AQS Data Mart

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What is it
How to use it

Components: Database!

```
AQS
AirNow ────────┐
FRS            ├──→  AQS
SRS ───────────┘     Data Mart  ──→  Web Services
                                 ──→  Business Objects
                                 ──→  AirExplorer
                                 ──→  ? ? ?
```

SOURCES   TARGET   ACCESS

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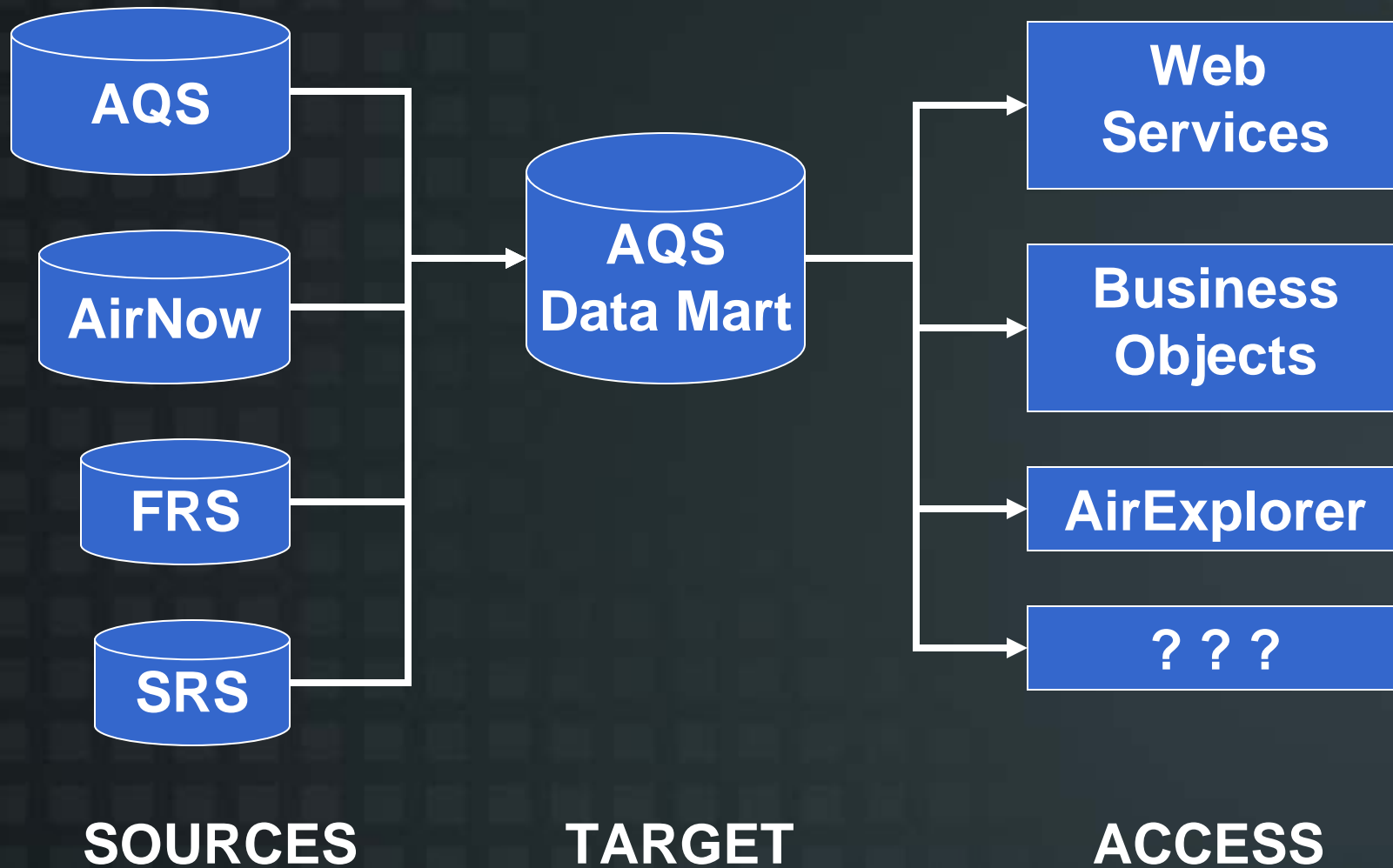
Raw Data

