



Top 10 guidelines for
deploying modern data
architecture for the
data driven enterprise



A new revolution is underway

Enterprises are facing a new revolution, powered by the rapid adoption of data analytics with modern technologies like machine learning and artificial intelligence (AI). The impact of this revolution is already evident in the way certain industry structures have been disrupted by Amazon, Tesla, Uber, Airbnb and consumer fin-tech companies. These companies are shining examples of how powerful a data driven approach can be. Not only are they leaders in their respective markets but are loved by their customers.

Thanks to the advent of digital transformation, even traditional organizations have begun to experience an explosion of data in various forms and frequency. Organizations need to take advantage of the treasure trove of insights available in this data to not only defend themselves in this highly transformative and competitive environment but actually thrive in it.

Need for a modern data architecture

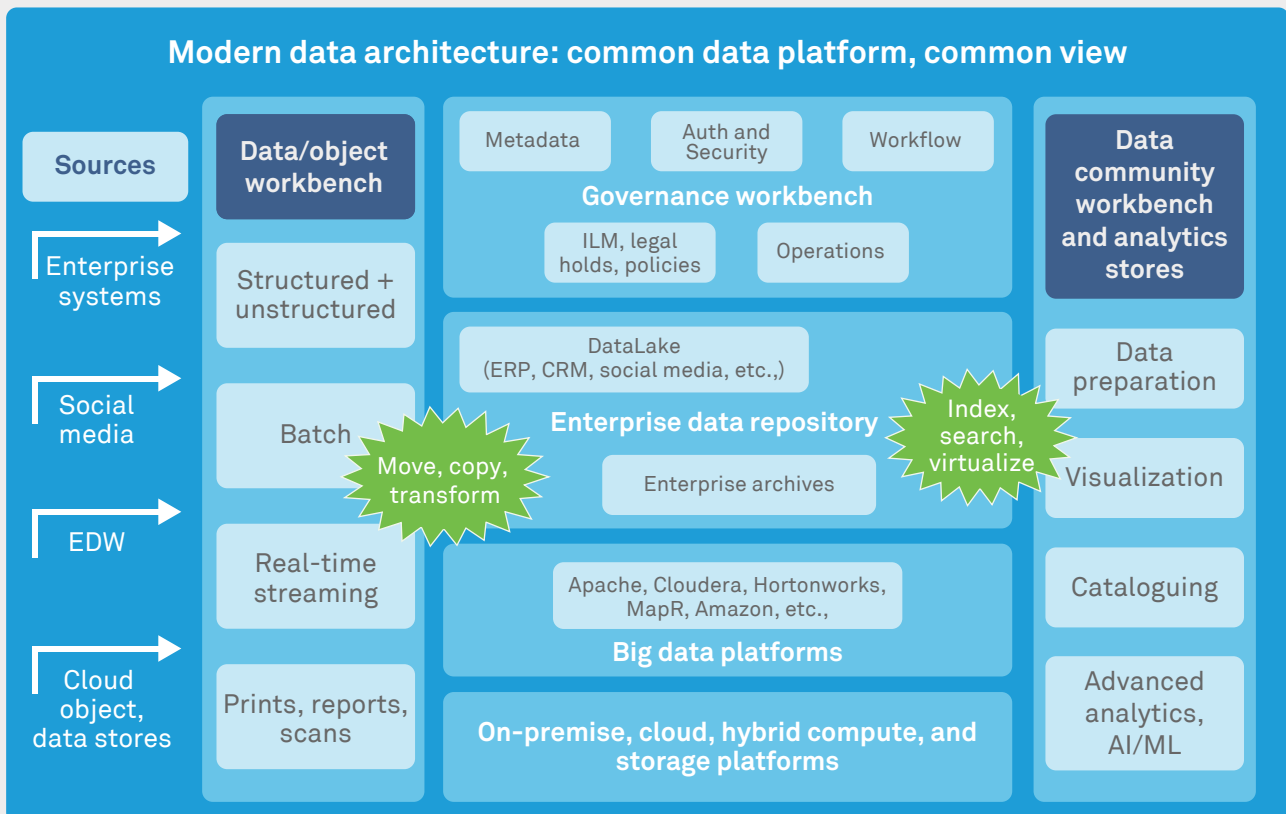
One thing is clear, the old models of data architecture are not capable of meeting the needs of today's real-time, data driven enterprises.

Data architecture earlier was designed primarily for batch processing of mostly structured data and was created to address specific departmental needs - creating departmental silos. They also lacked the ability to support data democratization, ad-hoc analytics, machine learning/artificial intelligence (ML/AI), complex data governance and security needs - all of which are critical to building a true data driven enterprise.

Companies that do not actively transform themselves to become data driven will be left behind and their very existence questioned. CXOs recognize the threat and the opportunity, and are eager to deploy a modern data architecture that can not only help them store a wide variety of large amounts volume of data but also provides an enterprise-wide analytic platform. This can empower every single employee in the organization to take data driven decisions in real-time, with little or no support from IT.

As per a leading consultancy firm's report, data-driven organizations are about 20 times more profitable and five times more likely to acquire and retain customers.

