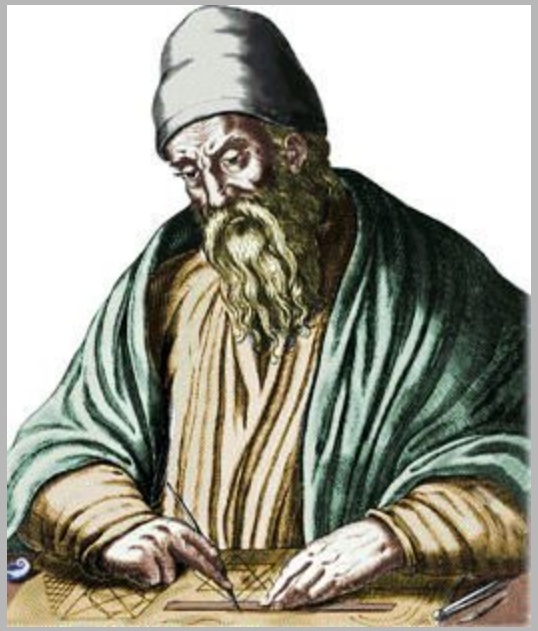
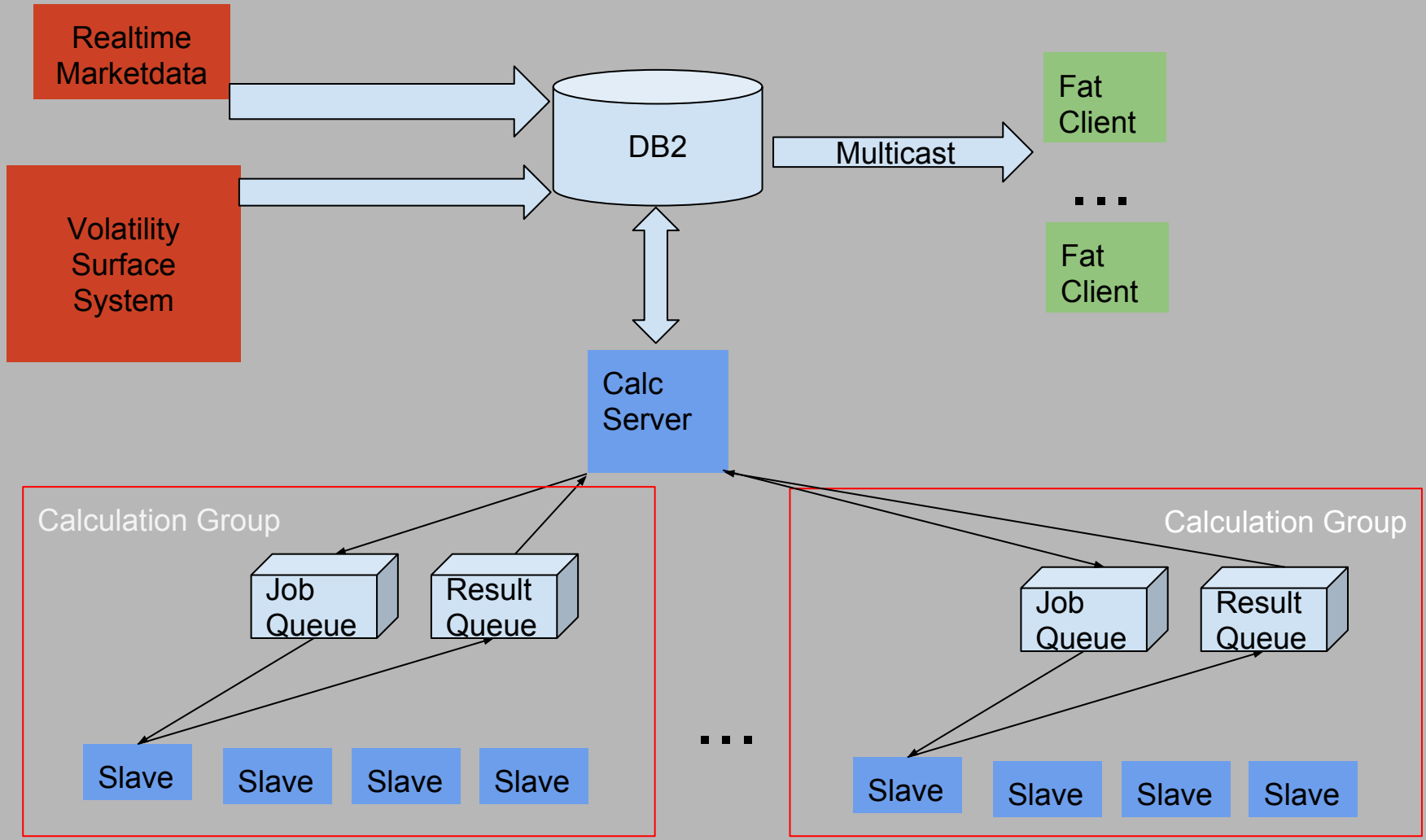
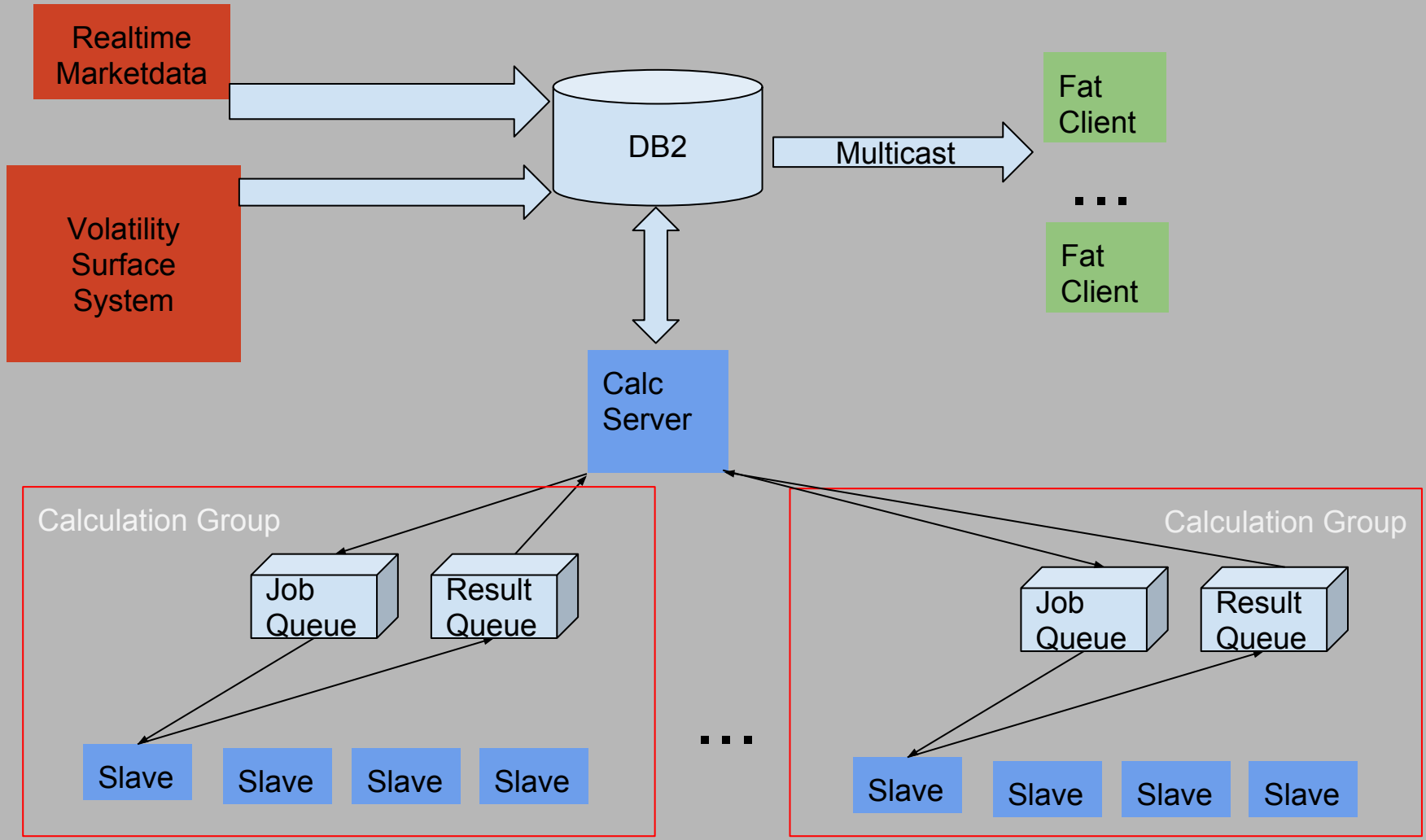
Moving your grid to the cloud
or
"Hardware, who needs hardware?"
or
"Architecture revisited"



