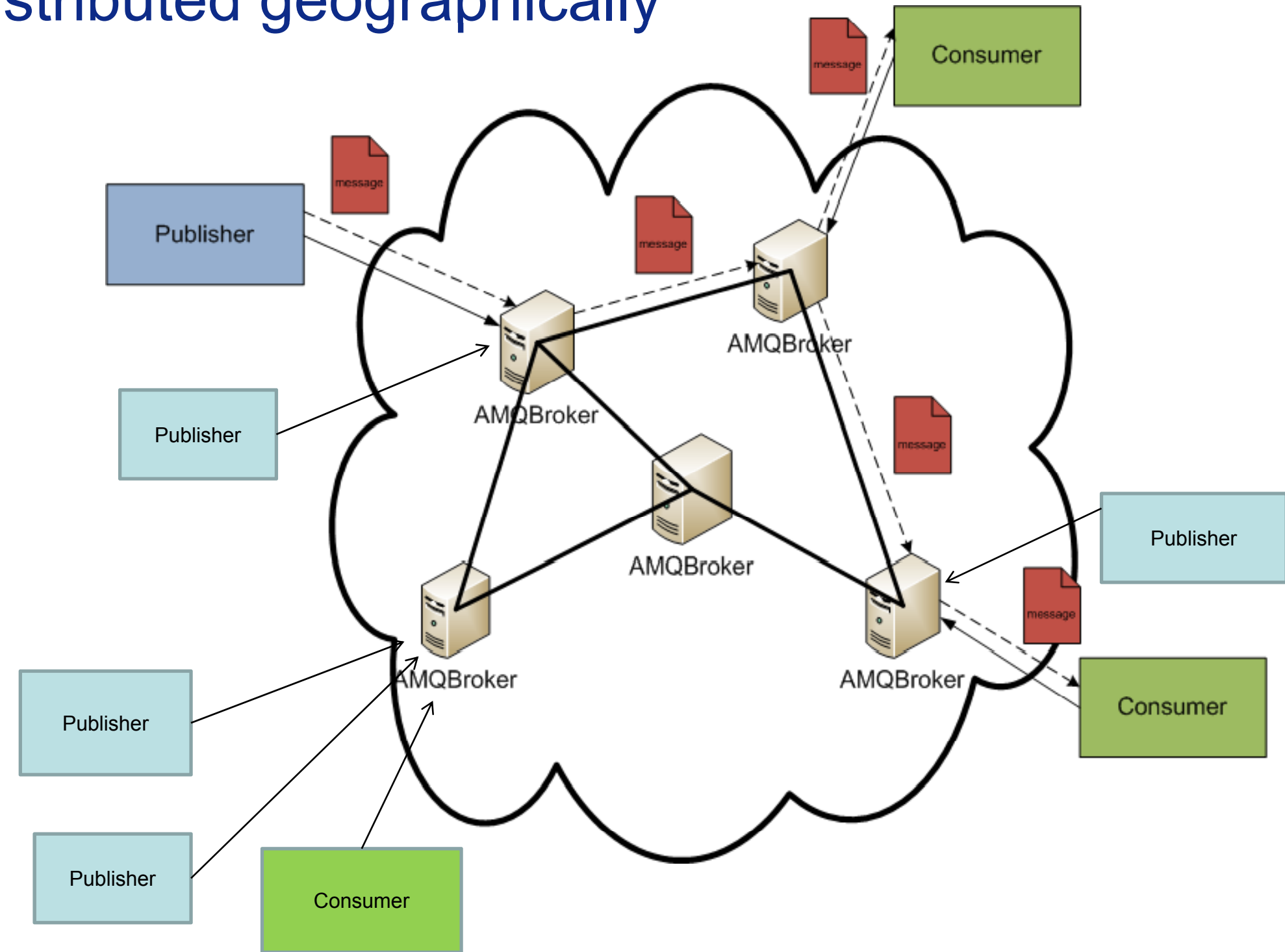


Daniel Rodrigues, James Casey – CERN IT/GS

## Why using Messaging Oriented Middleware (MOM)?

MOM is a solution for integrating software that is:

