VAMDC infrastructure

VAMDC 7th Developer's workshop
Guy Rixon

Project goals

- Easier to get data out of DBs

- Easier to read data got from DBs

- Easier to make new DBs

" Easier to get data out of DBs"

- Everything on the WWW

- *Queryable* via the web

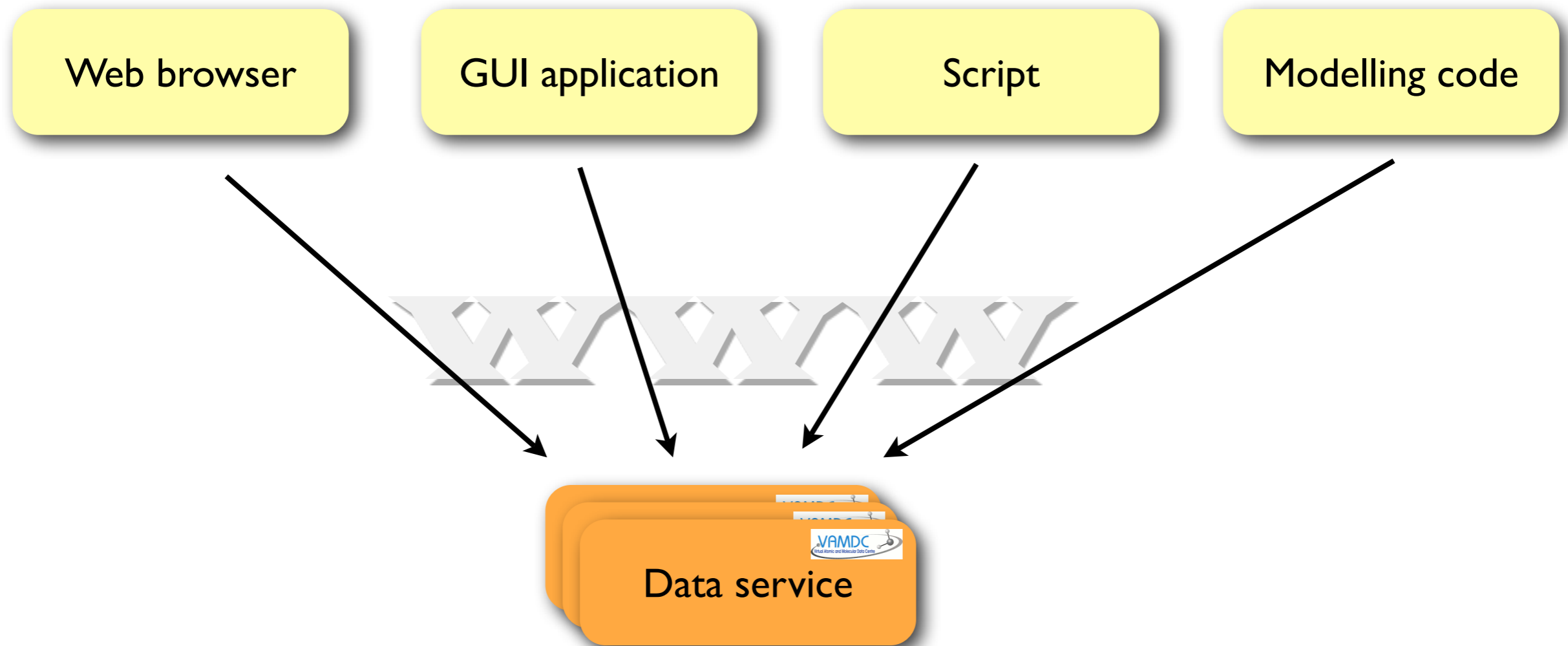- Common terms for query

- Single UI for all DBs

"Easier to read data got from DBs"

- Same format for all DBs: XSAMS

- Self-describing: lots of metadata

- Inclusive and general:

