

## Advanced Big Data Architecture Design Patterns and Mechanisms Mapping Reference Matrix

X - design pattern is commonly associated with mechanism

|                         | Automated Processing Metadata Insertion | Canonical Data Format | Centralized Access Management | Centralized Dataset Governance | Cloud-based Big Data Processing | Cloud-based Big Data Storage | Confidential Data Storage | Dataset Denormalization | Direct Data Access | Fan-In Ingress | Fan-out Ingress | High Velocity Realtime Processing | Indirect Data Access | Integrated Access | Intermediate Results Storage | Large-Scale Graph Processing | Realtime Access Storage | Streaming Egress |
|-------------------------|---|-----------------------|-------------------------------|--------------------------------|---------------------------------|------------------------------|---------------------------|-------------------------|--------------------|----------------|-----------------|-----------------------------------|----------------------|-------------------|------------------------------|------------------------------|-------------------------|------------------|
| Coordination Engine     | X                                       | X                     |                               |                                | X                               |                              |                           | X                       | X                  |                |                 | X                                 |                      |                   | X                            | X                            | X                       | X                |
| Data Governance Manager |   |                       |                               | X                              |                                 |                              |                           |                         |                    |                |                 |                                   |                      |                   |                              |                              |                         |                  |
| Data Transfer Engine    |   | X                     |                               |                                | X                               |                              |                           |                         |                    | X              | X               | X                                 | X                    |                   |                              | X                            | X                       | X                |
| Processing Engine       | X                                       | X                     |                               |                                | X                               |                              |                           | X                       | X                  |                |                 | X                                 |                      |                   | X                            | X                            | X                       | X                |
| Productivity Portal     | X                                       |                       | X                             |                                |                                 |                              |                           |                         |                    |                |                 |                                   | X                    | X                 |                              |                              |                         |                  |
| Query Engine            | X                                       |                       |                               |                                |                                 |                              |                           |                         | X                  |                |                 |                                   | X                    |                   |                              |                              |                         | X                |
| Resource Manager        | X                                       | X                     |                               |                                | X                               |                              |                           | X                       | X                  |                |                 | X                                 |                      |                   | X                            | X                            | X                       | X                |
| Security Engine         |   |                       | X                             | X                              |                                 |                              |                           | X                       |                    |                |                 |                                   |                      | X                 |                              |                              |                         |                  |
| Serialization Engine    |   | X                     |                               |                                |                                 |                              |                           |                         |                    |                |                 |                                   |                      |                   |                              |                              |                         |                  |
| Storage Device          | X                                       | X                     |                               |                                | X                               | X                            | X                         | X                       | X                  | X              | X               | X                                 | X                    |                   | X                            | X                            | X                       | X                |
| Workflow Engine         |   |                       |                               | X                              |                                 |                              |                           |                         |                    |                |                 |                                   | X                    |                   | X                            |                              |                         |                  |



Module 11: Advanced Big Data Architecture  
Official Mind Map Supplement



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