

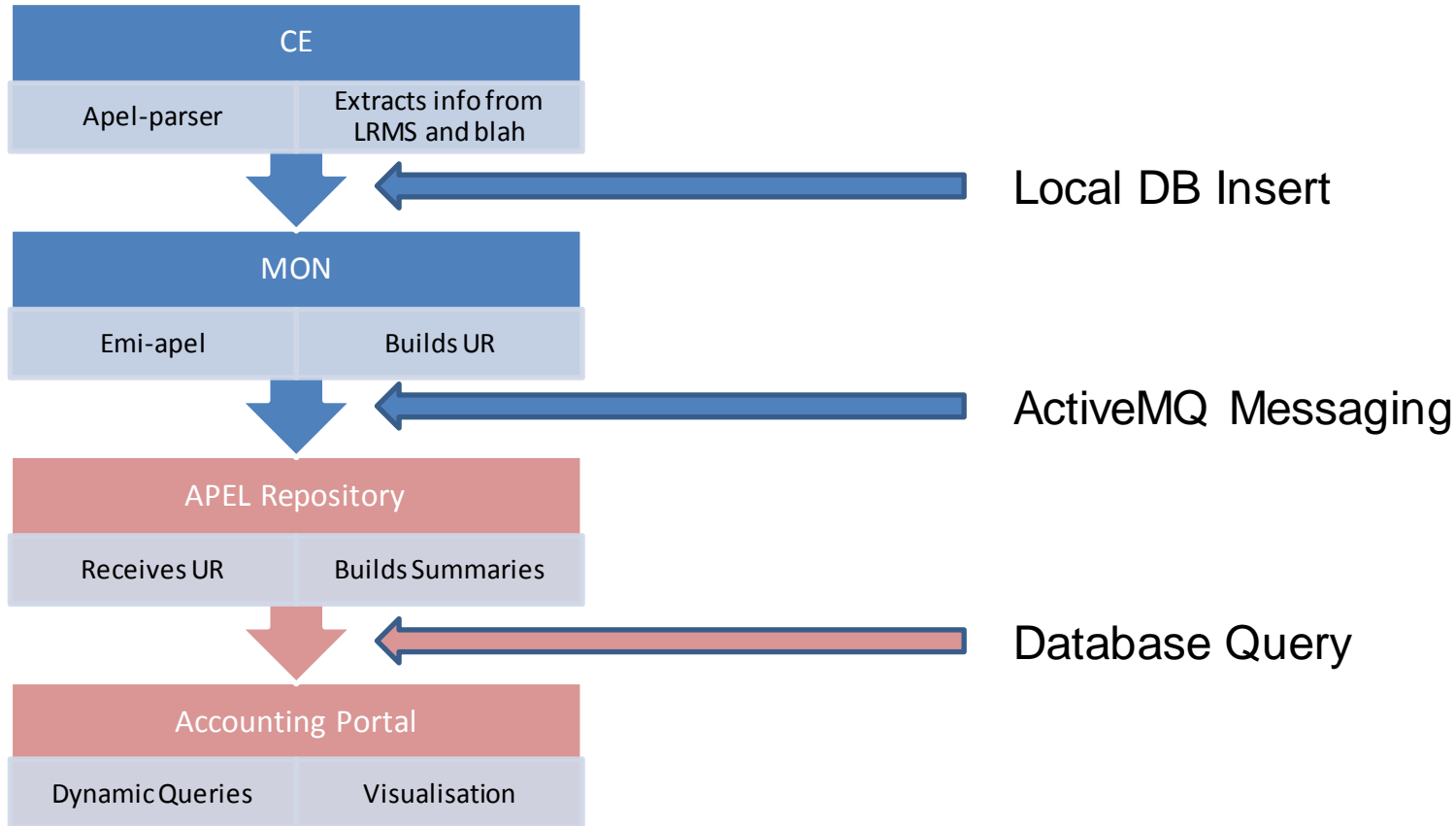
Accounting in the Wild.

