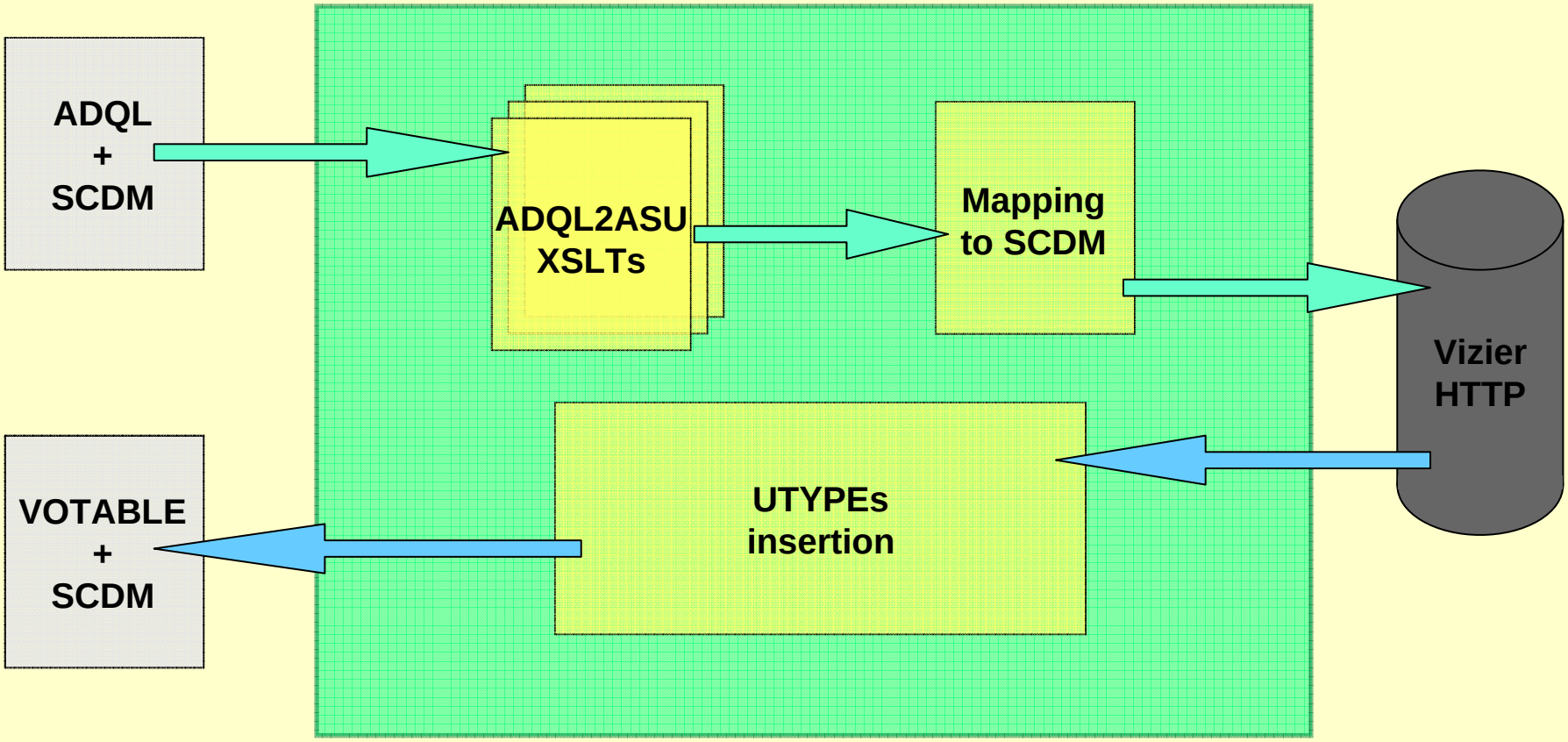
Standard SkyNode methods : getTable(s), getColumn(s), getFunction, ...

