

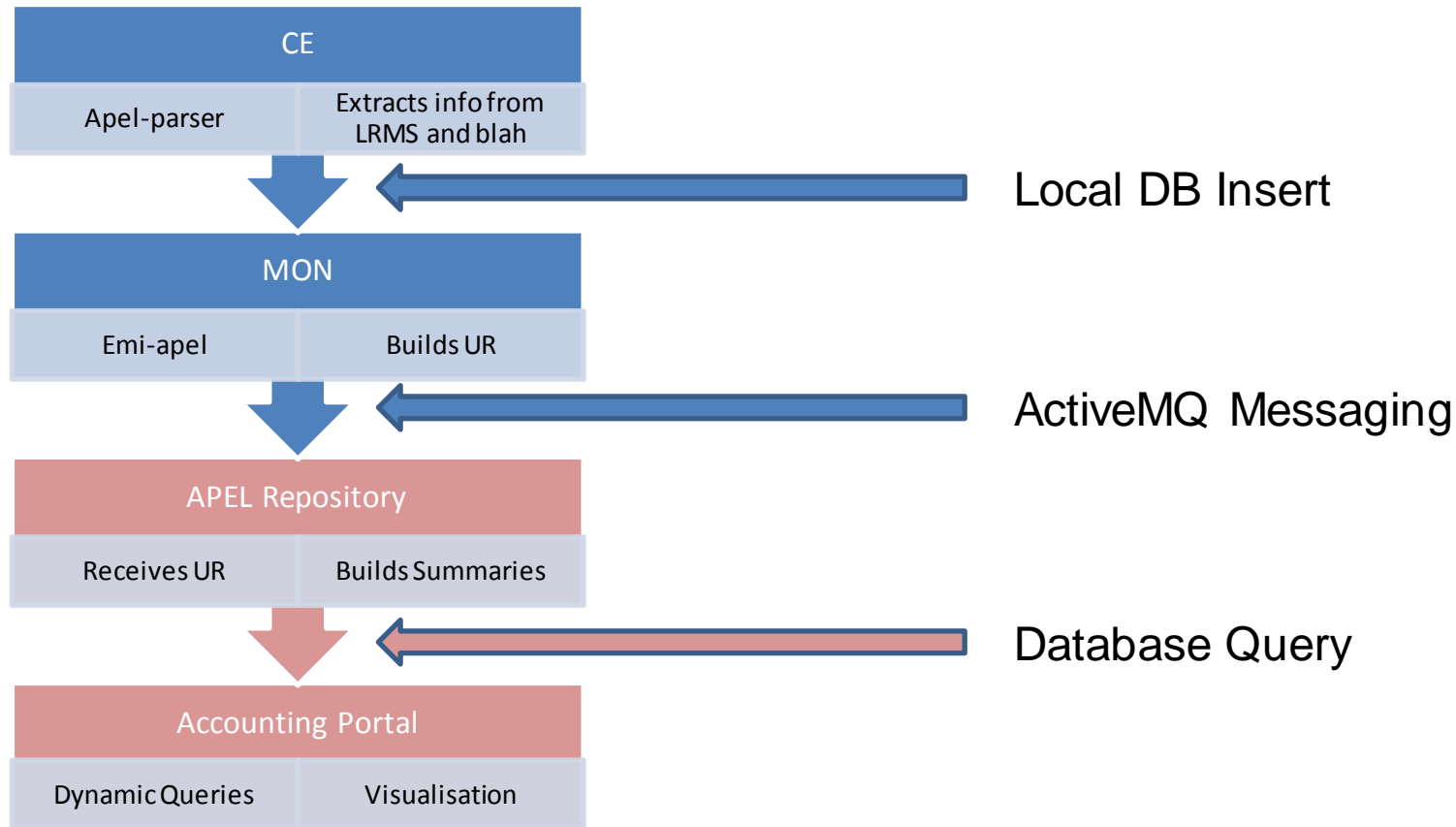
# Accounting in the Wild.