  - Can express most data

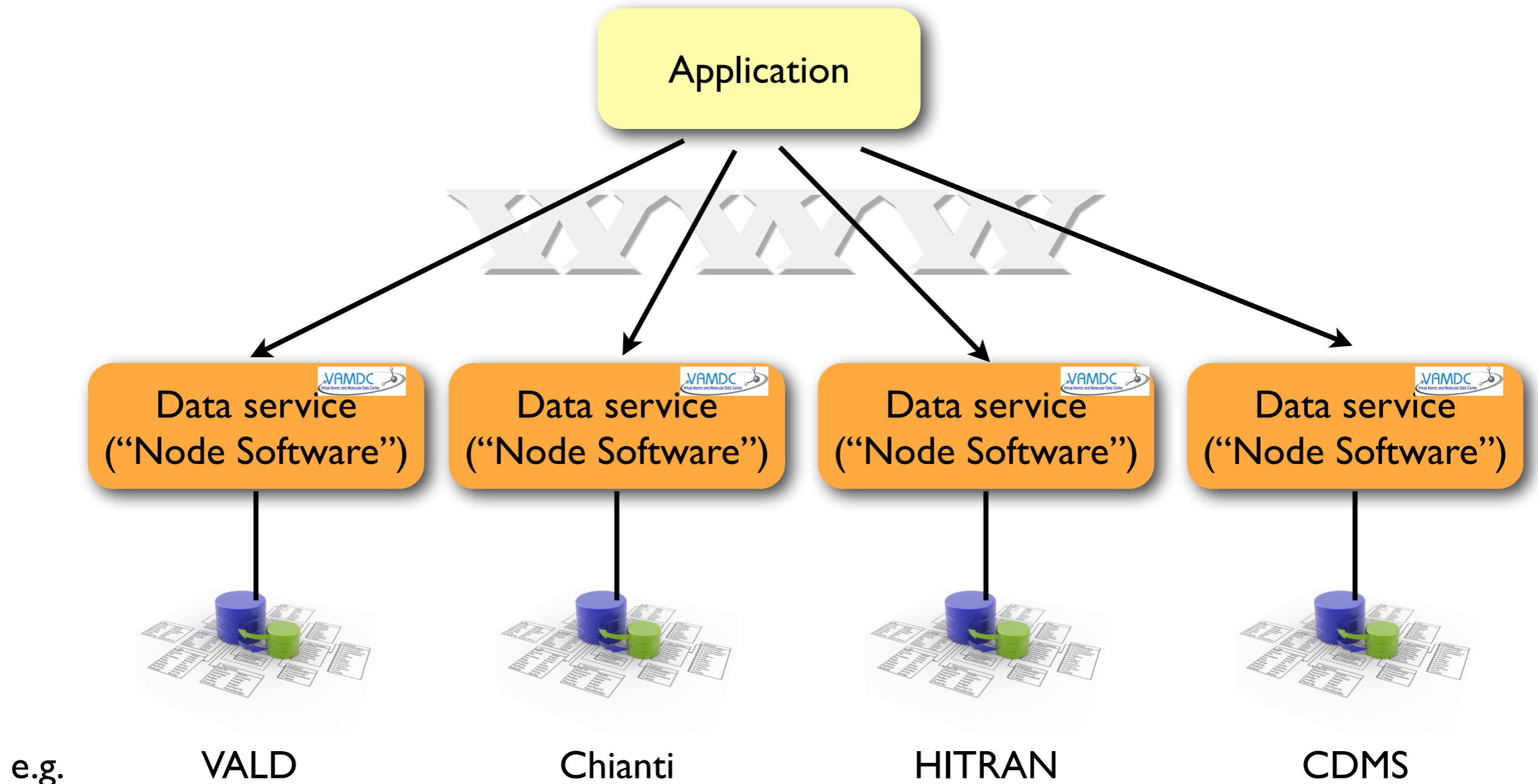 - Leave out the parts that don't apply

"Easier to make new DBs"

- Tools provided to ingest data from ASCII

- Code provided to connect DBs to WWW
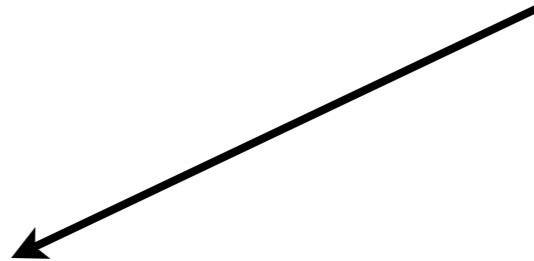
- Guidelines to schema of DBs

Web-service network

Web browser

GUI application

Script

Modelling code

Data service

One service per DB

Application

Data service ("Node Software")

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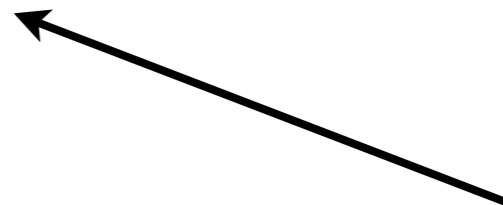e.g.   VALD   Chianti   HITRAN   CDMS