Issue with VOTABLE : not adapted to DM output

DMMapper Architecture (SQL)



DMMapper Architecture (ASU)



Mapping DB to DM

Simple one to one mapping

```
<property name="Source.Coordinates.Dec.Error"        value="0.01"/>
<property name="Source.Coordinates.RA"               value="RAJ2000"/>
<property name="Source.Coordinates.Dec"              value="1XMM.dec_2000"/>
```

Simple function mapping

```
<property name="Source.id"              value="CONCAT(&amp;quot;XMMSS &amp;quot;, id)"/>
<property name="Source.Coordinates.RA"  value="1XMM;(1XMM.ra_2000 * 15)"/>
```

Columns combinations

```
<property name="Source.Observation.Time"
                    value="obs_start, obs_end;(obs_start.utc_end - obs_end.utc_start)"/>
```

Region search mapping

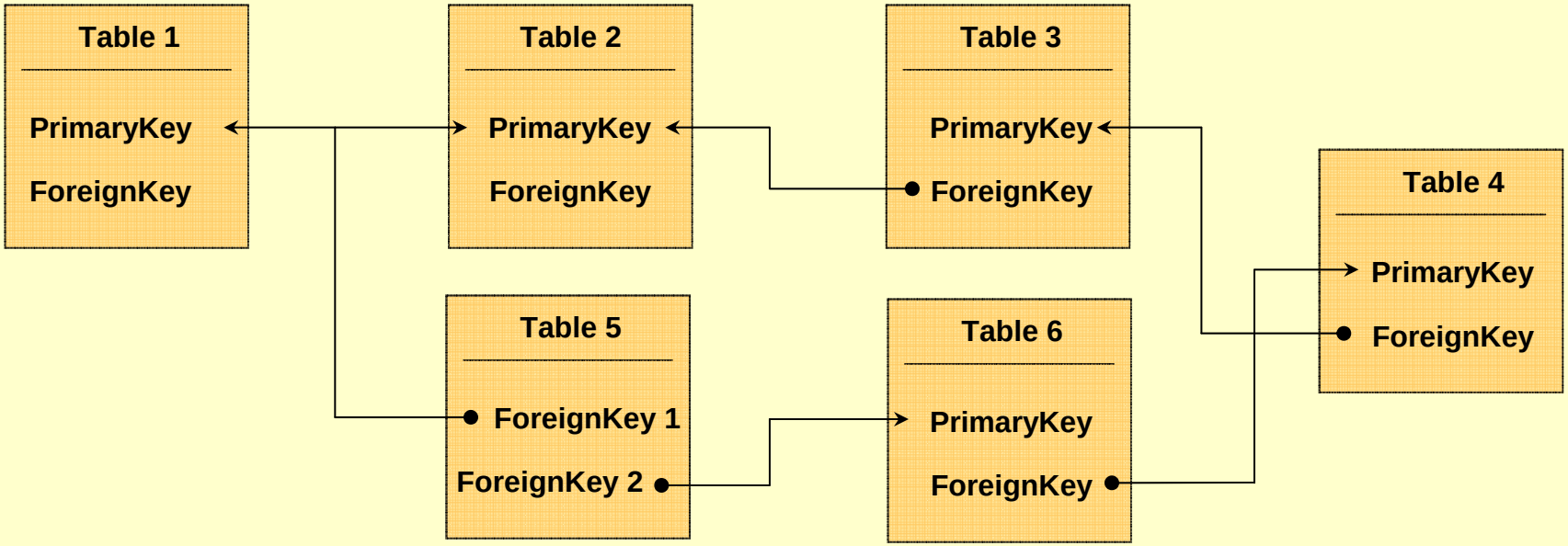
```
<property name="Region\(&amp;apos;CIRCLE J2000 (.+) (.+) (.+)&amp;apos;\)"
    value="(2*asin(sqrt(power(sin(radians($2-XMMSS.DEC)/2),2) +
            cos(radians($2))*cos(radians(XMMSS.DEC))*power(sin(pi()/
            180*($1-XMMSS.RA)/2),2))) &amp;lt; $3*pi()/10800)"/>
```

Joining DB Tables

Simple disconnected table(s) DB

- Bypass all table joining code by setting “DoTableJoins=false”
- Configure the table(s) to use in “IncludeTables=table1,table2, ...”

Complexe architecture DB



Conclusions

Not limited to SCDM, can map any DM

Supports all versions of ADQL

Offers uniforme access to datasets

Ability to map :

- simple disconnected table(s)
- complex architectures
- specific data access (ASU, ... ?)

Ability to manipulate data on the fly (limited by QL)

Implementation in Java, SOAP and XSLT

8 operational services (4 SQL, 4 ASU)