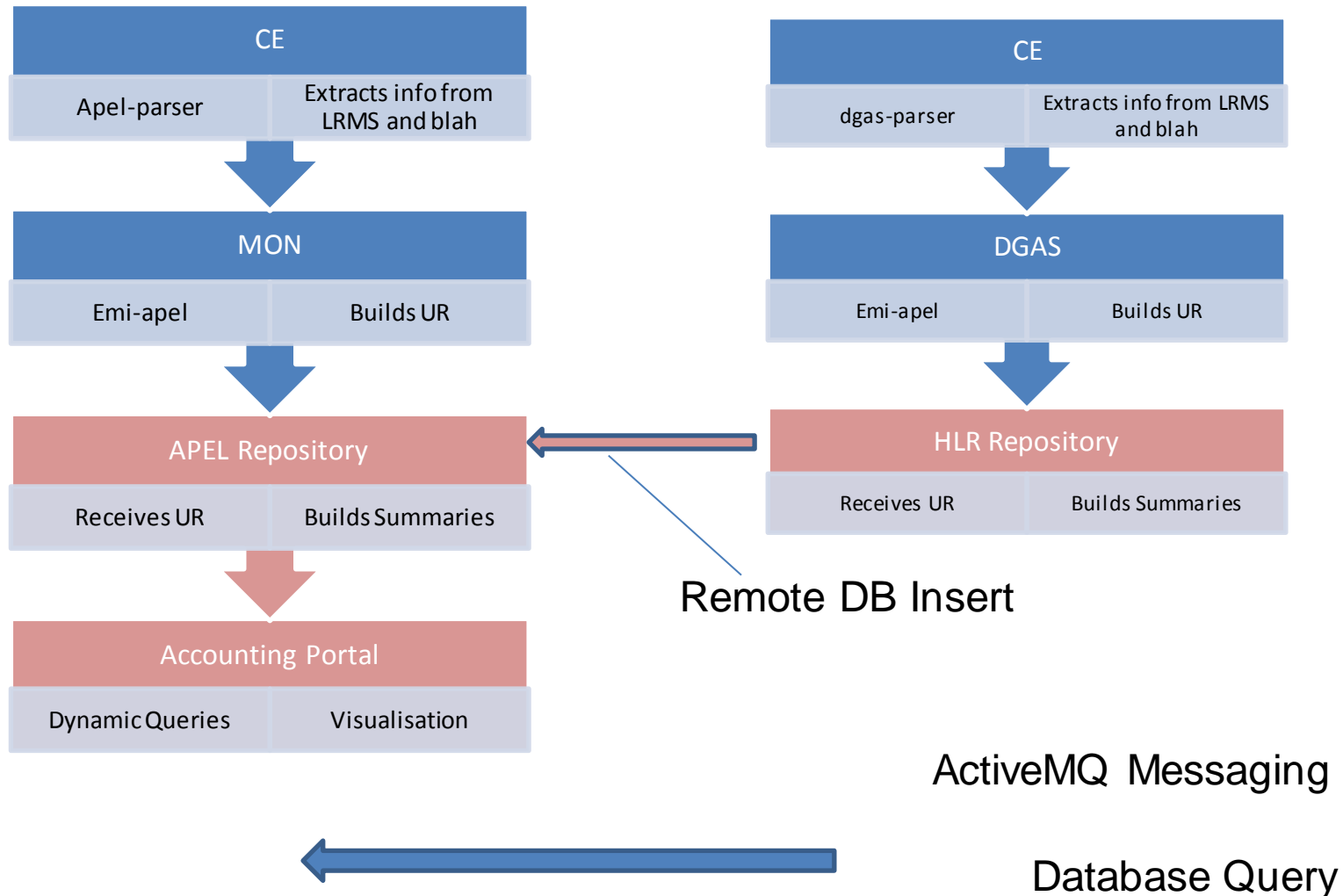
*From EMI Accounting standards to
EGI Accounting Services*