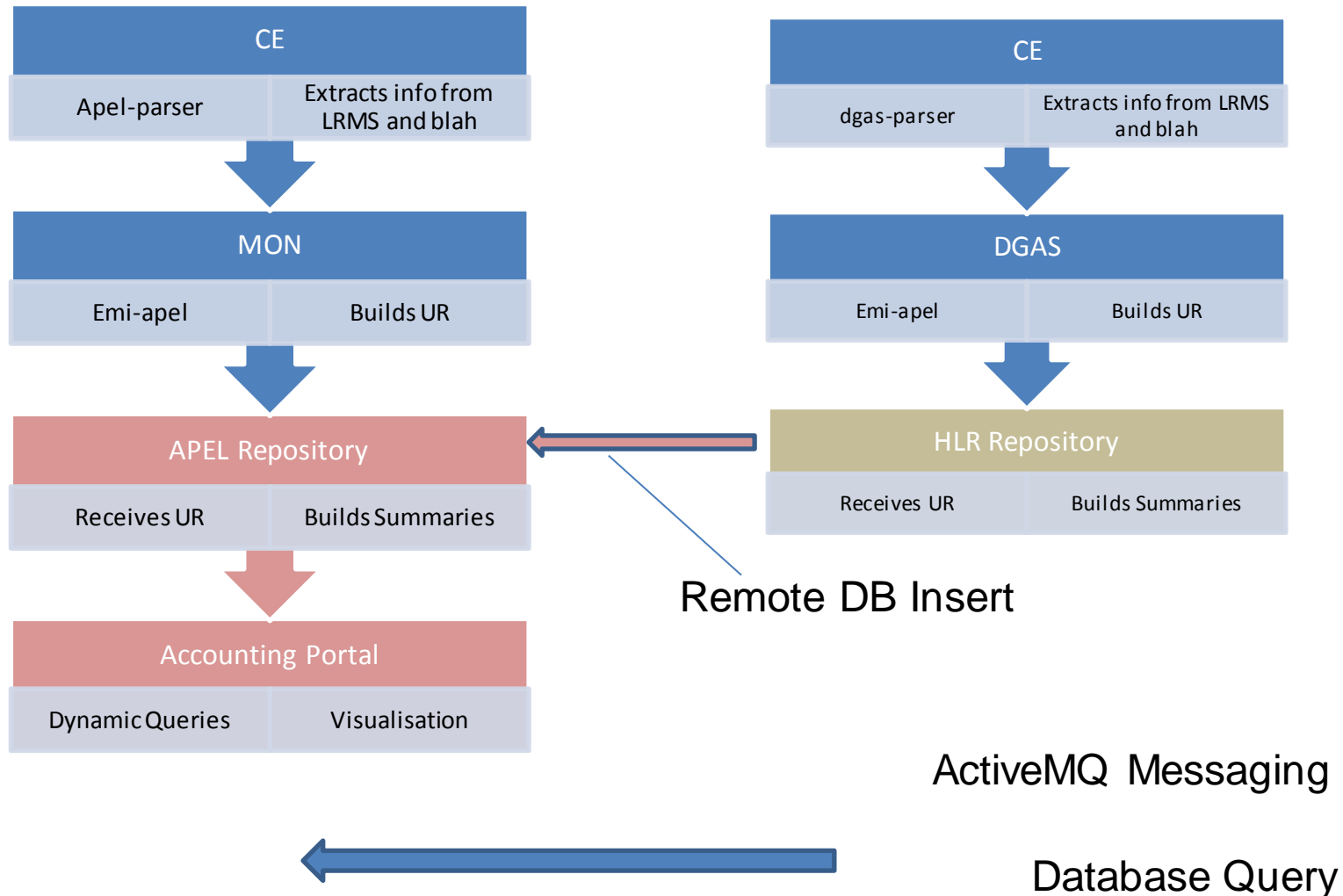
*From EMI Accounting standards to  
EGI Accounting Services*