Euclid 1 - Architecture


Realtime Marketdata
Volatility Surface System
DB2
Multicast
Fat Client
...
Fat Client
Calc Server
Calculation Group
Job Queue
Result Queue
Slave
Slave
Slave
Slave
...
Calculation Group
Job Queue
Result Queue
Slave
Slave
Slave
Slave

Conway’s Law in Practice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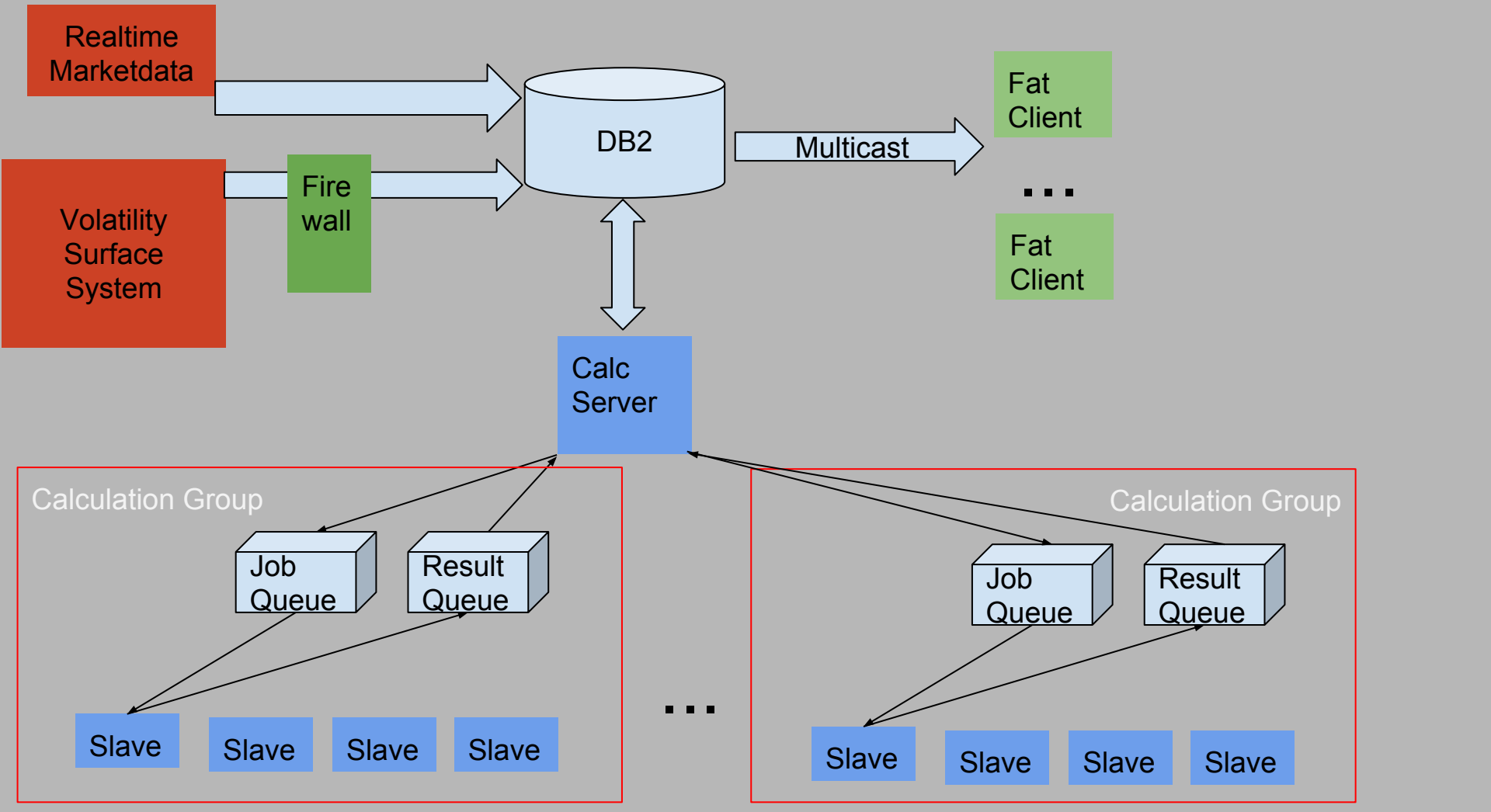
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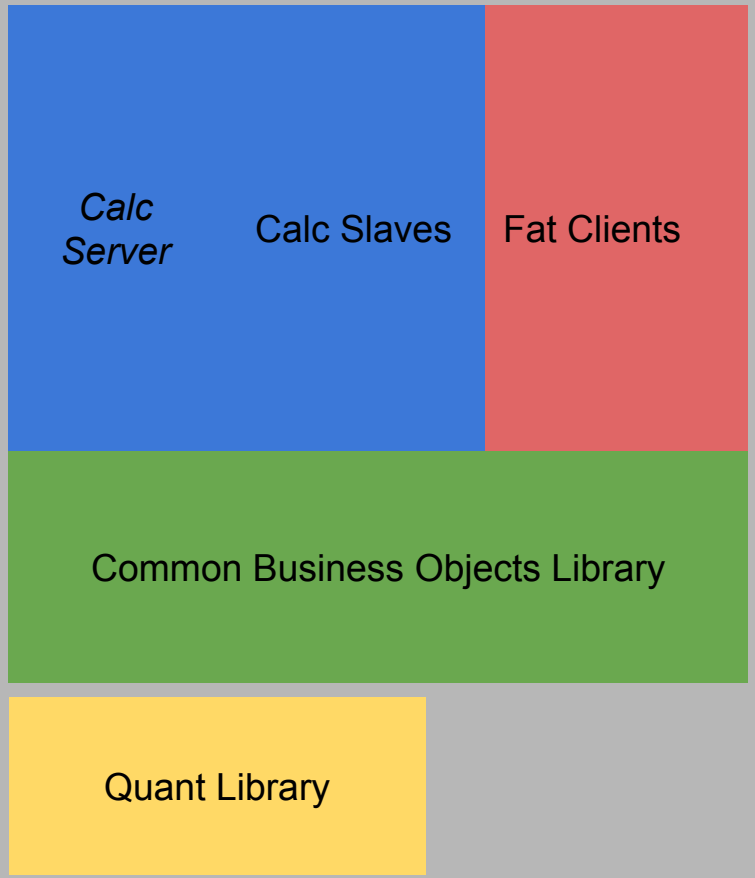
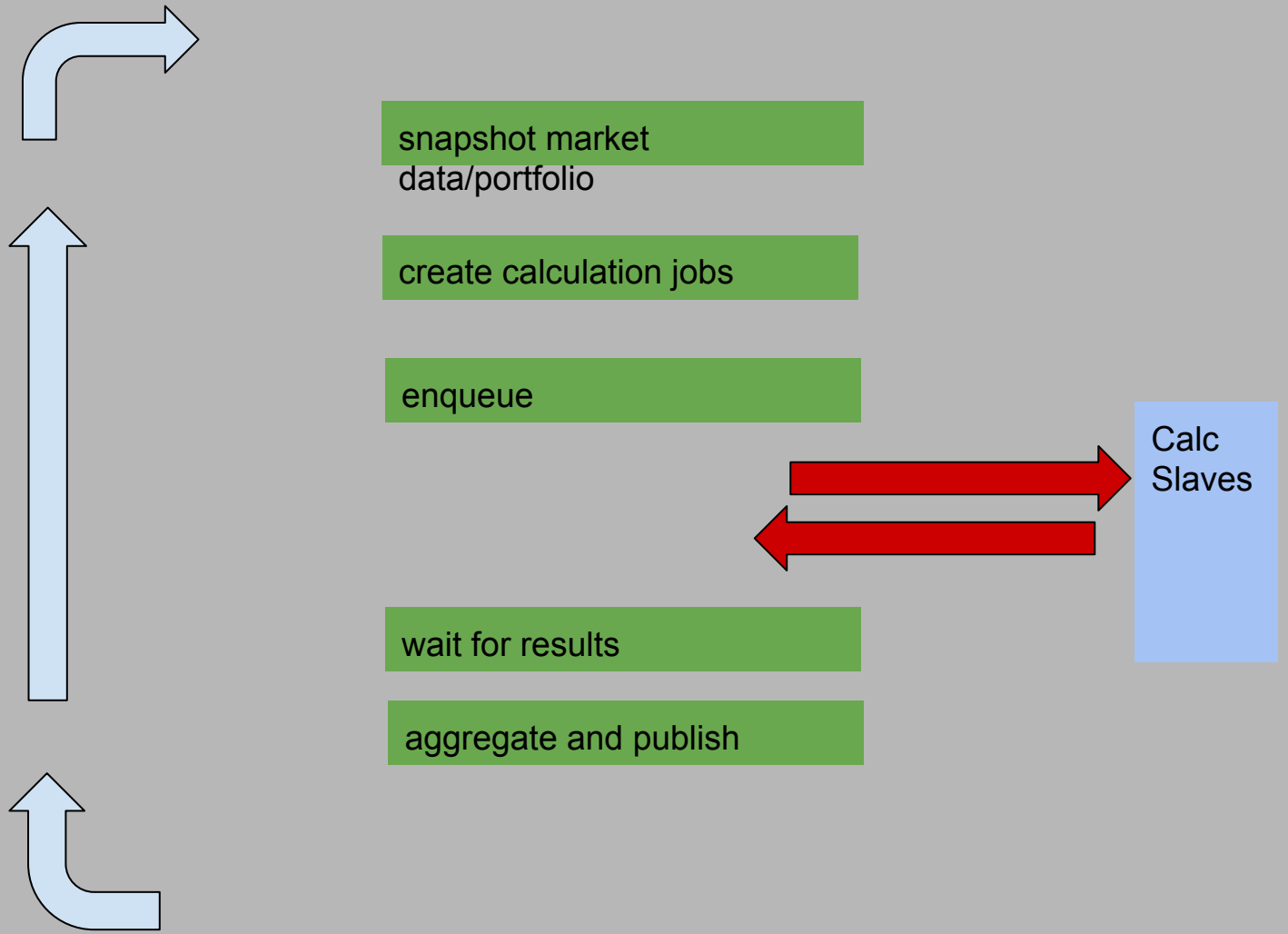

