

Fast Data meets Big Data



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Big Data allows you to find opportunities you didn't know you had.

Fast Data allows you to respond to opportunities before they are gone.

In the Financial Services Industry, large quantities of **historical data** need to be processed against a growing number of **fast-moving data feeds**.



Regulatory Driven Data Growth

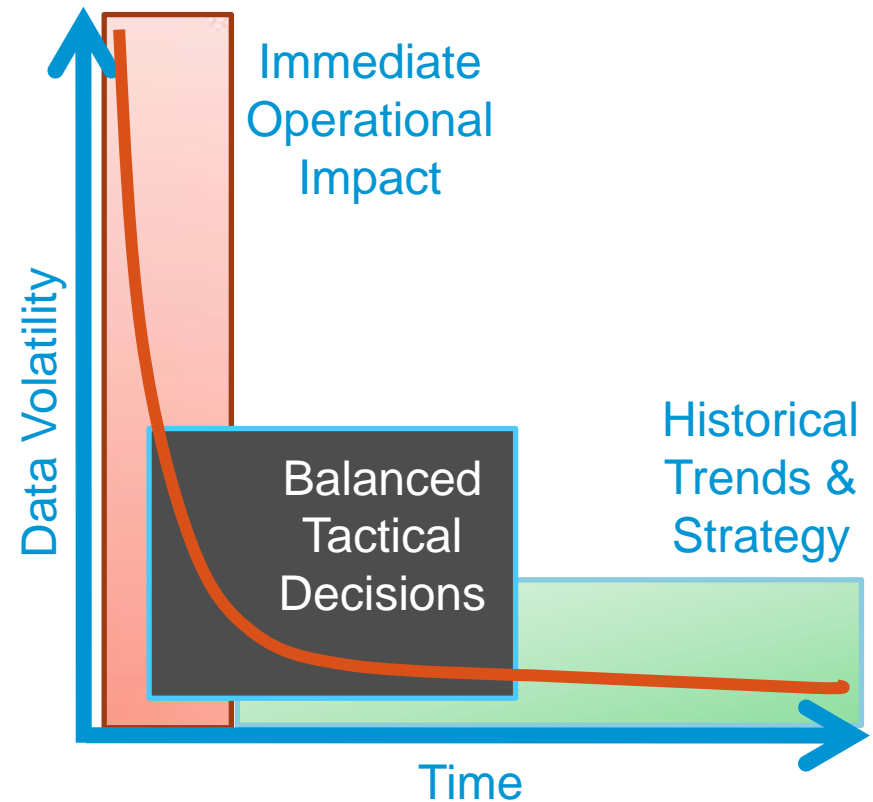


“New data-recording requirements under Dodd-Frank may increase derivatives data levels by as much as 400%.



The Query Spectrum And the *New Middle Ground*

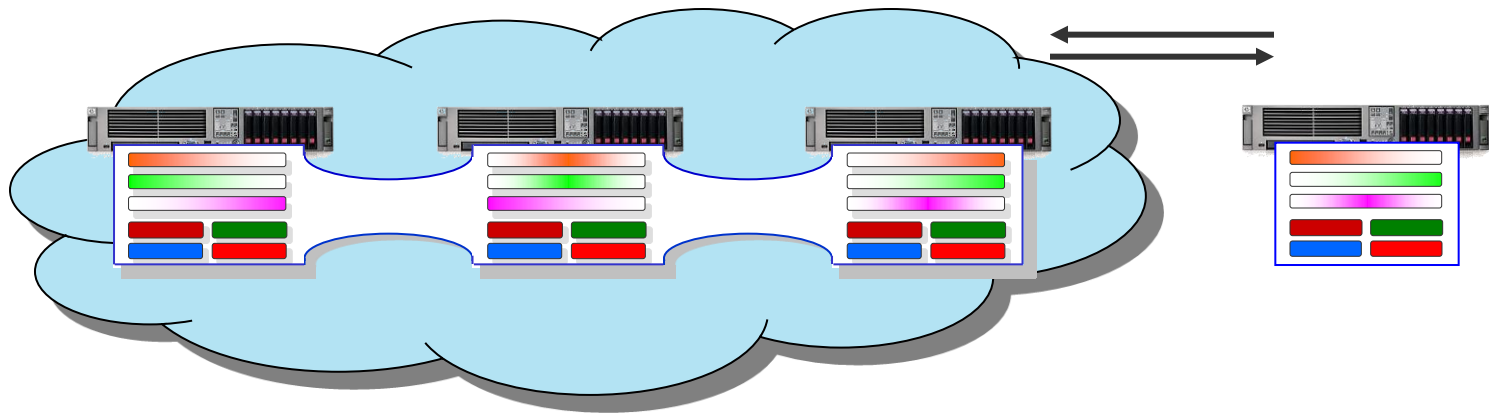
- Strategic decision (history - DW)
- Trade (low latency - CEP)
- Balanced tactical decisions



