

DEFINITION — HOW DATA IS DESCRIBED

CONTRACTS6

ADOPTADOPTADOPTADOPTSITUATIONALSITUATIONAL

 ODCS
BITOL @ LF

 OpenAPI
LF

 AsyncAPI
LF

 GraphQL
LF

 gRPC
CNCF

 OData
OASIS

DATA PRODUCTS4

ADOPTASSESSASSESSASSESS

 ODPS
BITOL @ LF

 DPDS
ODM

 ODPS
LF

 DPROD
OMG

SCHEMA7

ADOPTADOPTADOPTADOPTADOPTASSESS

 XML Schema
W3C

 JSON Schema
IETF

 SQL DDL
ISO/IEC

 AVRO Schema
ASF

 Protobuf
GOOGLE

 LinkML
LINKML

ASSESS

 Table Schema
FRICITIONLESS

SEMANTICS8

SITUATIONALSITUATIONALSITUATIONALSITUATIONALSITUATIONASSESS

 RDF/OWL
W3C

 DCAT
W3C

 SKOS
W3C

 SHACL
W3C

 JSON-LD
W3C

 Ossie
ASF

ASSESSASSESS

 schema.org
W3C

 ShEx
W3C

STORAGE — WHERE DATA LIVES

FILE FORMATS8

ADOPTADOPTADOPTADOPTADOPTADOPTSITUATIONASSESS

 CSV
IETF

 JSON
IETF

 XML
W3C

 YAML
YAML.ORG

 PARQUET
ASF

 AVRO
ASF

 ORC
ASF

 Lance
LANCE

OPEN TABLE FORMATS4

ADOPTSITUATIONASSESSASSESS

 Iceberg
ASF

 Delta
LF

 Hudi
ASF

 Lance
LANCE

STORAGE SYSTEMS2

ADOPTCAUTION

 S3
AWS

 HDFS
ASF

MOVEMENT — HOW DATA FLOWS BETWEEN SYSTEMS

DATABASE CONNECTIVITY5

ADOPTADOPTADOPTASSESSCAUTION

 JDBC
JCP

 ODBC
ISO/IEC

 ADBC
ASF

 Quack
DUCKDB LABS

 XMLA
MICROSOFT

INTERCONNECTION3

ADOPTSITUATIONCAUTION

 HTTP
IETF

 Delta Sharing
LF

 FTP / SFTP
IETF

MESSAGING5

ADOPTADOPTSITUATIONALSITUATIONCAUTION

 Kafka
ASF

 CloudEvent
s CNCF

 MQTT
OASIS

 AMQP
OASIS

 JMS
JAKARTA EE

TRANSFORMATION — HOW DATA IS PROCESSED AND RESHAPED

IN-MEMORY FORMAT2

ADOPTADOPT

 DataFrame API
DATA-API.S

 Apache Arrow
ASF

PROCESSING7

ADOPTADOPTADOPTADOPTSITUATIONASSESSCAUTION

 Spark
ASF

 Pandas
NUMFOCUS

 SQL DML
ISO/IEC

 dbt
DBT LABS

 Beam
ASF

 Ibis
IBIS

 XSLT
W3C

DISCOVERY — HOW DATA IS FOUND AND TRACED

CATALOG APIS5

ADOPTADOPTSITUATIONASSESSCAUTION

 Iceberg Catalog
ASF

 Schema Registry
CONFLUENT

 Unity Catalog
LF

 DuckLake
DUCKDB LABS

 Hive Metastore
ASF

LINEAGE2

ADOPTASSESS

 OpenLineage
e LF

 PROV
W3C

OPERATIONS — HOW DATA IS QUERIED, OBSERVED, GOVERNED

QUERY5

ADOPTSITUATIONALSITUATIONALSITUATIONCAUTION

 SQL
ISO/IEC

 Substrait
LF

 SPARQL
W3C

 GQL
ISO/IEC

 MDX
MICROSOFT

DATA QUALITY3

SITUATIONALSITUATIONALSITUATION

 Great Expectations
GX LABS

 dbt tests
DBT LABS

 SodaCL
SODA

OBSERVABILITY2

ADOPTASSESS

 OpenTelemetry
CNCF

 OORS
BITOL @ LF

POLICIES2

ADOPTASSESS

 OPA
CNCF

 ODRL
W3C

AI INTERFACES2

ADOPTSITUATION

 MCP
LF

 A2A
LF