- running on different platforms
- written in different languages
- following event-driven processes
- highly distributed geographically



## Advantages

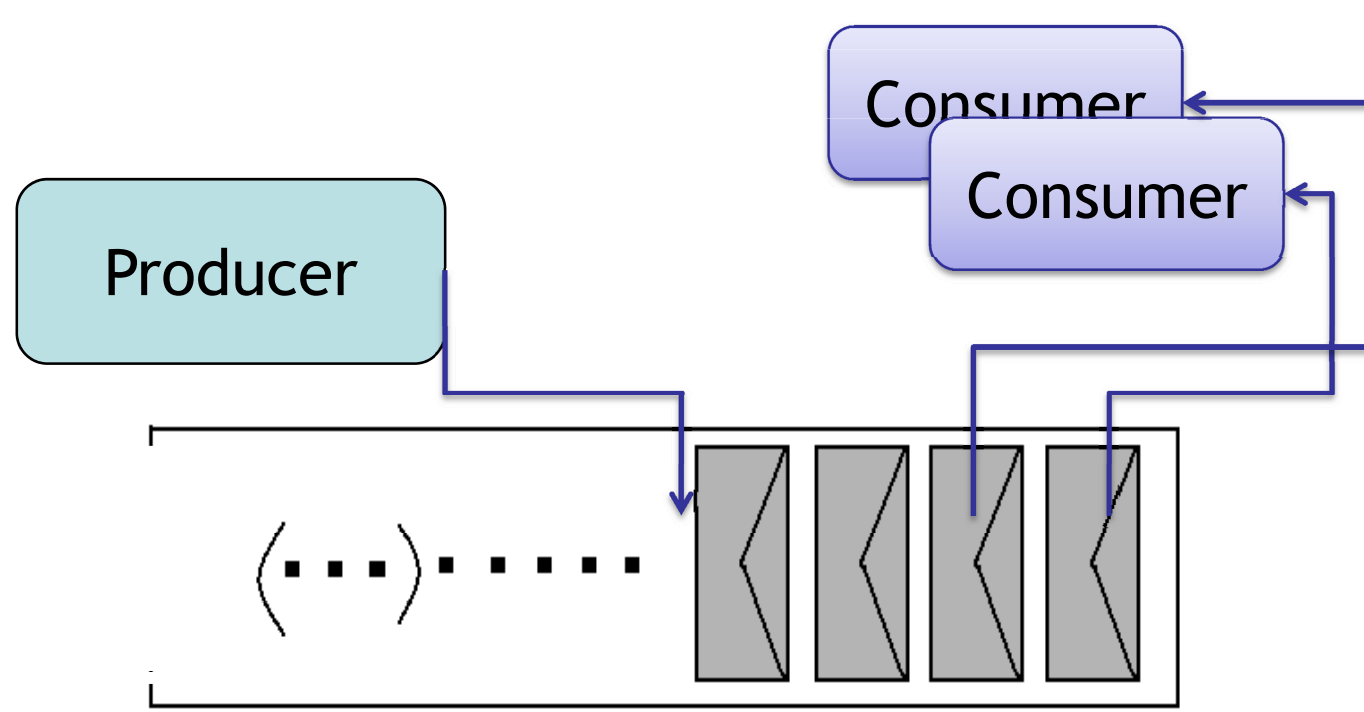
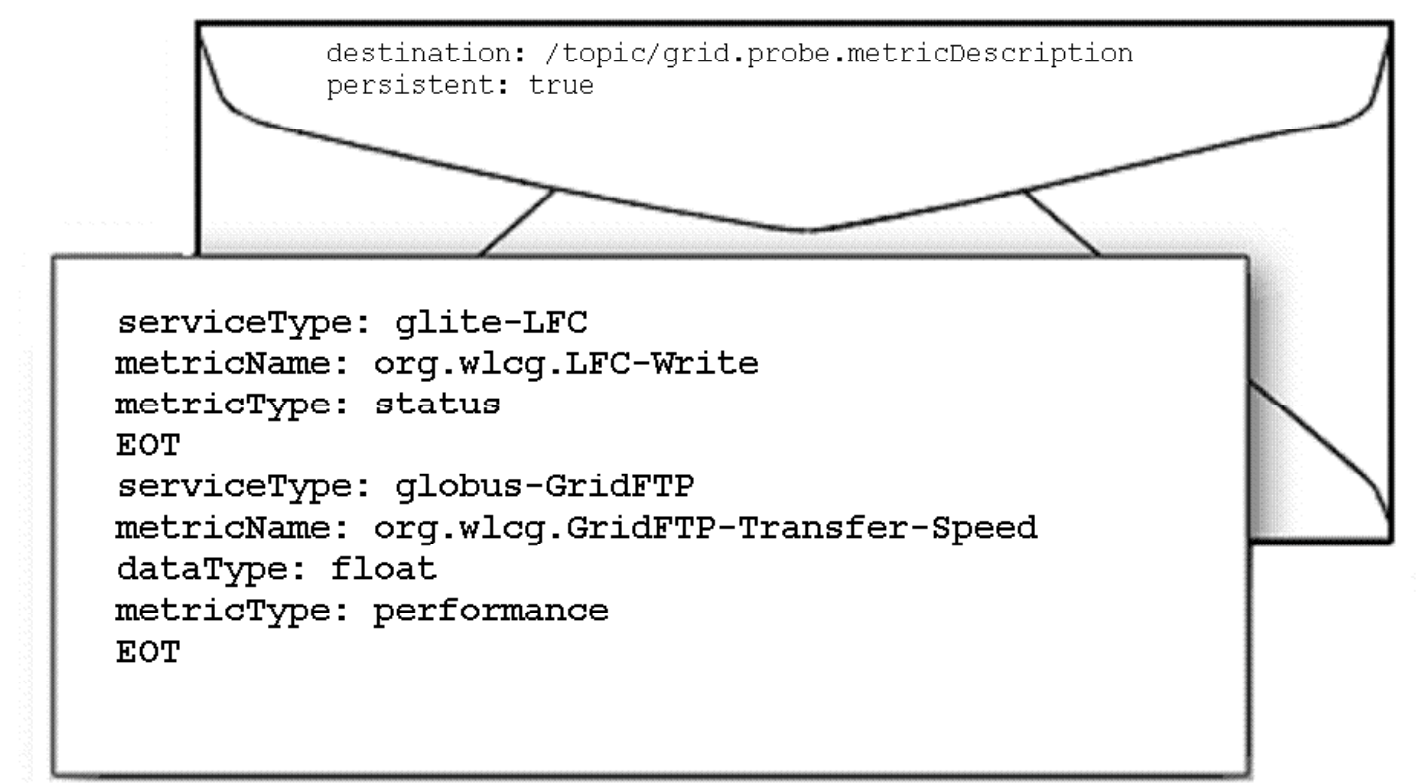
- **Flexibility:**
  - Clients may be short lived, and added to the system on the fly.
  - Messages can be persisted for unreliable consumers.
- **Reliability:**
  - Message delivery guaranteed to temporarily unavailable consumers.
- **Scalability and routing:**
  - Network of brokers