Need a Horizontally Scalable, Elastic Data Management Solution

Elastic

Add/remove data servers dynamically



Grow or shrink dynamically

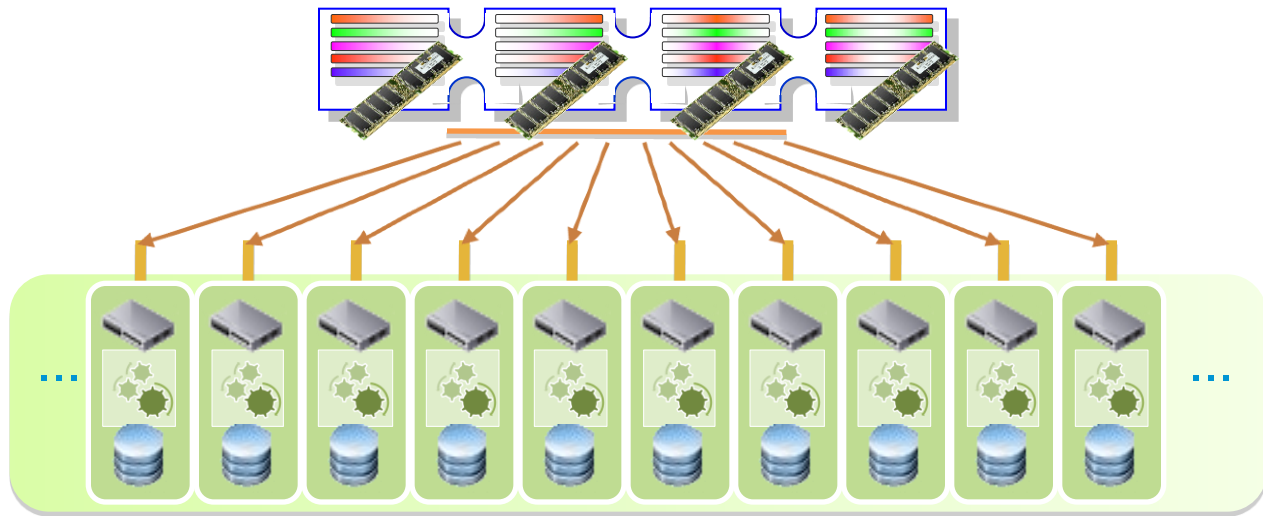
with no interruption of service or data loss.