Calc Server
Calc Slaves
Fat Clients
Common Business Objects Library
Quant Library

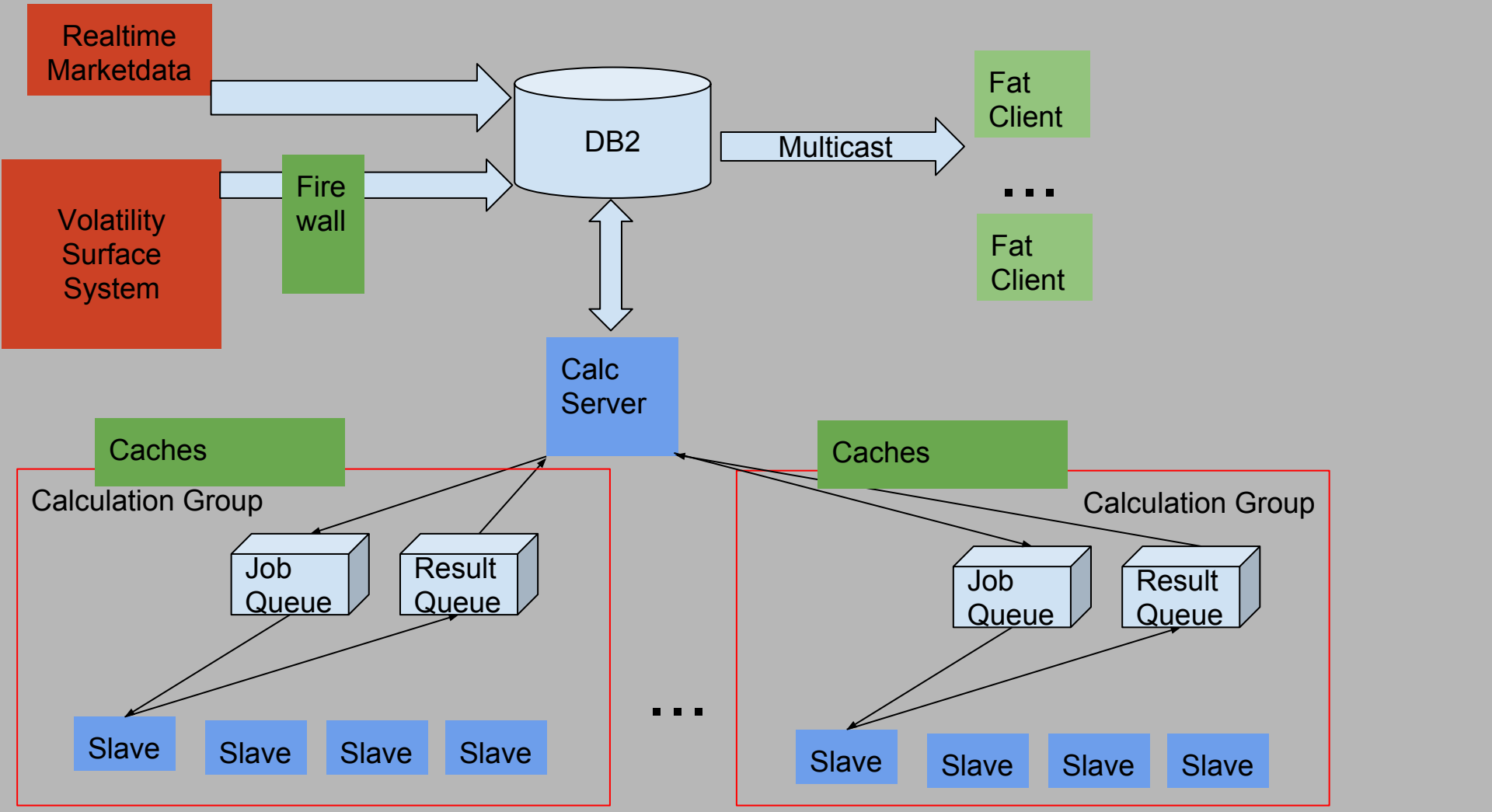
What is the most important requirement?

What is the most important requirement?

consistency


snapshot market data/portfolio
create calculation jobs
enqueue
Calc Slaves
wait for results
aggregate and publish