## MOM Core Concepts

### Message:

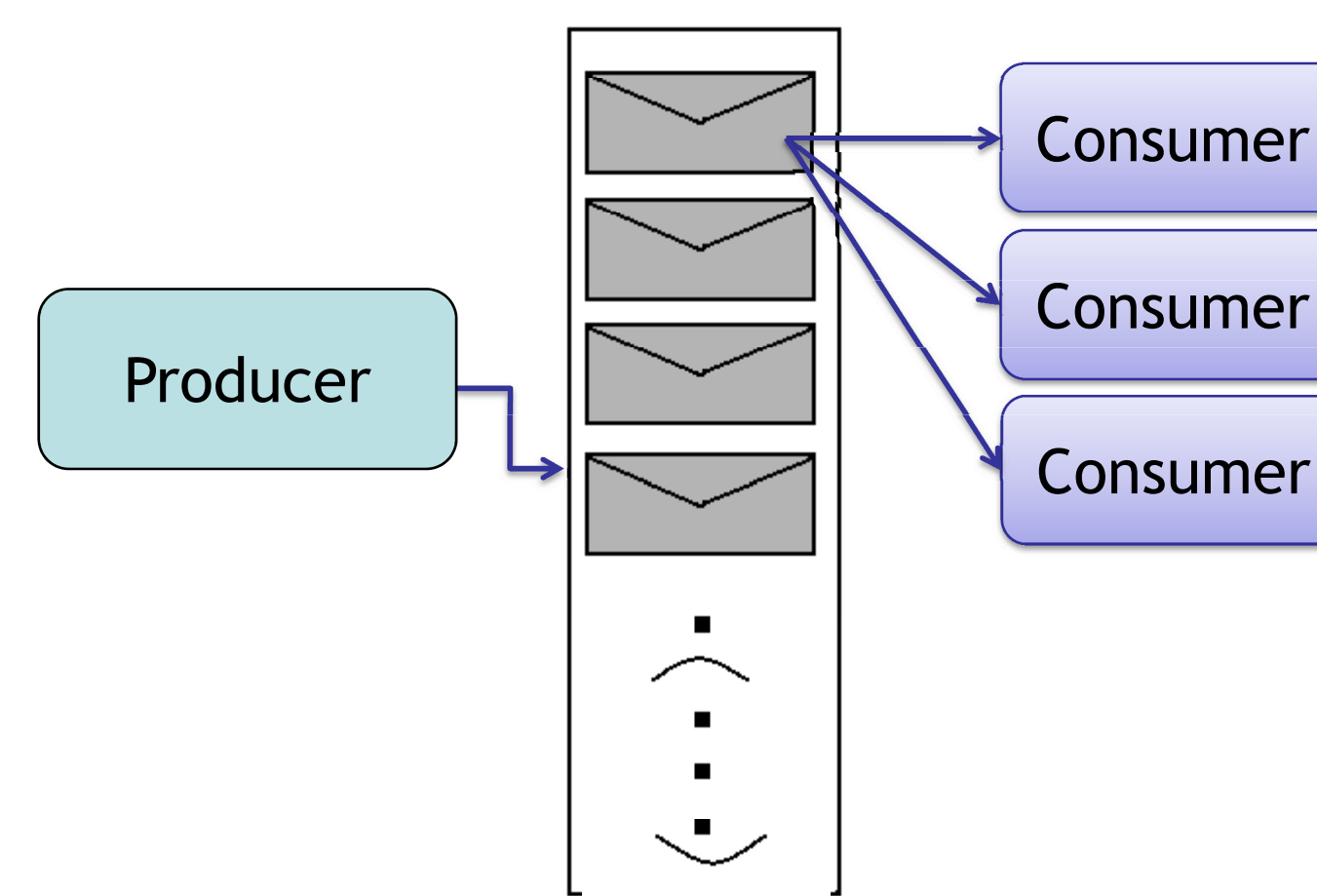
-Header :: carries message routing information

-Body :: data to be sent across applications



### Channels:

-Point to point (queue) :: messages kept on the channel until consumed by one and only one consumer.



- Pub-sub (topic) :: any consumer may subscribe to the channel, and messages will be delivered to all subscribers.

Channels are implemented in broker, which acts as a router of messages.