- AQS
  - Production: 1980 ➜ Present
    - All parameters
    - All hours
    - Regardless of qualifiers, method, etc…
    - Includes NAAQS averages (EDT ID = 0 or 2)
    - Note: no precision and accuracy data
- AirNow
  - Production: Opt-in program for the submitting Agencies
    - By monitor @ AirNow
    - <u>POC matching</u>
    - Only after last AQS value
    - Purge if over 1 year old
  - Beta: ME, CT

AQS   AirNow

Time
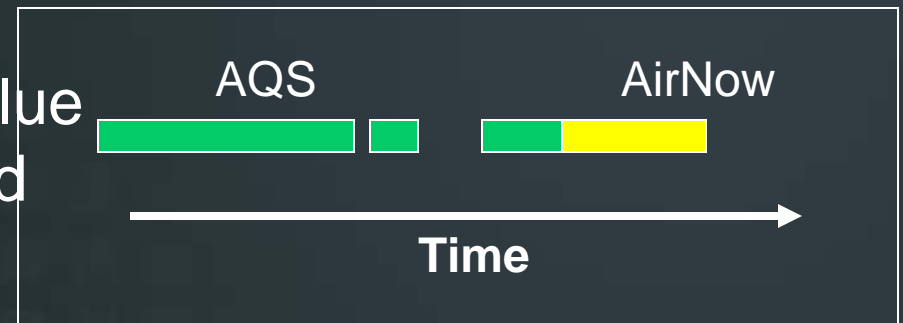
Summary Data

- **Daily Summaries**
  - **From AQS as calculated there**
    - Observation count
    - Observation per cent
    - Arithmetic mean
    - Max and hour of max
    - AQI
    - Values > Standards
  - **Additional metrics including AirNow values**
    - AQI
    - Observation count
    - Arithmetic Mean
    - Max value

- **Annual Summaries**
  - **From AQS**
    - Obs count and per cent
    - Valid day
    - Required count
    - Null obs count
    - Exceptional values count
    - Min value
    - Arith Mean and Std Dev
    - Geo Mean and Std Dev
    - 1st – 4th Max
    - Percentiles (99, 98, 95, 90, 75, 50)
    - Values > Standards
    - Half MDL obs count
    - Days > alert level
    - Est days > Standards
    - Missing days assumed < Standards
  - **Additional including AirNow values**
    - Obs count (total, AQS, AirNow)
    - Arith Mean and Std Dev
    - 1st – 4th Max
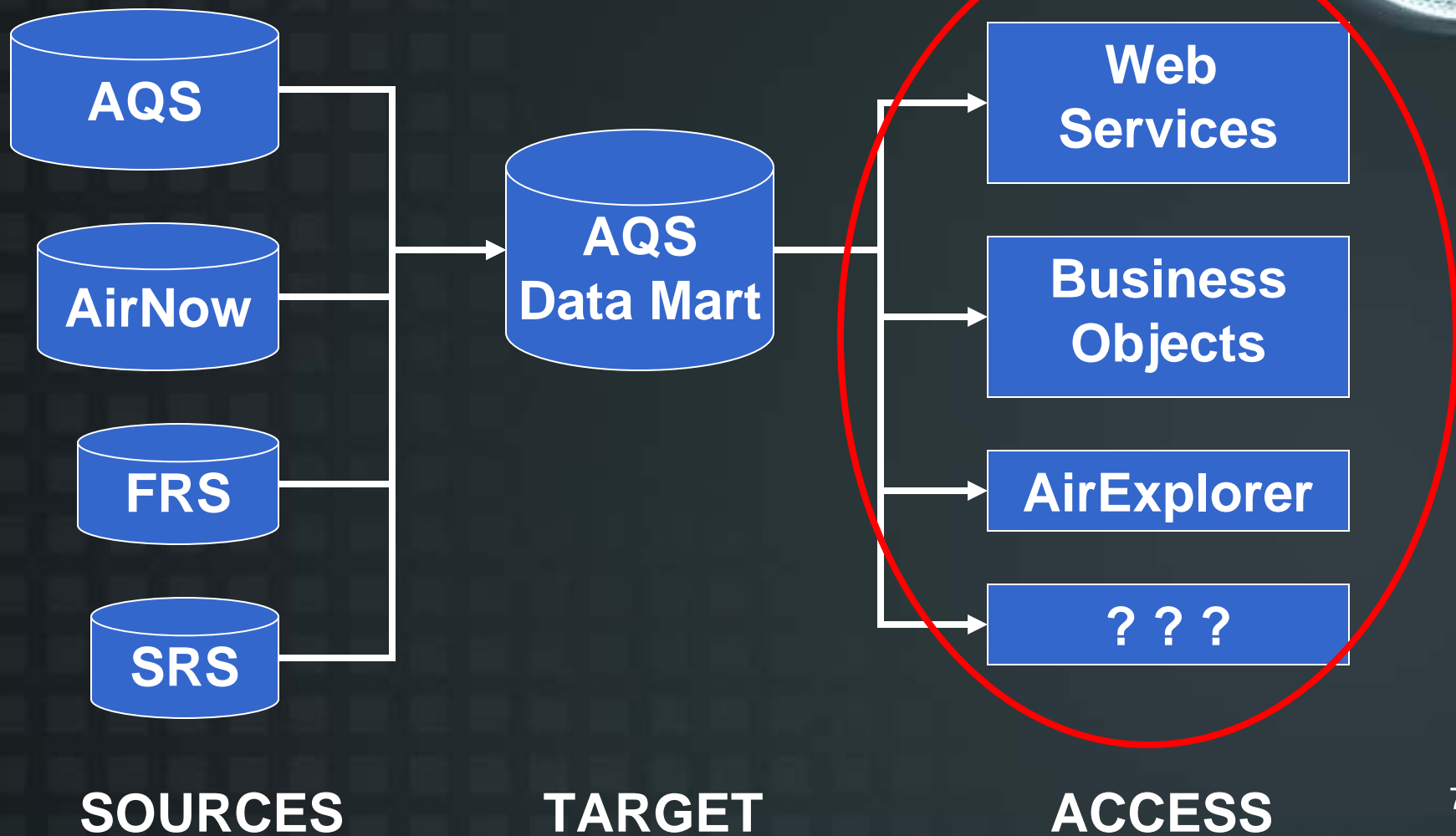   - Percentiles (99, 98, 95, 90, 75, 50)