John Gordon

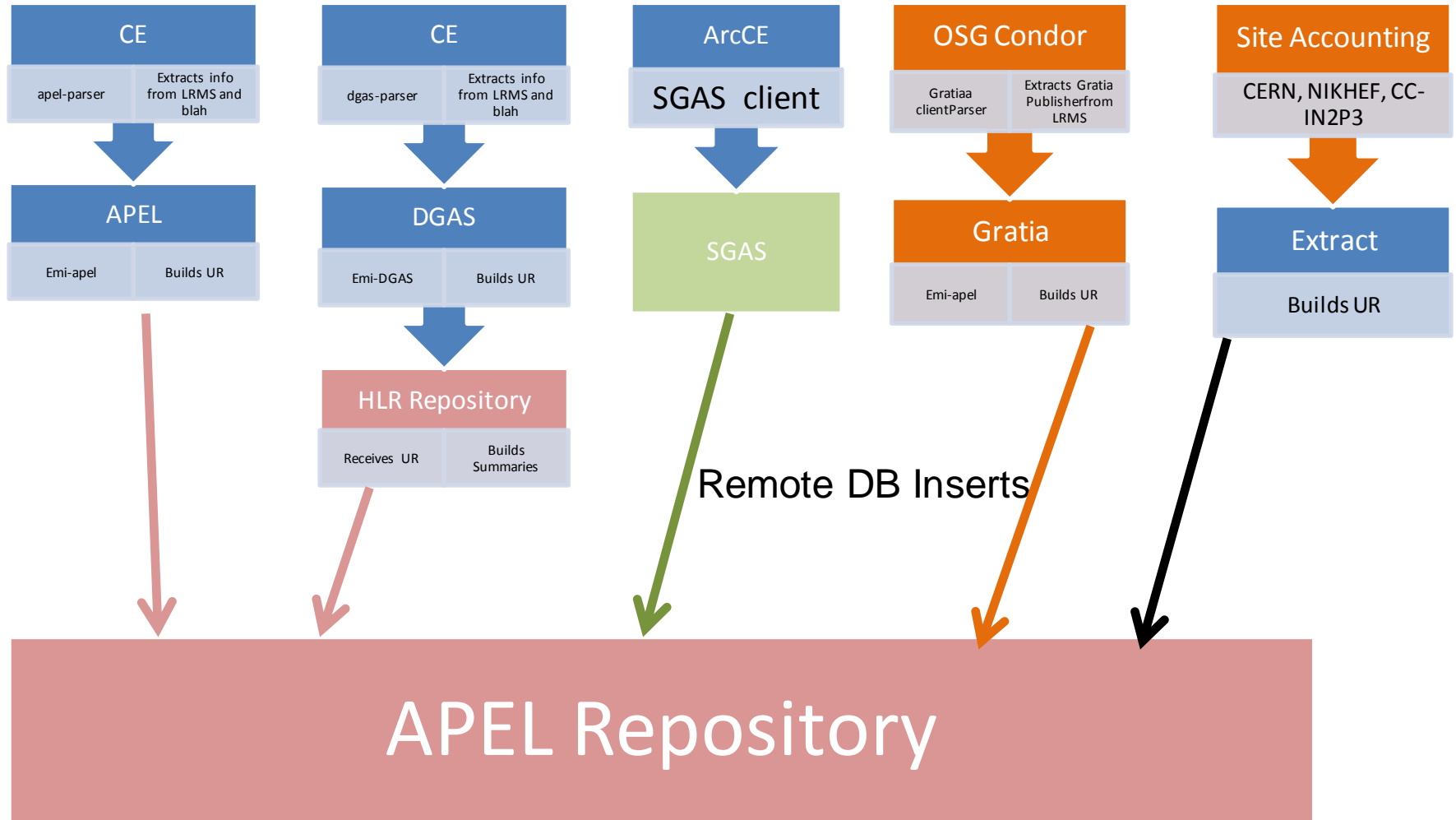
EMI AHM October 2011, Padova

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





Existing EGI Infrastructure

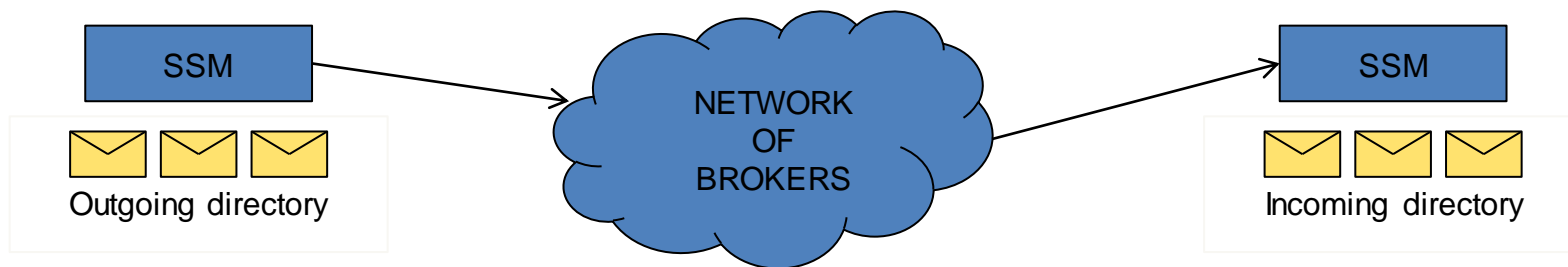


- EGI gathers accounting data in one place for:-