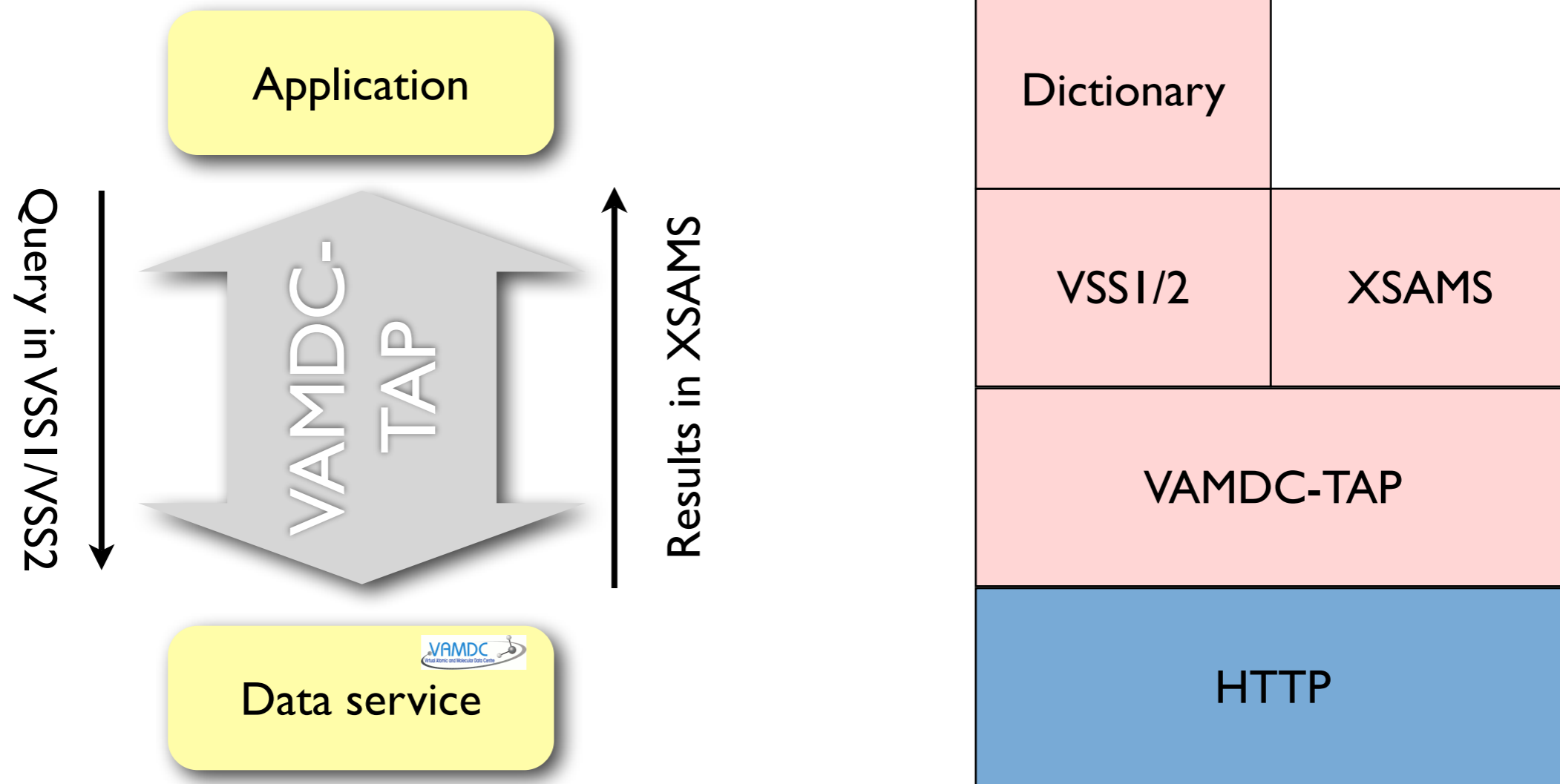# Data URLs

The address of the service
(this one for CDMS)

http://cdms.ph1.uni-koeln.de:8090/DjCDMS/tap/sync?
REQUEST=doQuery&LANG=VSS1&FORMAT=XSAMS
&QUERY=SELECT+ALL+WHERE+MoleculeStoichiometricFormula+%3D+%27CO%27