Site & Monitor Data

- Basically all the info from AQS
  - Geopolitical
    - **AQS Site ID**
    - **Latitude, longitude, altitude…**
    - **Tribe, State, county, AQCR, Class I area…**
    - **Obstructions**
      - **Merged with FRS**
  - Administrative
    - **Agency roles**
    - **Operational dates**
  - Monitoring protocol
    - **Parameter**
    - **Duration**
    - **Sample Method**
    - **Analysis Method**
    - **Schedule**
    - **Frequency**

- Agency-wide Data
- "Conformed" data
  - Facility Registry System
  - Substance Registry System

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Key Operational Notes

- Went operational March 24th
- Data Mart updated <u>every night</u> from AQS and AirNow
- Please go to AirNow and "check the box" to allow for data sharing / dissemination
- It is a pilot system

Components

SOURCES   **TARGET**   **ACCESS**

AQS

AirNow

FRS

SRS

AQS
Data Mart

Web
Services

Business
Objects

AirExplorer

? ? ?

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Web Services in General

- "Service" = Query = Report
- "New" Technology
  - Designed for machine-to-machine talking
    - XML is language for conversation
  - Can put a web page up to allow for human-to-machine talking
    - HTML becomes language for conversation
- Must register with CDX Node to use
  - As "NAAS User" : different from CDX Web

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Data Mart Services

- 6 Services available "now" from Data Mart
  - List: Lists valid values
  - Values: Returns measured or calculated values in geographic format
  - Raw Data: Returns measured values in AQS Submission Schema
  - Annual Summaries: Returns annual summary data in AQS report (publishing) schema
  - Monitor Data: Returns site and monitor data in AQS Submission Schema
  - Sites by Threshold: returns a list of sites that meet your criteria in AQS Submission Schema
- Production in early July

Business Objects

- Ad hoc tool
  - Like Oracle Discoverer for AQS
  - Business Objects is current EPA standard
  - Best of breed and market leader
- Canned reports available
  - Like AQS application
- Will limit use to those with ad hoc need
  - $500 per user (pain for me)
  - Requires AAA token (pain for you)
  - Will bounce if not used

AirExplorer

- Also demonstrated here, so 1 quick point
- Now:
  - Data copied out of AQS every so often
    - Work for David
  - Reformatted
    - More work for David
  - Stored somewhere else
    - More cost for David
- Later (soon):
  - AirExplorer connects directly to Data Mart database
- Later (later): Other applications(?) do same

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Demo???