- All EGI VOs
- LHC Experiment VOs
- Other partner VOs (Australia, Asia-Pacific)

- 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



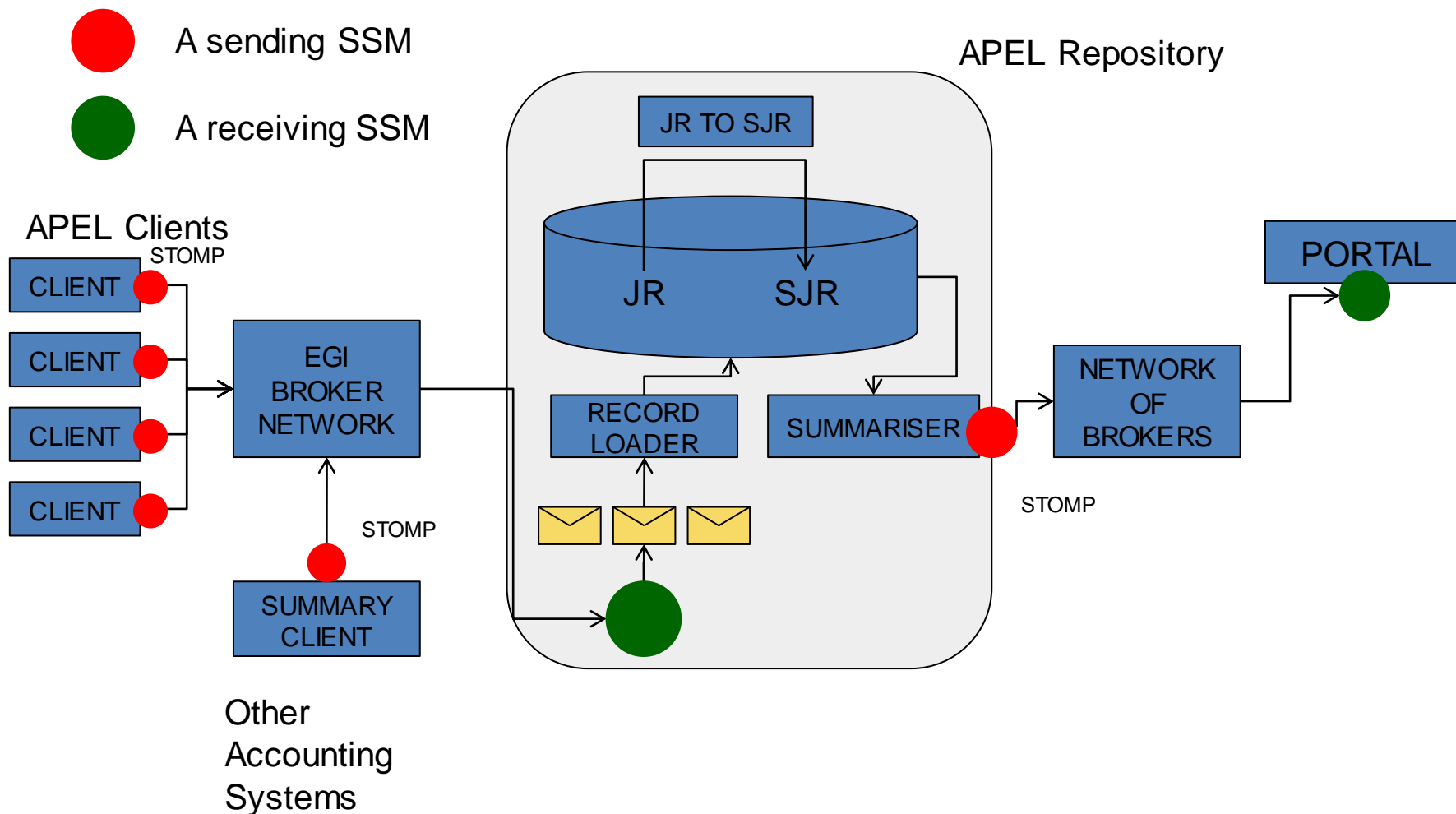
- If your SSMs are working, the files get sent reliably

Why is it good?