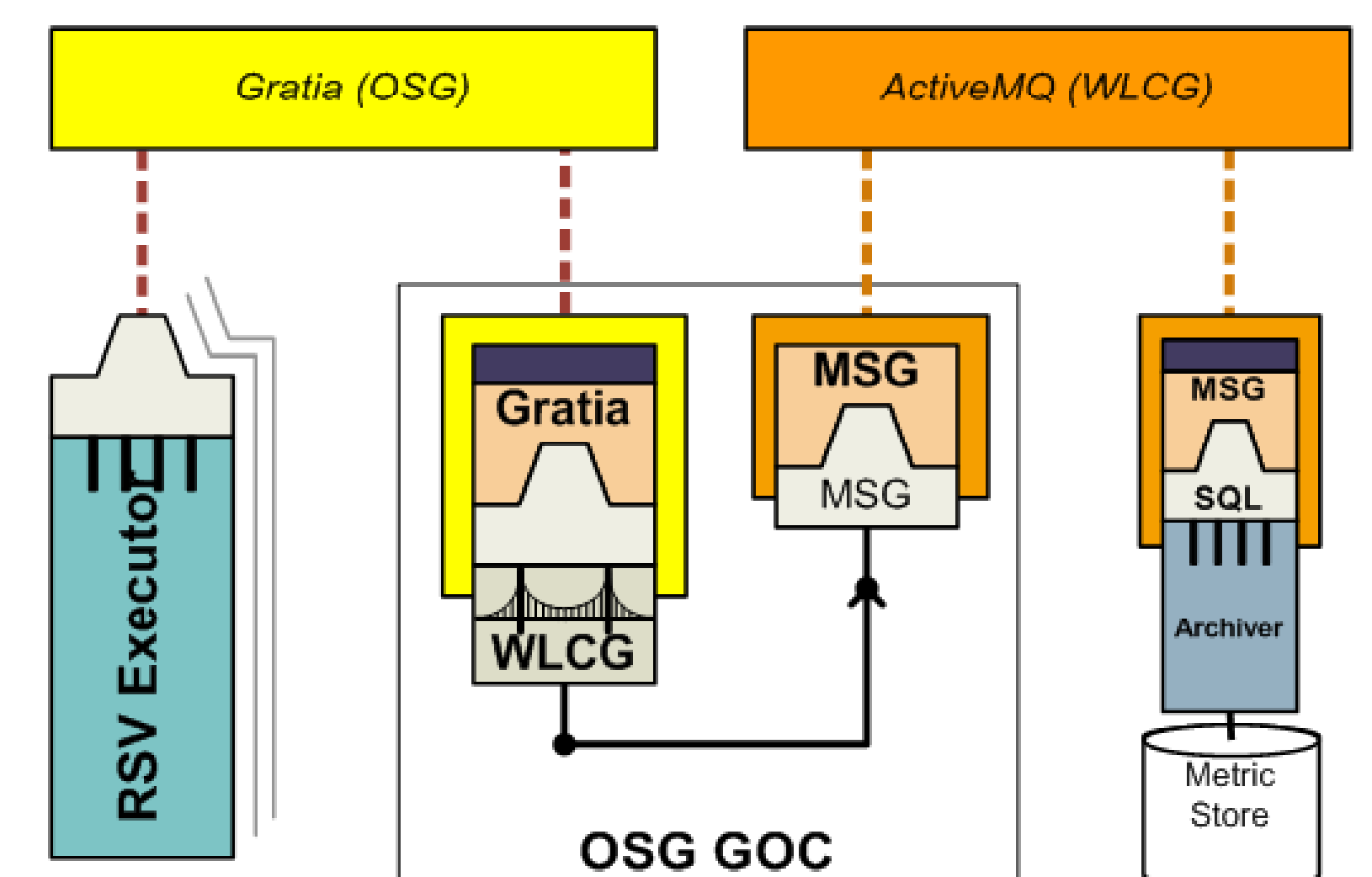
## Messaging System for Grids (MSG)

Messaging implementation for WLCG consisting of:

- Lightweight clients (Publishers & Consumers)
- Messaging infrastructure based on ActiveMQ broker ( Apache )
  - Supports open messaging protocols ( STOMP, JMS ).
- Message formats defined in separate specifications.