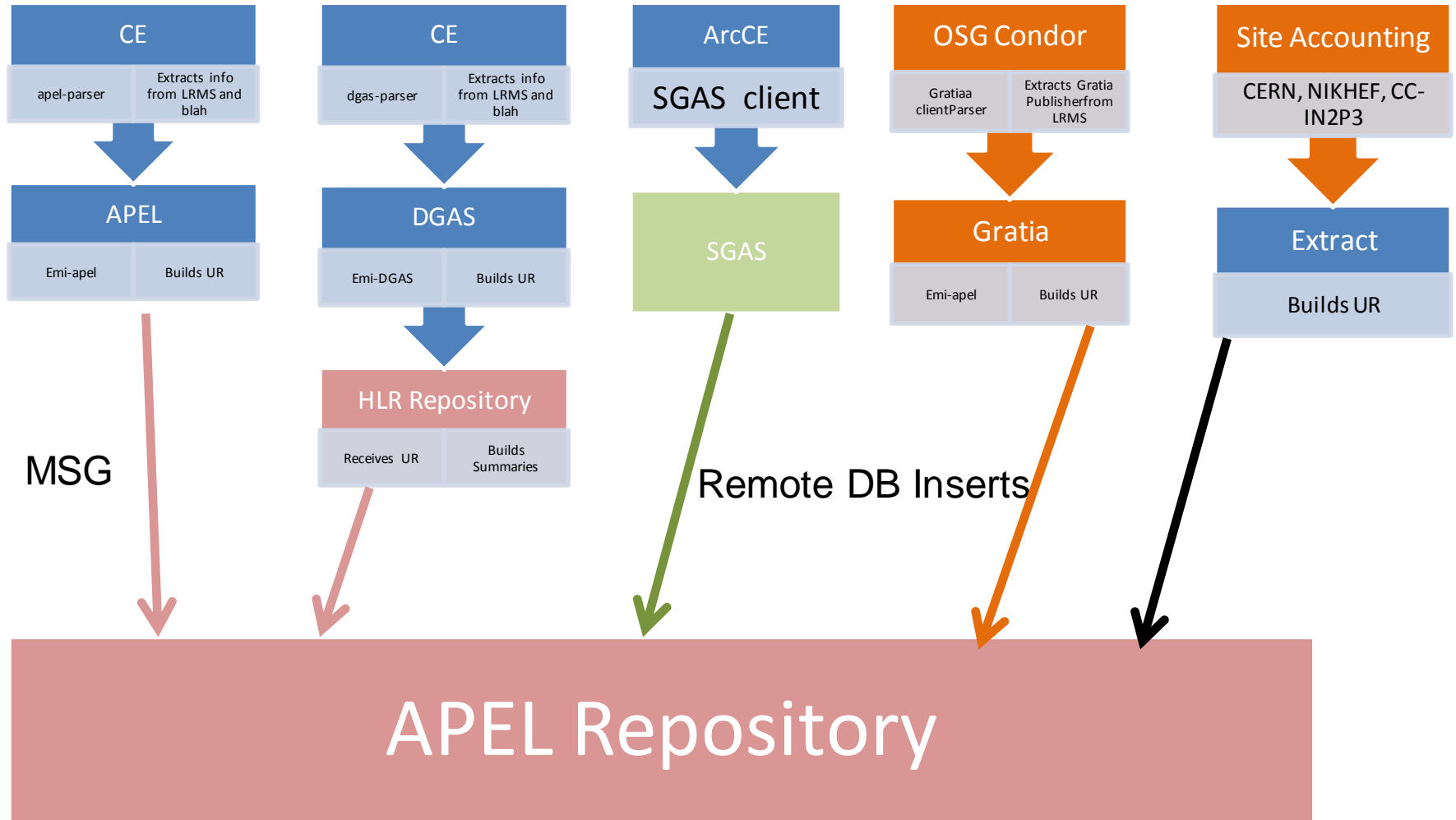
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EMI AHM October 2011, Padova

- Existing EGI Infrastructure
- New version under development
- Extension to cover more types of site
- New Types of accounting





