



## IN BIGDATA

### Programming

A lot of customization is required on daily basis to deal with the unstructured data.

- Example:
- R, Python, Java, C++, Ruby, SQL, Hive, SAS, SPSS, MATLAB, Weka, Julia, Scala

### Data Lake

Experience with relational and non-relational database systems.

Examples of relational database:

- Mysql, Oracle, DB2.

Examples of non-relational database:

- NoSql, Hbase, HDFS, MongoDB, CouchDB, Cassandra, Teradata, etc.



**HADOOP ON-PREMISE**: cloudera, Hortonworks, MAPR, Pivotal, IBM InfoSphere, bluedata, jethro

**HADOOP IN THE CLOUD**: aws, Microsoft Azure, Google Cloud, IBM InfoSphere Biginsights, Treasure Data, Databricks, IBM, altiscale, CAZENA, CenturyLink

**STREAMING / IN-MEMORY**: aws, databricks, stream, confluent, GridGain, ORACLE, dataArtisans, hazelcast, TERRACOTTA, kx, FASTDATA, WallarooLABS

**NewSQL DATABASES**: SAP, Clustring, Pivotal, nuodb, Cockroach LABS, Cloud Spanner, MEMSQL, influxdata, MariaDB, TIVISCALE, VOLTDB, citusdata, splice, paradigm, TIBO

**GRAPH DBs**: neo4j, Amazon Neptune, IBM ORACLE, OrientDB, InfiniteGraph, Objectivity

**MPP DBs**: TERADATA, VERTICA, IBM Data Warehouse Systems, Qlik, Kognitio, Exasol, dremio

**CLOUD EDW**: aws, Google Cloud, Microsoft Azure, Pivotal, snowflake



**NoSQL DATABASES**: Google Cloud, aws, ORACLE, Microsoft Azure, mongoDB, MarkLogic, CERO SPIKE, DATASTAX, ArangoDB, Couchbase, redislabs, SCYLLA

- NoSQL**, stand for "not only SQL," is an alternative to traditional **databases** in which data is placed in tables and data schema is carefully designed before the **database** is built.
- NoSQL databases** are especially useful for working with large sets of distributed data.

## Big Data & AI Landscape -INFRASTRUCTURE-

- Data integration** is the combination of technical and business processes used to combine **data** from disparate sources into meaningful and valuable information.
- A complete **data integration** solution delivers trusted **data** from various sources.



**DATA INTEGRATION**: SAP Data Services, Informatica, MuleSoft, TEALIUM, snapLogic, enigma, podium data, Segment, xplenty, ZALONI, aloomo, Stitch, import.io, Infoworks, ATTUNITY



**STORAGE**: aws, Google Cloud, Microsoft Azure, IBM Storage, PURE STORAGE, ALLUXIO, nimblestorage, Qumulo, panamas, COHERENT

**CLUSTER SVCS**: aws, Kubernetes, docker, MESOSPHERE, CoreOS, PREVIOUSDATA, CRACK

**APP DEV**: Lightbend, Keen IO, rainforest, CROCK

**CROWD-SOURCING**: amazon mechanicalturk, Upwork, appen, floureight, scale, HIVE

**HARDWARE**: Google TPU, arm, intel AI, GRAPHCORE, IBM Power Systems, MYTHIC, NVIDIA, corelabs, Movidius, WAVE, HALO

**GPU DBs**: Kinetica, MARIPOSA, SOREAM, truuu, BLAZINGDB, bryltyl, PG-Strom

**DATA TRANSFORMATION**: talend, pentaho, alteryx, TRIFACTA, tomr, Paxata, StreamSets, UNIFI

**DATA GOVERNANCE**: Informatica, SailPoint, IBM, McAfee Skyhigh Security Cloud, collibra, Alation, Waterline Data, HIKUTA, OKERA

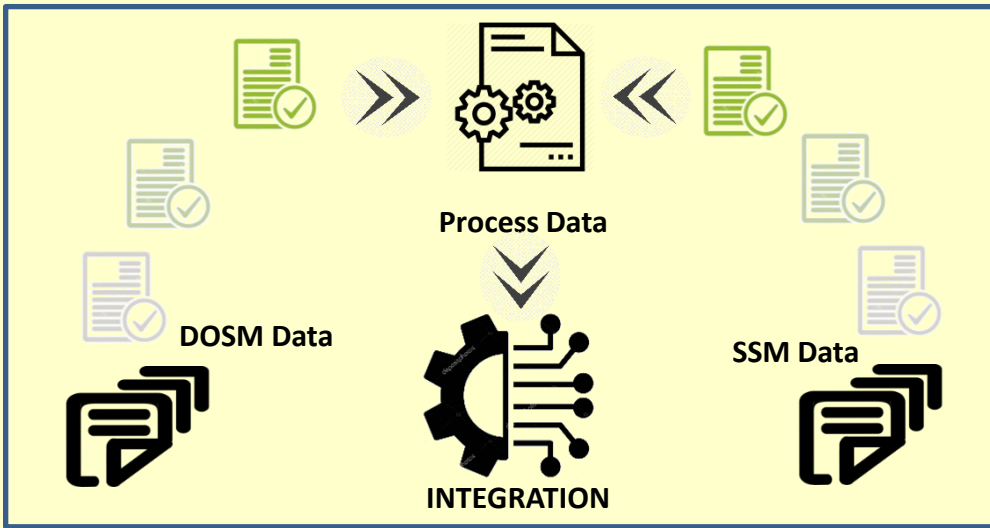
**MGMT / MONITORING**: aws, New Relic, octrio, rubrik, APPDYNAMICS, WAVEFRONT, dynatrace, splunk, SignalFx, druuvo, Moogsoft, unravel, pagerduty, Numinery, Acobot

Source: <https://www.datamation.com/big-data/big-data-technologies.html>





## REAL TIME BUSINESS STATUS (RTBS)



Integrate SSM data to DOSM environment

Enable the organization to have direct access of business entities information

Allow DOSM to get latest data of business entities through middleware

## STATISTICAL CLASSIFICATION (BizCode@Stats)



Hardcopy



BizCode@Stats



Expected User



## i Middleware

☑ Data Integration

Application Integration

B2B Integration

Cloud Integration

### Data Integration:

Integrates business data resources, such as databases and files, over business and operational intelligence systems

**Middleware** is a software that links two separate applications or is commonly used to illustrate different products that function as a glue between two separate applications.

**Integration middleware** is the alternate term used for middleware as the purpose of middleware is mainly integration. Integration middleware represents software systems that offer runtime services for communications, integration application execution, monitoring and operations.

Source: <https://www.techopedia.com/definition/28054/integration-middleware>