Growing Pains


Realtime Marketdata
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Fire wall
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Fat Client
...
Fat Client
Calc Server
Caches
Calculation Group
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Result Queue
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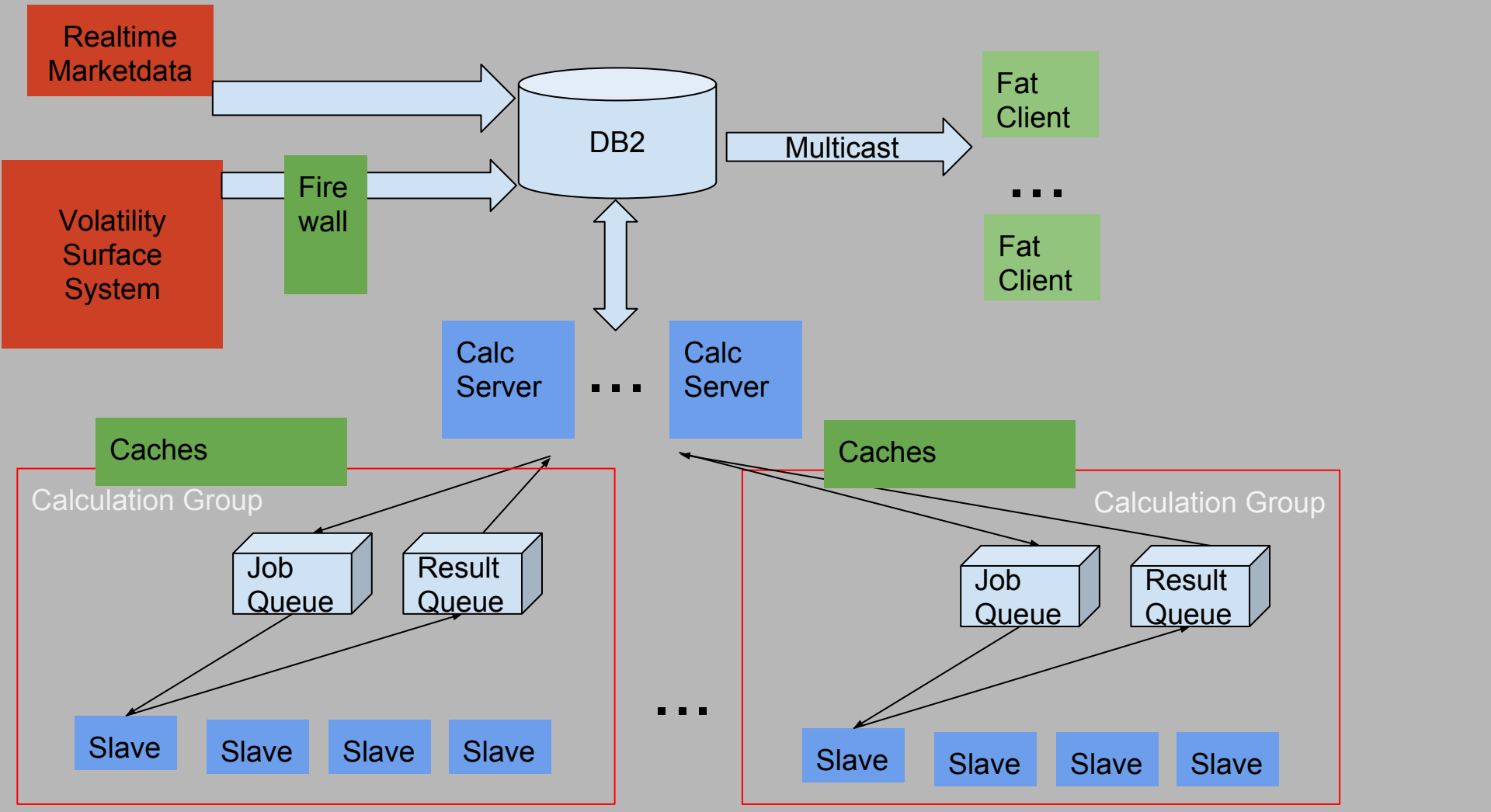
Slave
Slave
Slave
...
Caches
Calculation Group
Job Queue
Result Queue
Slave
Slave
Slave
Slave

Quant issues

- Building a model
- Interface of the model to the system
- Internal or external greeks
  - Internal is easier w.r.t. Closed form models
  - External bumping makes parallelisation easier / more scalable (smaller jobs)
    - (cycle time is determined by longest running job)
  -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Slave

I'm a bear of very little brain, and complex systems bother me.

“When you are a Bear of Very Little Brain, and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it.”

— A.A. Milne, Winnie-the-Pooh

Source: Wikipedia