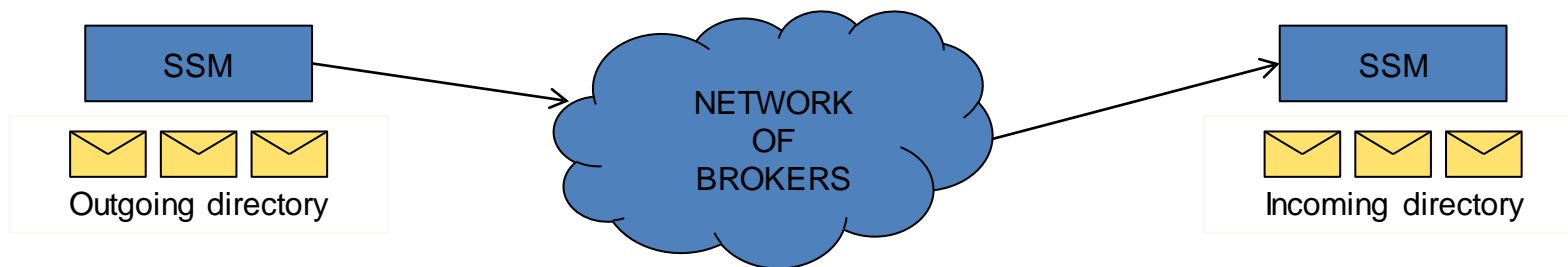


- EGI gathers accounting data in one place for:-
  - All EGI VOs
  - LHC Experiment VOs
  - Other partner VOs (Australia, Asia-Pacific)
- Accounting Portal lets VOs get a global view of their use.

- Version 2 Messaging = SSM
  - Secure Stomp Manager

# What is the SSM?

- Transfers files between computers using Python, ActiveMQ and STOMP
- One SSM is needed at each end
  - Producer and Consumer