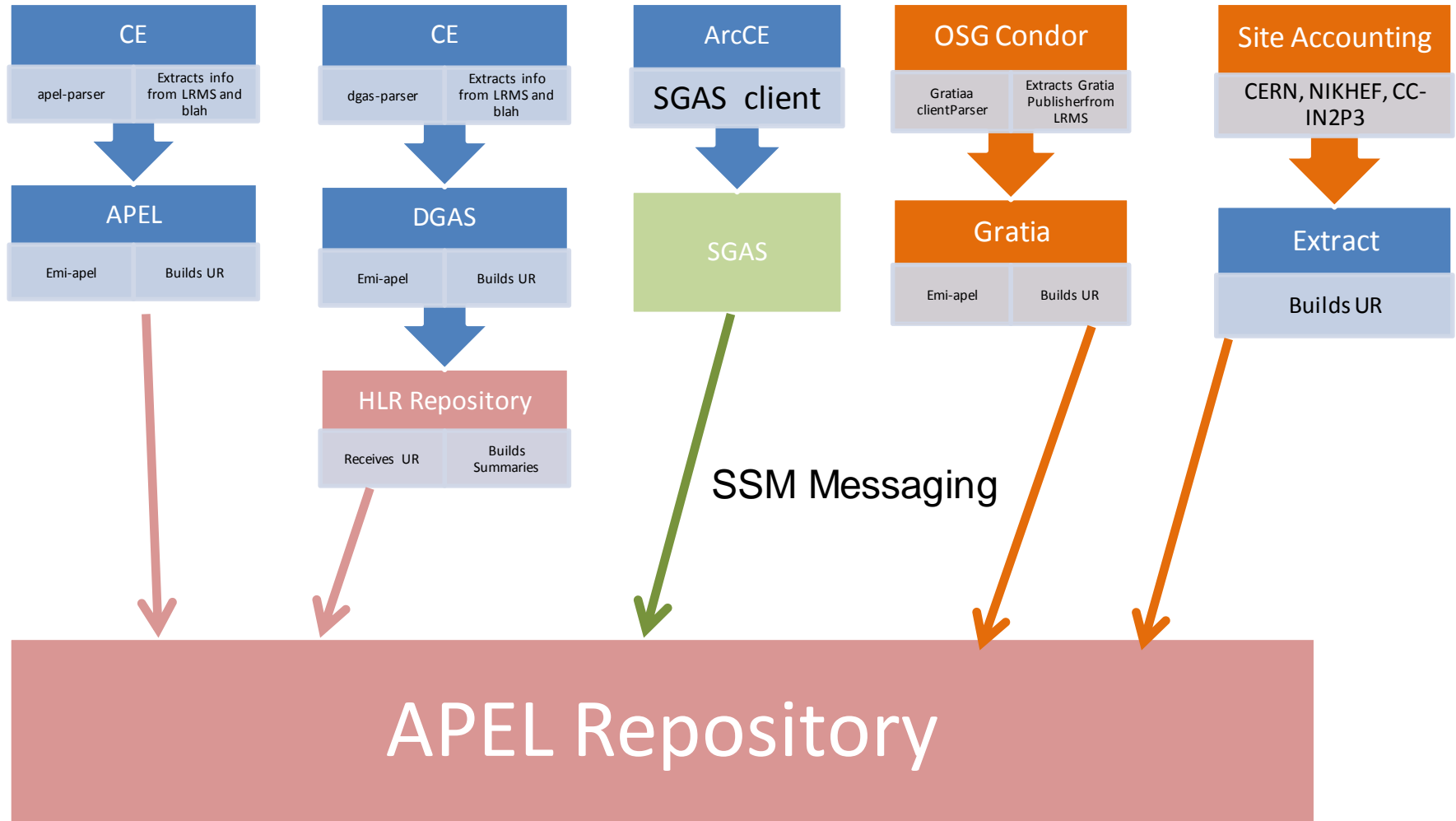
- Messaging 100% separated from storage
 - Re-usable
 - Easy to diagnose problems
- If the database is down – consumer still up
 - Incoming messages still written to disk
- Using EGI network of brokers provided
- STOMP protocol used by other tools – support available
- Using host certificates to sign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