The data to be extracted

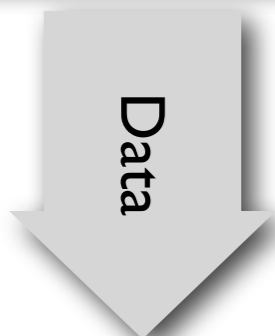Call these with HTTP GET

Service model

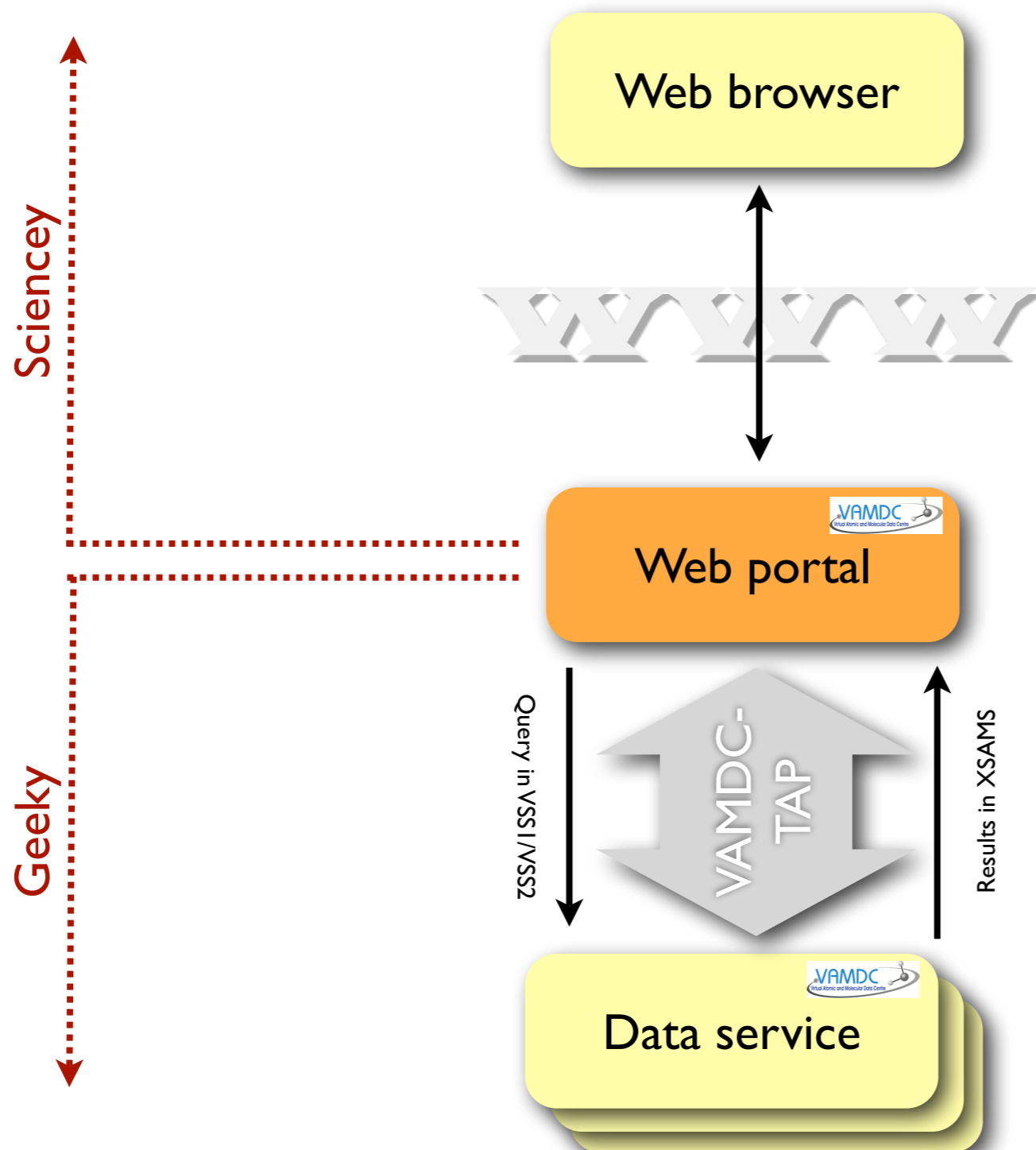# HTTP HEAD for preview
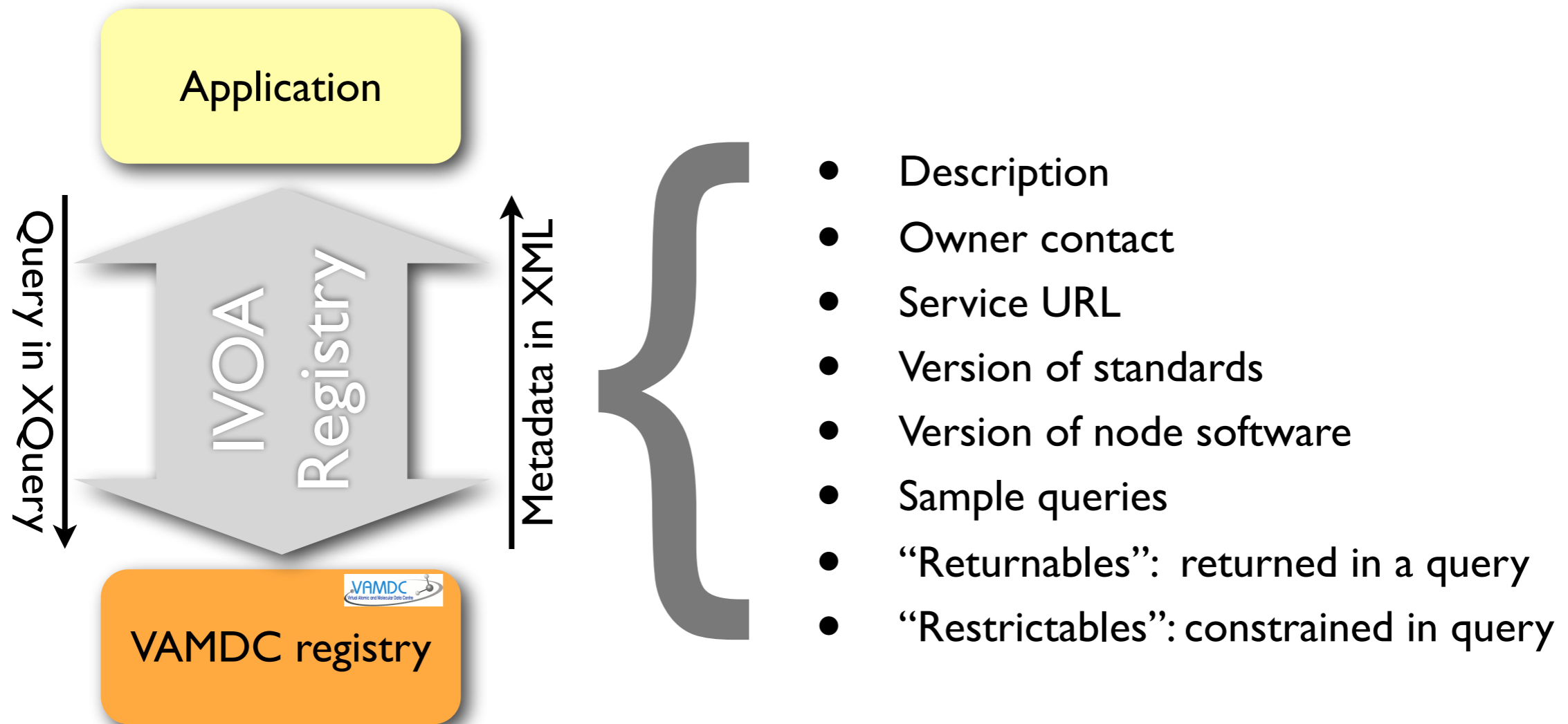