- If your SSMs are working, the files get sent reliably

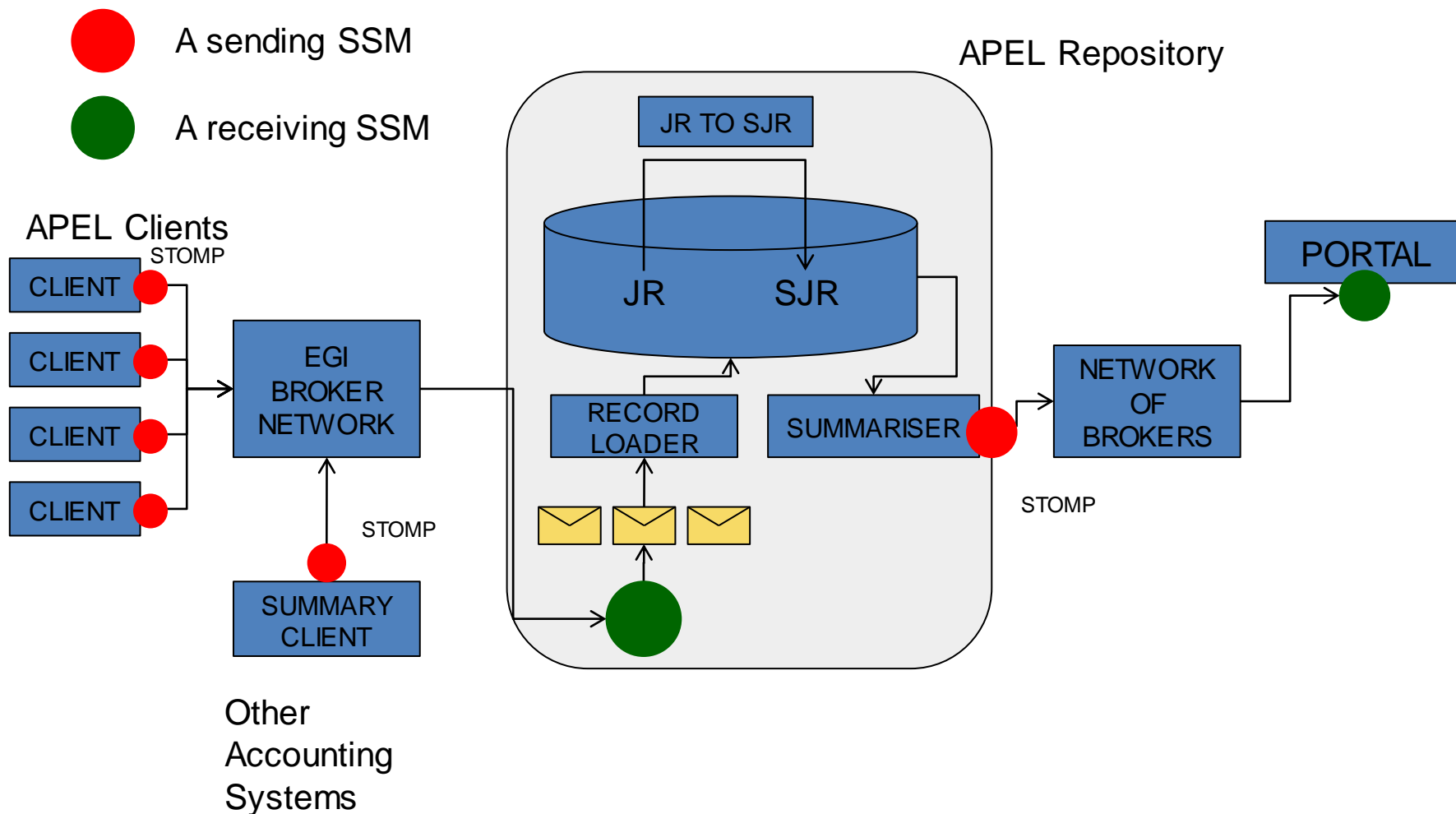


# Why is it good?

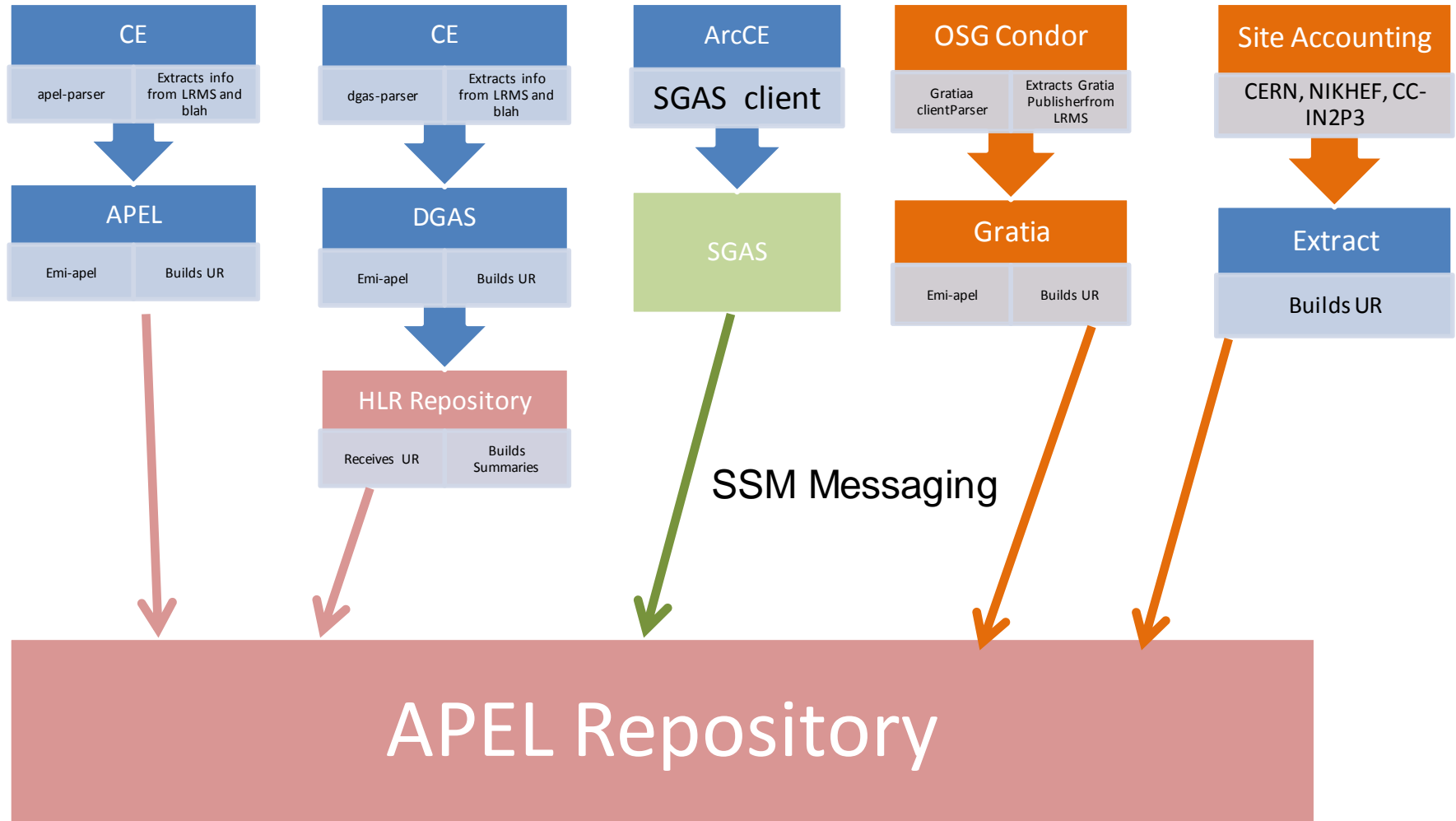
- Messaging 100% separated from storage
  - Re-usable
  - Easy to diagnose problems
- If the database is down – consumer still up
  - Incoming messages still written to disk
- Using EGI network of brokers provided
- STOMP protocol used by other tools – support available
- Using host certificates to sign and encrypt messages
- Messages are encrypted whenever they're between SSMs
  - EGI policy requirement for User data on the WAN

