

Data Management Strategies

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Data Strategies

- Modern Applications require many different:
 - Data Types - Relational, Document, Spatial, Graph, etc.
 - Workloads - Transactions, analytics, ML, IoT, etc.
- Each data type and workload requires different database algorithms
- Two possible Data Strategies:
 - Use **single-purpose** “best-of-breed” database for each data type and workload
 - Use a **converged database** for all data types and workloads



Converged Database Multi-Model and Multi-Workload

Converged Database

Multi-Model

Multiple Data Types

(models and semantics)

Relational, Document, JSON, XML, OLAP, Spatial, Graph, Object-Oriented, Text, etc.



Multi-Workload

Multiple Application Types

(workloads and technologies)

Operational, Analytics, Transactional, IoT, ML, In-Memory, Block-Chain, etc.

Run one **Converged Database** that supports multiple data types and workloads
Or run many separate **Specialized Databases** for each data type and workload

Benefits of Converged Database

- Like a Smartphone, a Converged Database:
 - Supports **mixing of workloads, data types, and algorithms**
 - Enables **SQL** and transactions across any data type
 - Is **simpler, lower cost, more reliable**
 - Provides **unified security and management across all data**
 - Prevents **data fragmentation and copy contagion**
 - Removes **initial and recurring integration costs**
 - Enables **powerful synergies** across features