## Applications in WLCG

Service Availability (RSV) results from OSG to SAM DB

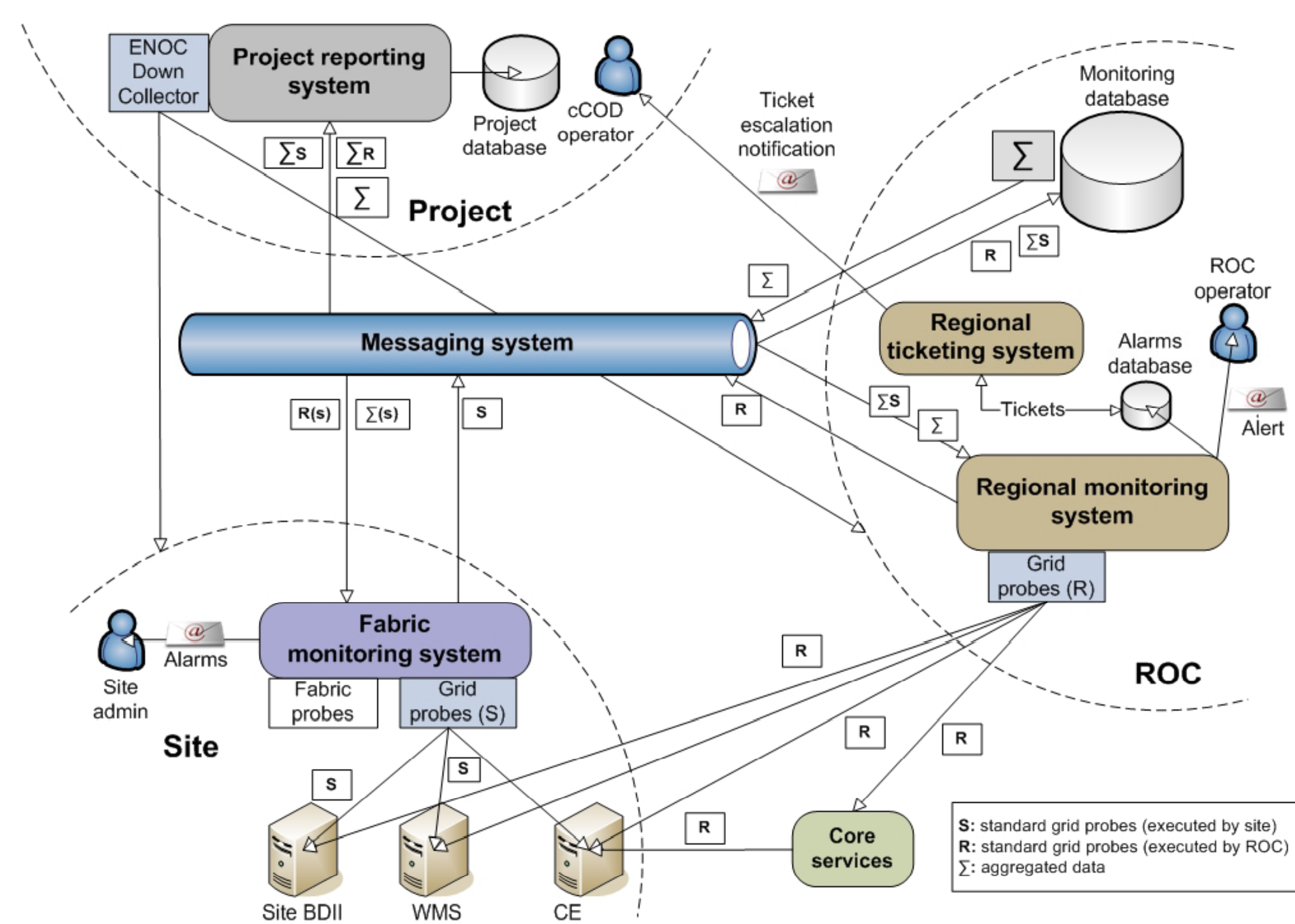
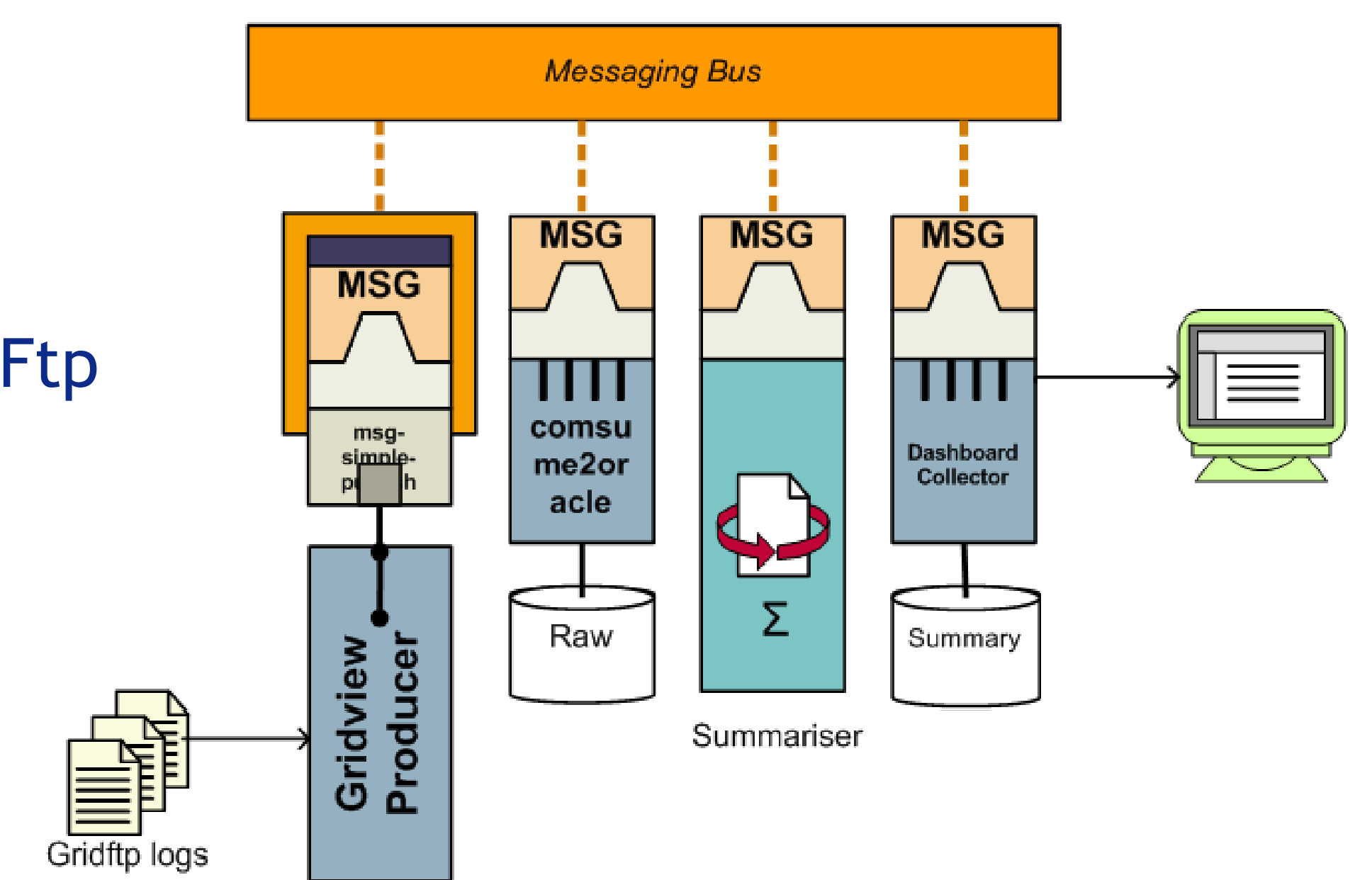