Need a Multi-tiered Data Strategy

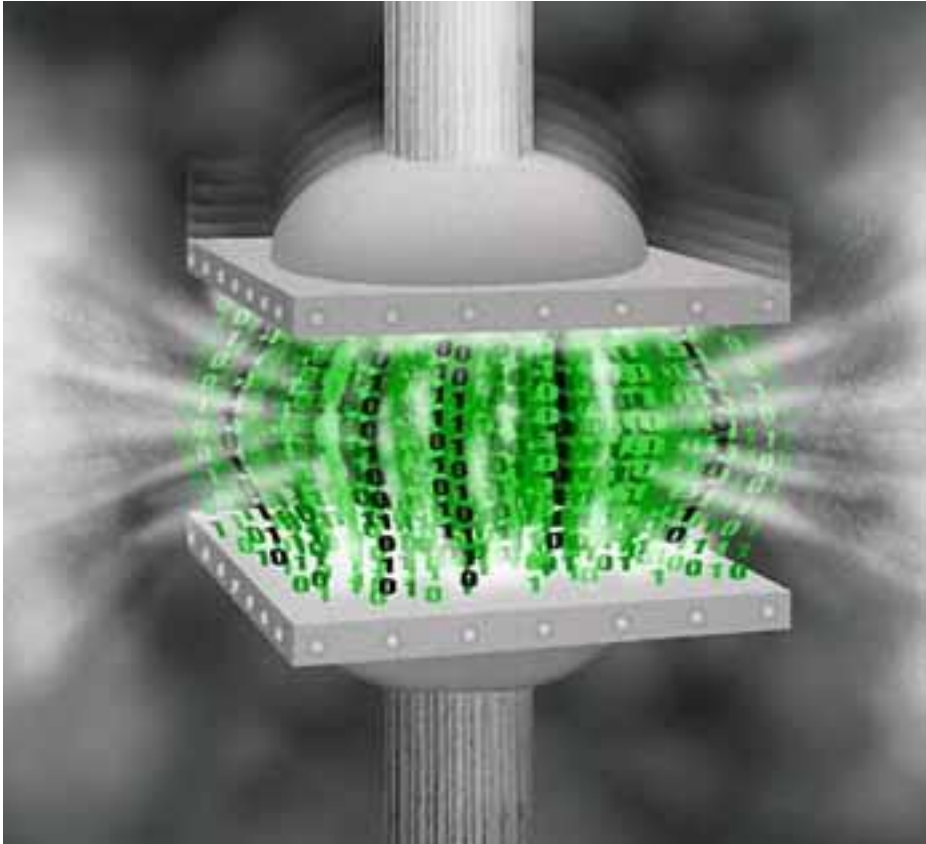
Keep the NOW data **IN MAIN MEMORY**.

Feed to second tier in micro-batches.

The second tier is to satisfy frequent queries and analysis on NEAR-REAL-TIME data.



Need a Multi-tiered Data Strategy



Tier 3 brings **COMPRESSION** into the picture for **LARGE DATA**.

The final on-line tier is for long term historical data which is accessed only for deep historical analysis.