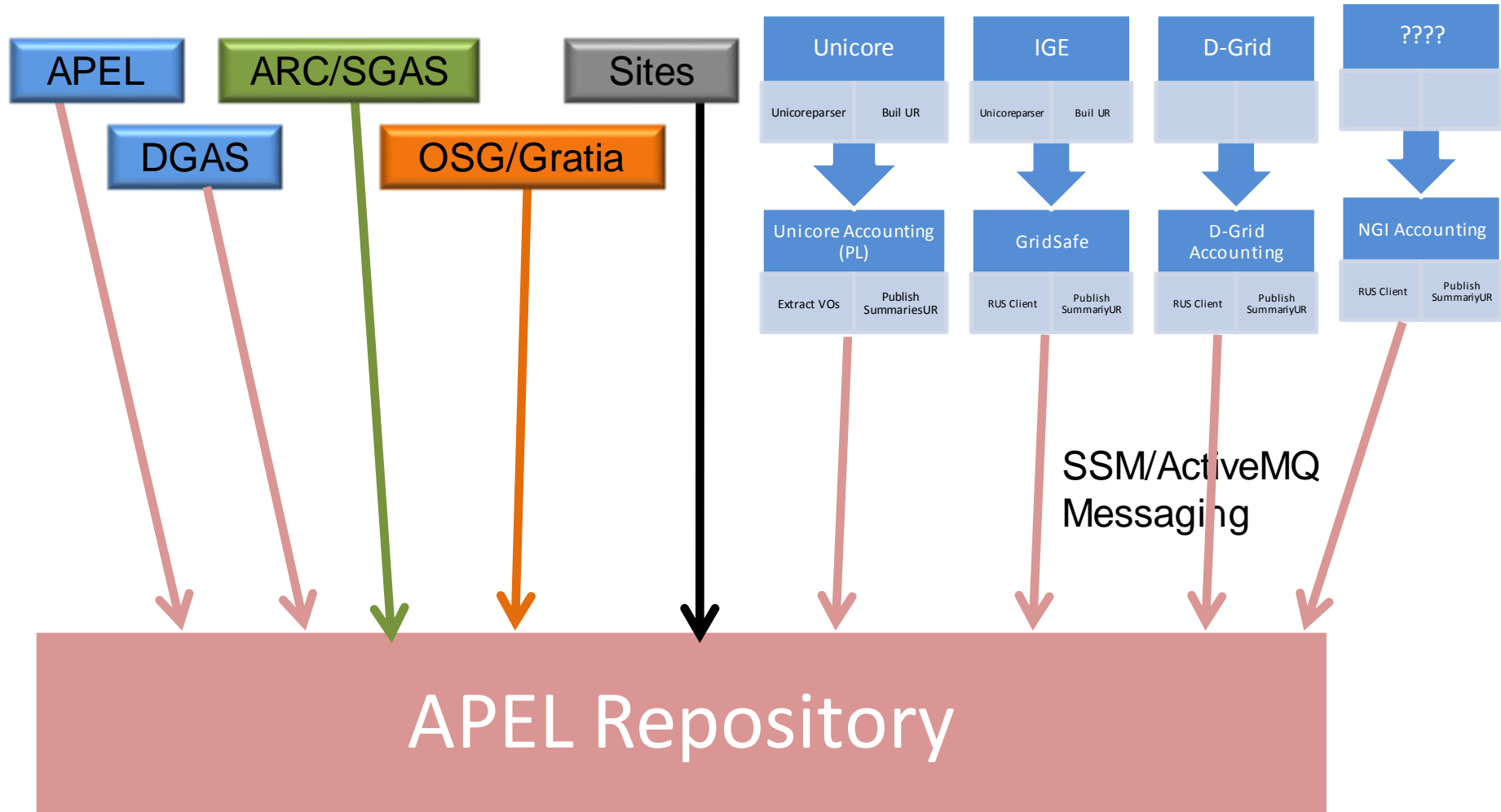
Why is it good? (cont.)

- 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