## Why?

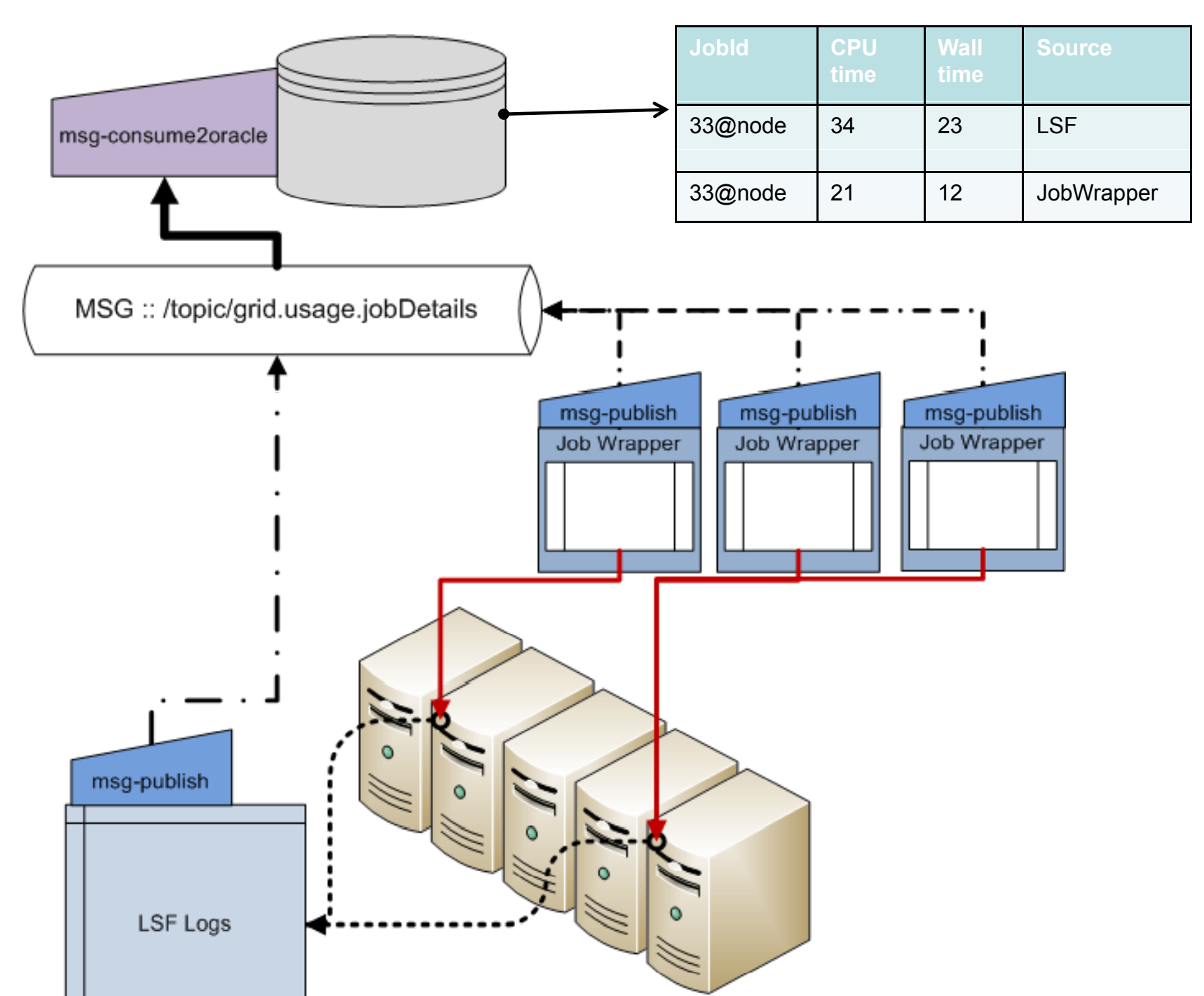
WLCG monitoring context:

- many different tools ( SAM, Nagios, Dashboards, ... )
- many different components
- highly distributed
- asynchronous

Collection of GridFtp Logs for Gridview visualization



Comparison of CpuTime and WallTime gathered on a computing cluster by LSF and Grid Job Wrapper



### EDS is a contributor to the CERN openlab

The purpose of the joint project between CERN and EDS is to carry out research and development in the field of *monitoring, management and operation of Grid services.*

This work is part of the CERN openlab / EDS collaboration and the CERN-IT Grid Services group.



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