Modern data architecture – a conceptual view



Reference: [Solix common data platform](#)

Guidelines for building a modern data architecture for the data driven enterprise

1. Get C-suite support

Building a data driven enterprise needs deep collaboration between various functions across the organization. Many challenges pertaining to people, policies, data ownership and sharing will arise. For the initiative to succeed, a top-down mandate with a clear mission and approval framework to resolve logjams is required.

2. Develop a data driven culture

Building a data driven enterprise is more about people and culture than technology. To ensure employees replace their gut-based decision making with a more thoughtful, data driven approach, it is important to sensitize employees to the need for, and advantages of, being data driven. Orientation and training sessions on how to use data and analytics as part of their daily operations will play a key role in the successful implementation and adoption of a modern data architecture.

3. Consolidate enterprise data

Many employees cite lack of data as the reason for basing their decisions on their gut feelings, but the reality is that organizations have an overwhelming amount of data available in the form of structured and unstructured application data (documents, files, logs, click streams, events, social media, images, videos and more). Unfortunately, all this data is either poorly captured or not easily accessible by employees due to the siloed nature of old data architectures. It is important for a modern data architecture to include an enterprise-wide common data platform that makes data available from a central location.

4. Make data governance a top priority

In data driven enterprises, data is a shared asset. In such a scenario, data governance assumes an important role and needs a well thought out enterprise wide strategy coupled with strong execution. It needs a framework that transcends organizational silos to establish how data assets are being managed and accessed by employees.

Data quality, lineage, security, discovery, self-serve access, compliance, legal hold and information lifecycle management need to be given due importance as part of the data governance strategy. To achieve a comprehensive governance strategy, put together a strategy team representing the legal and compliance departments, IT operations, line of business stakeholders, and application/information owners. Further, enterprises need to implement a comprehensive communication program to sensitize employees about the need for the governance policy and their adherence to it.

5. Build a data community

Data democratization needs trusted guardians who can help data consumers use the right data in its relevant form. Building a data community comprising IT managers, data engineers, data scientists and functional experts is crucial for enabling a trusted data environment for business users. This community is responsible for the availability of centralized data dictionaries, MDM, data enrichment, data preparation, pre-prepared data models, business formulae, algorithms and such to the business users. This greatly helps business users to quickly extract insights without having to worry about the data quality or the trustworthiness of the data available.

6. Automate processes

At a time when data volume, variety and number of sources are ever-increasing, automation plays a key role in keeping the data driven culture alive. Data pipeline automation, automation of data cataloging (using ML/AI) and such, help in near real-time availability of consumable data.

7. Enable self-service capabilities

The dependency of employees on IT and data scientists for access to insights is inflexible and time consuming. This is a major hindrance to the adoption of a data driven culture. Modern data architecture needs to enable a self-service framework in which business users can identify existing data sets, prepare new data sets, analyse and build their reports. All this needs to be enabled within an approved and supported environment without compromising on data security.

A leading analyst firm predicts that within five years, over 75 percent of enterprise reporting will be on self-service BI platforms.

8. Make operationalization easy

Operationalizing insights requires a repeatable and scalable process for developing numerous analytic models and a reliable architecture for deploying these models into production applications. Ease of operationalization is an important characteristic of a successful modern data architecture.

9. Incorporate on-premise + cloud

Organizations have different criteria for determining which workloads run on premise vs cloud. The criteria could involve internal or external policies regarding location of data stored; availability of an application/system in the cloud; availability of capacity for running a specific workload, etc. It is important for a modern architecture to support a hybrid environment as it is fast becoming the new operating reality for enterprises.

10. Don't try to do everything at once

Deploying a modern data architecture is a big initiative and is heavily influenced by technology, policies and people. Though it is important to approach this in a holistic manner, it is not necessary to do it all at once. Organizations can realize benefits by implementing modern data architecture even for a single function and use the lessons learned for the next phase.

Conclusion

Data is by far the most untapped asset of an enterprise. Enterprises which understand the value of this asset and learn quickly to extract insights and put it to use, will thrive in this highly competitive digital economy. A modern architecture with an enterprise-wide approach to data gathering and analysis should become the new norm for every organization. Data mined in silos, as done in the past decade, not only undermines the value of data but also leads to poor decision making across the enterprise. It is important to note that a data driven enterprise can never be realized through technology implementation alone. It comes down to how people in an organization use it as part of their daily work. Thus, a modern data architecture is all about bringing data to people in the most efficient and consumable manner.



About Solix Technologies

Solix Technologies, Inc., is a leading big data application provider that empowers data-driven enterprises with optimized infrastructure, data security and advanced analytics by achieving Information Lifecycle Management (ILM) goals. Solix Big Data Suite offers an ILM framework for Enterprise Archiving and Enterprise Data Lake applications with Apache Hadoop as an enterprise data repository. The Solix Enterprise Data Management Suite (Solix EDMS) enables organizations to implement Database Archiving, Test Data Management (Data Subsetting), Data Masking and Application Retirement across all enterprise data.

Solix Technologies, Inc. is headquartered in Santa Clara, California, and operates worldwide through an established network of value added resellers (VARs) and systems integrators.

To learn more, please visit <http://www.solix.com>

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