Choose query

HTTP HEAD (quick)

These numbers; no data

HTTP HEAD (slow)

Data

XSAMS Query: SELECT ALL WHERE (RadTransWavelength >= 8400 AND RadTransWavelength <= 8600)

Resource Title	Status	Species	States	Radiative	Collisions	Non Radiative	Sources
☐ BASECOL: development VAMDC-TAP interface	Bad Request	0	0	0	0	0	0
☐ KIDA: VAMDC-TAP interface	Mauvaise Requête	0	0	0	0	0	0
☑ Carbon Dioxide Spectroscopic Databank (VAMDC-TAP)	OK	0	0	0	0	0	0
☑ Stark-b	OK	13	18	143	0	0	0
☐ TIPbase : VAMDC-TAP interface	BAD REQUEST	0	0	0	0	0	0
☑ HITRAN-UCL resource	OK	1	2	1	0	0	0
☑ TOPbase : VAMDC-TAP interface	OK	0	1673	4042	0	0	0

UI = web portal

Which nodes, and where?

- Description
- Owner contact
- Service URL
- Version of standards
- Version of node software
- Sample queries
- "Returnables": returned in a query
- "Restrictables": constrained in query
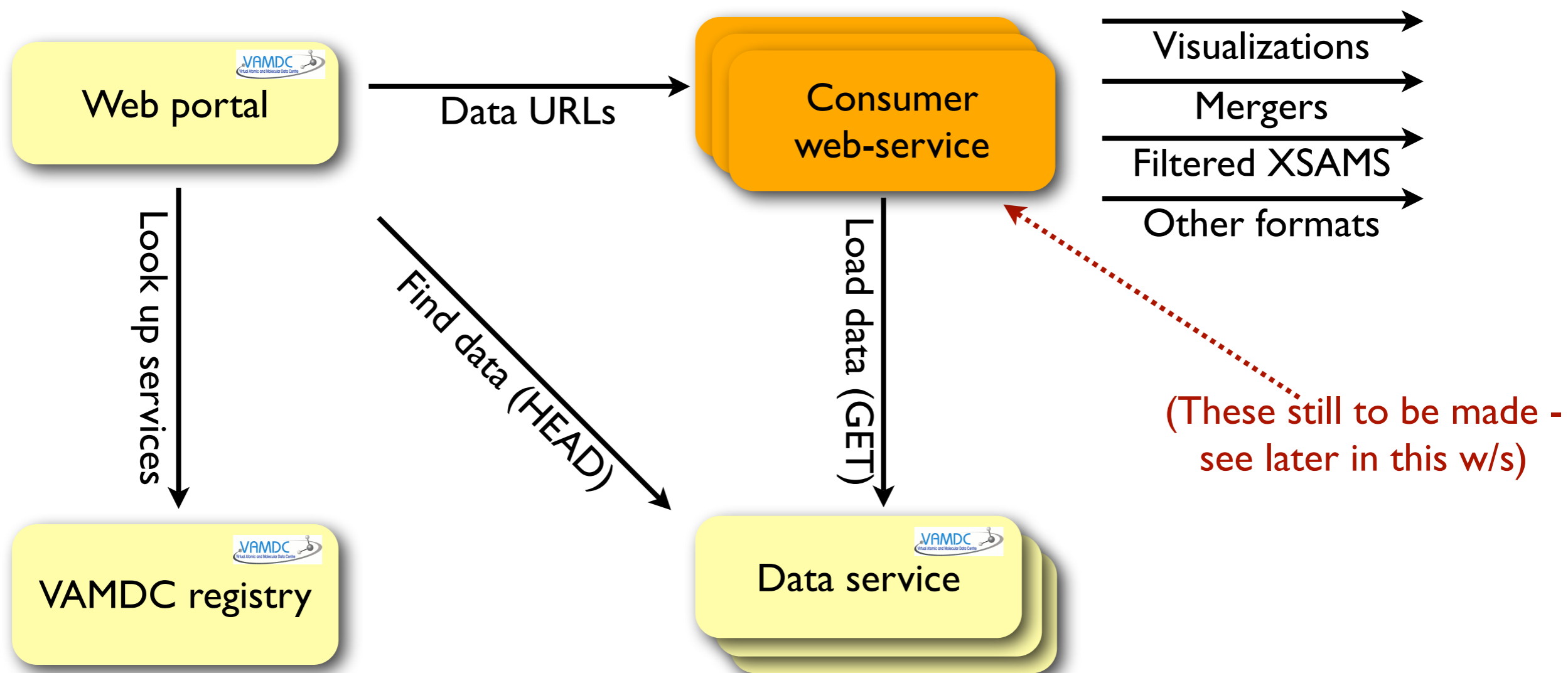
XSAMS consumers

Connecting your code: I

1. Select data using VAMDC portal

2. Download data to desktop using portal

3. Possibly translate to other format using XSAMS-consumer service

4. Run your code on downloaded/translated data

Connecting your code: 2

- Get data URLs, possibly from portal

- Adapt/wrap your code to call those URLs directly

Connecting your code: 3

- Adapt your code to find VAMDC nodes via VAMDC registry

- ⇒ no need to use VAMDC portal

Connecting your code: 4

1. Write an XSAMS-consumer service that runs your code

2. Publish the service

3. Users can then route data direct from portal to your code