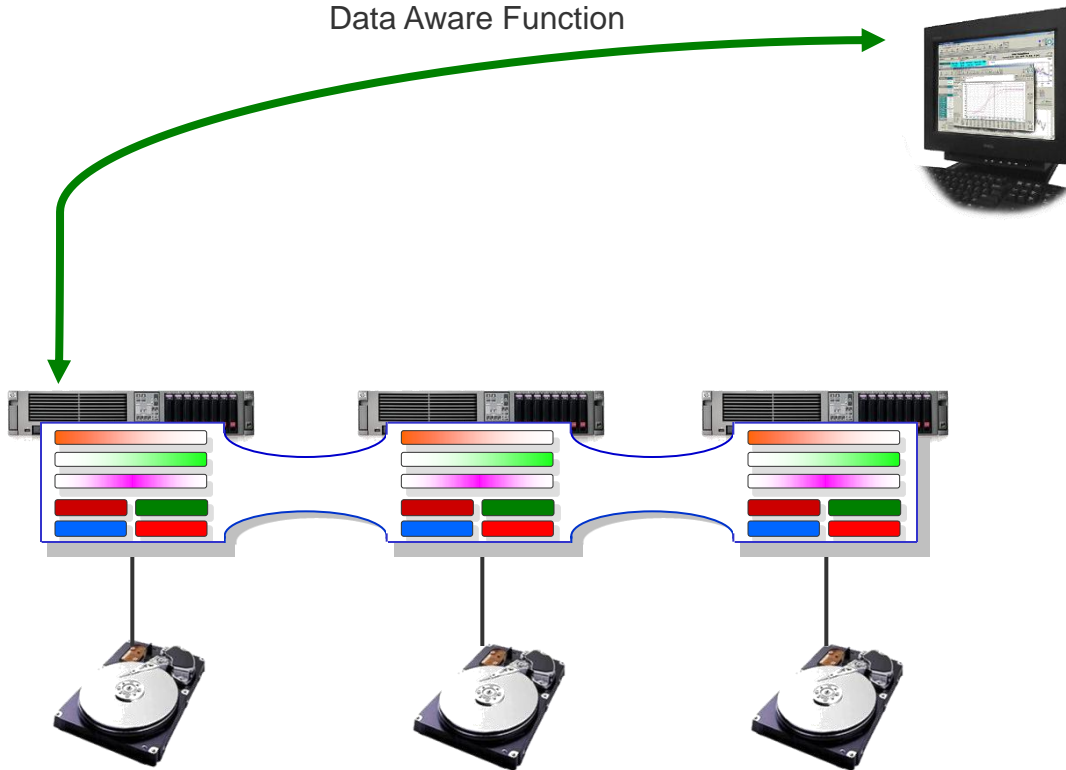
Bring the Compute to the Data

Execute

Data Aware Function

Batch Controller
or Client

GEMFIRE™



GemFire provides 'data aware function routing' – moving the behavior to the correct data instead of moving the data to the behavior.

