Pleasingly Parallel

Classic MapReduce

Map-Collective

MP2P Map Point-to-Point

Map Streaming

Shared Memory

Single Program Multiple Data

Bulk Synchronous Parallel

Fusion

Dataflow

Agents

Workflow

Geographic Information System

HPC Simulations

Internet of Things

Metadata/Provenance

Shared / Dedicated / Transient / Permanent

Archived/Batched/Streaming

HDFS/Lustre/GPFS

Files/Objects

Enterprise Data Model

SQL/NoSQL/NewSQL

**Ogre Views and Facets**

Performance Metrics

Flops/Byte

Flops/Byte; Memory I/O

Execution Environment; Core Libraries

Volume

Velocity

Variety

Veracity

Communication Structure

Iterative / Simple

Metric = M / Non-Metric = N

$O\left(N^{2}\right)$ = NN / $O(N)$ = N

Regular = R / Irregular = I

Dynamic = D / Static = S

Linear Algebra Kernels

Graph Algorithms

Deep Learning

Classification

Recommender Engine

Search / Query / Index

Basic Statistics

Optimization Methodology

Global Analytics

Local Analytics

Micro-benchmarks

Visualization

Streaming

**Problem**

**Architecture View**

**Data Source and**

**Style View**

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Alignment

6

Data Abstraction

12

**Execution View**

**Processing View**