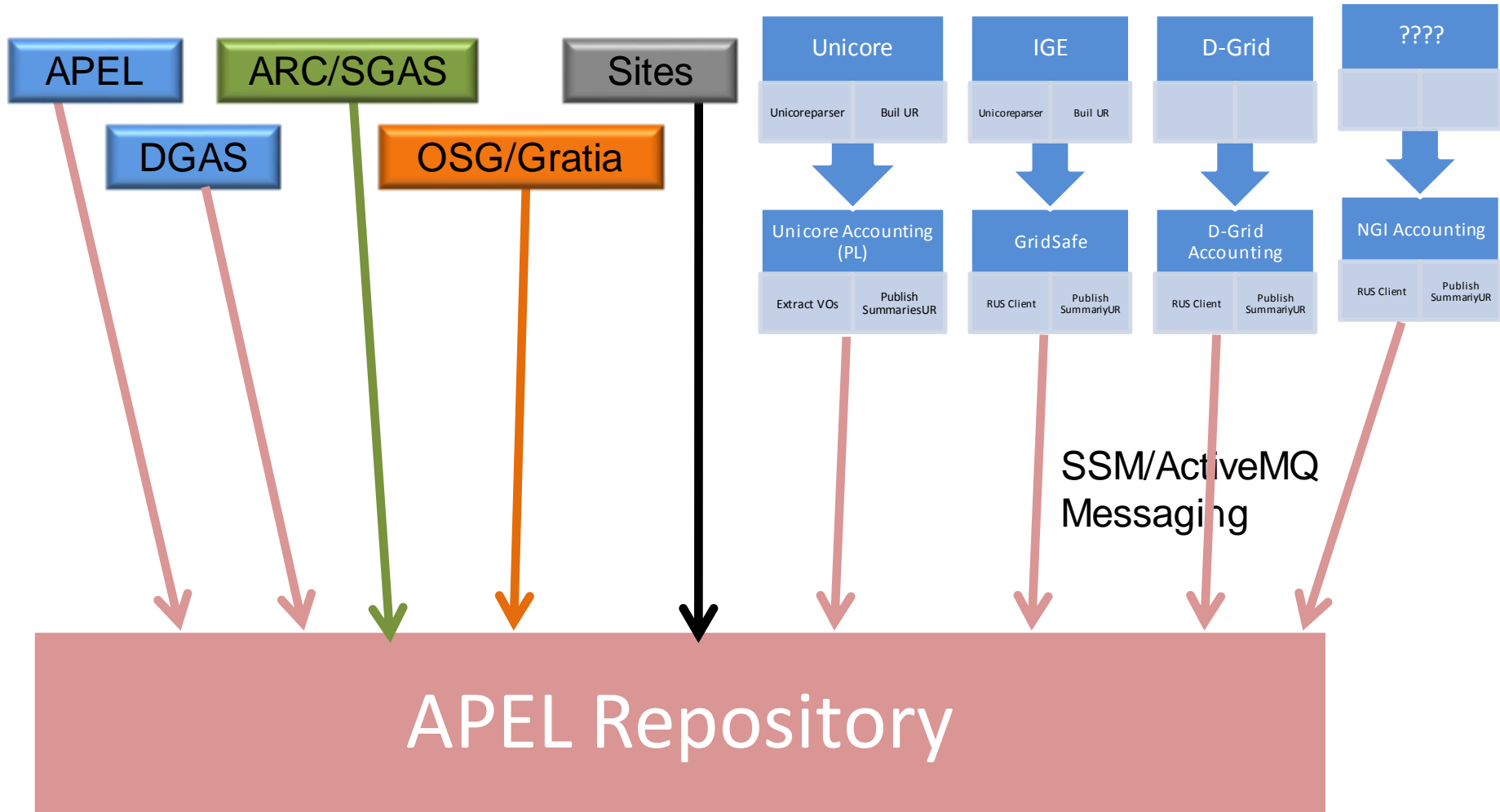
# Why is it good? (cont.)

- Producer and/or consumer mode (same program)
- Message transmission handling: retries, acknowledgements and ack-tracking
  - You know if a message has got through
  - A lost message is never a problem
- Access Control List of valid message producers for authentication
- Independent of message content
- Available To Others



- Existing systems (DGAS, SGAS, OSG, etc) will move to using SSM
  - Or the same format
  - Under test
- Distribute as a national accounting service
- Extend to Other Clients
  - Some under test already





- APEL uses OGF-UR 1.0 Schema
  - With extensions
- Tracking the work of EMI Compute Group
  - And participating
- Currently use key=value format of schema.
  - Straightforward to accept XML document version in SSM messaging.
  - More work to implement OGF RUS-WS
    - Although we have a prototype in UK

- The new EGI Infrastructure will leave us in a good position to extend it to accept other types of accounting record.
  - Configure consumer to vary workflow according to record type
  - Designed in to allow schema evolution
  - Different instances of consumer configured to handle different record types
  - Different queues/topics in messaging
- Propose SSM for new record types too.



- StAR – Storage Accounting Record
  - From EMI Data Group to OGF
- EMI Storage Services will gather data to populate StAR
- What then?
  - Need to agree how they publish UR into the infrastructure
  - EMI or EGI?
  - Hope to be the same way for each service
    - Common service or common code
- Evangelise to other storage products.

- EGI has plans to address accounting of:
  - Clouds/Virtualisation
  - Applications
  - Data Centre Use
  - MPI
  - Services

- Decide what you want to account
- Define a draft Usage Record
- Get agreement
- Gather data to populate UR
  - For each service of relevant type
- Publish UR into an Accounting Infrastructure
  - ditto
- Decide and implement workflows for data
  - In receiving infrastructure
- Decide and implement reporting and visualisation

- Compute Record
- StAR
- MPI
- Services