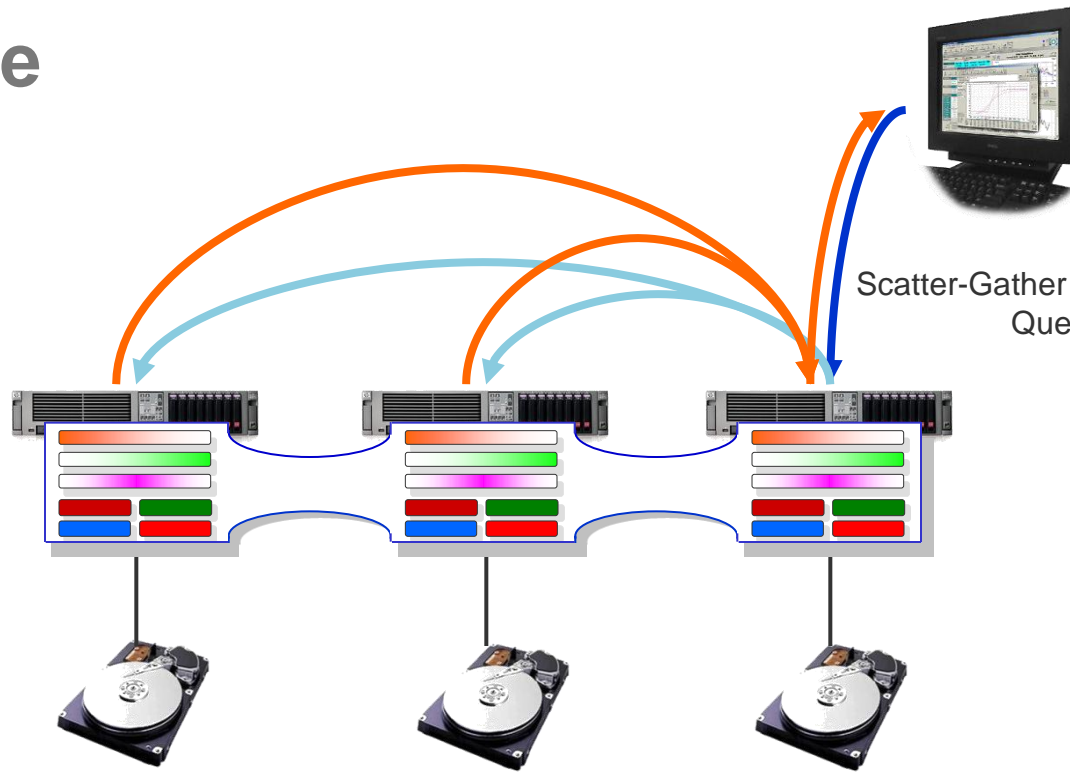
Parallel Queries and Computations

Compute

Batch Controller
or Client

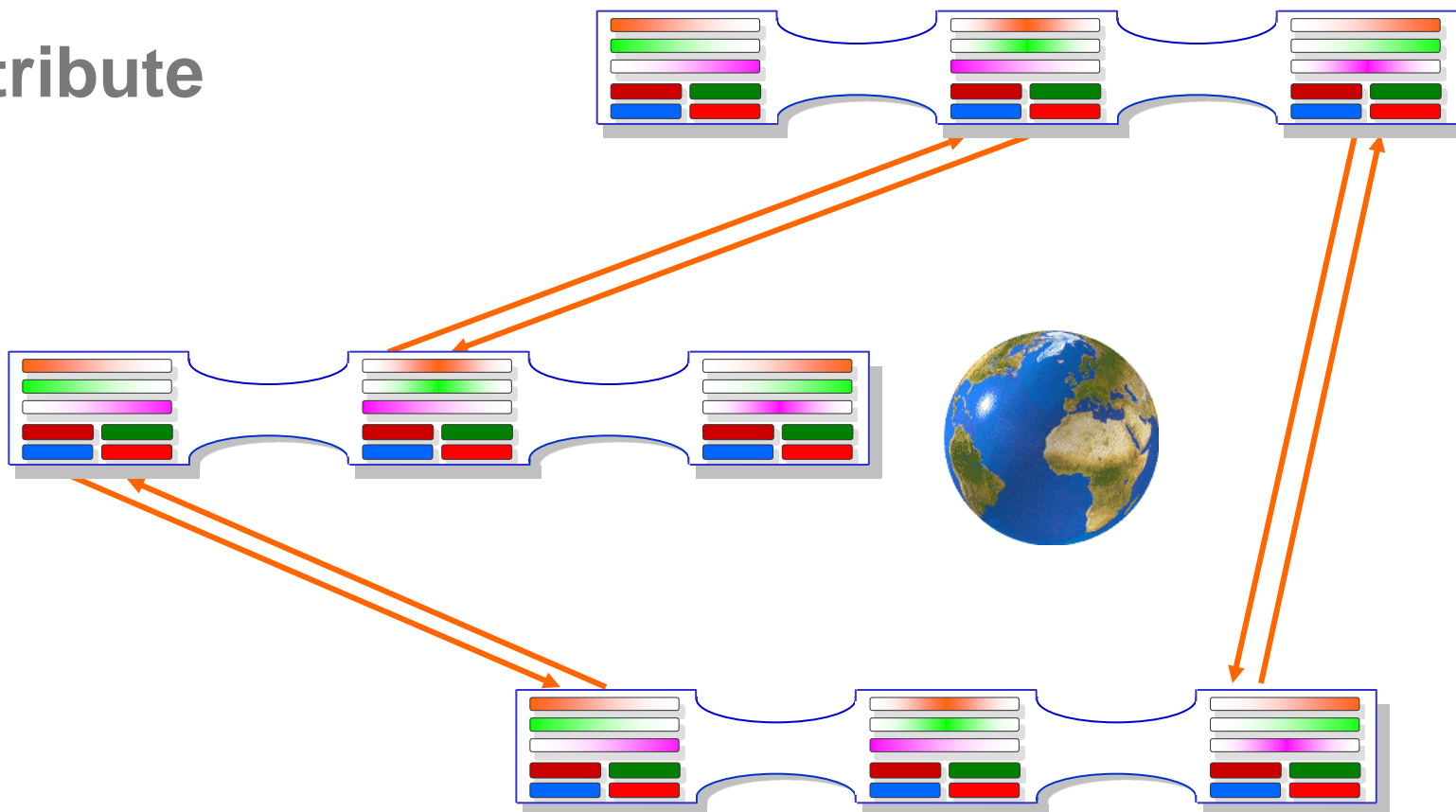
Scatter-Gather (Map-Reduce)
Queries

GEMFIRE™



Global Data Distribution

Distribute



Keep clusters that are distributed around the world synchronized in near-time and operate reliably in Disconnected, Intermittent and Low-Bandwidth network environments.



Applying the technology

Existing technologies ...
...new applications












GEMFIRE™

 **Greenplum**

Complimentary Strengths

The products overlap on many features.

The complimentary features form a complete solution.

	 GEMFIRE™	 Greenplum
Linear, scalability on COTS hardware		
Low latency updates and transactions		
Global Data Distribution		
Partitioned Compute in situ w/ data		
Parallel Map-Reduce Functions		
Deep Analytics and OLAP Queries		
Cost-based Query Optimizer		
Petabyte Data Storage & Management		