

Embrace The New Cloud Paradigm to Fuel Digital Transformation

With Data Management powered by Solix Common Data Platform



Issue 1

- 2 The Future of Business is Digital
- 3 Challenges on the way
- 5 The Future Lies in the Cloud
- 6 Need for a Modern Data Platform That Embraces Cloud to Fuel Digital Transformation
- 6 Introducing the Solix Common Data Platform – A Big Data Application Framework
- 9 One Platform with Multiple Solutions to Supercharge Your Digital Journey
- 13 Conclusion
- 14 Contact Us

The Future of Business is Digital

Digital transformation is the future of business, and data is the heart of digital. Executives are realizing that digital technology can turbocharge business performance and disrupt markets. First-movers can achieve major competitive advantage, leaving the laggards struggling to survive. More than 70 percent of organizations are expected to roll out digital transformational strategies by 2020. Some leaders already have.

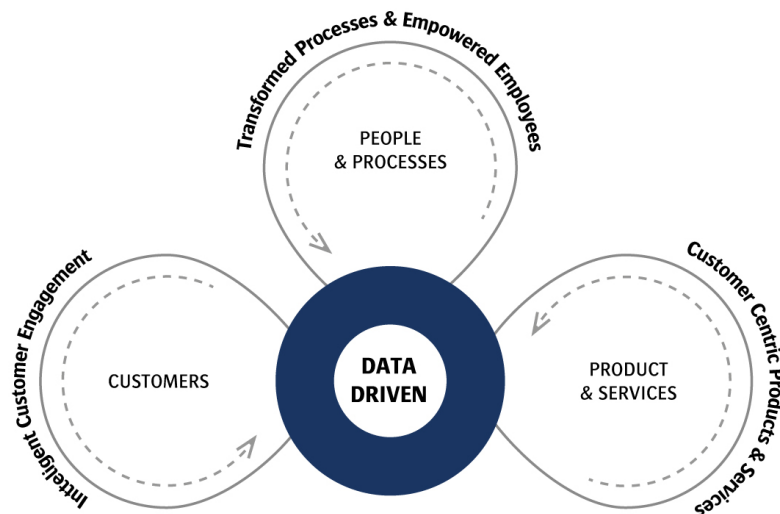
Corporate desire to use massive volumes of data generated as part of digital transformation to deliver exceptional customer experiences, eliminate inefficiencies, and drive higher revenue is at an all-time high. Big data technologies like Hadoop, machine learning, and natural language interfaces are revolutionizing data use, making digital transformation meaningful and its impact felt even at the last mile.

Six ways digital transformation drives value for enterprises

- Accelerate speed to market
- Strengthen competitive positioning
- Boost revenue growth
- Raise employee productivity
- Expand ability to acquire, engage and retain customers
- Eliminate inefficiencies and reduce costs

that digital transformation is less about the technologies and more about the impact they have on processes, productivity, customer experiences, and the realization of competitive opportunities.

FIGURE 1 Digital Transformation



Source: Solix

Digital is transforming the role of IT from cost controller to strategic enabler and innovator. That is making digital the top priority for enterprise CIOs. In companies leading the digital revolution, IT teams are considered partners to business in enabling desired outcomes. It is worth noting

Businesses are approaching digital technology with the clearly defined objective of becoming data-driven. But they need a modern way to manage the volume, variety, and velocity of the new data and the high compute resources needed to process it.

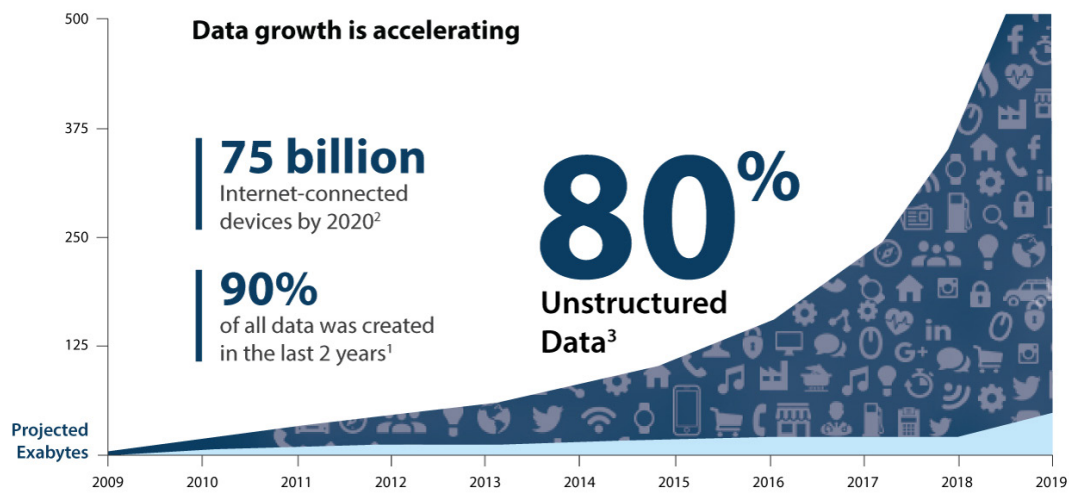
Challenges on the way

Unmanaged data growth can turn digital transformation opportunity into a crisis

Digital transformation is driving up data volumes at a never seen pace. To put that into perspective, 90 percent of the data in the world today has been created in the last two years alone. This isn't going to slow down. Digitization of every process, the introduction and rapid proliferation of end-user devices, sensors, and technologies across the board are adding to the rapid growth in data generation.

However, as data volumes explode, unless the organization is well prepared it begins to drown in data, driving up storage and maintenance costs, diminishing application performance and availability, and creating data access, data privacy and regulatory compliance challenges. Deleting data to manage data growth often is not a choice as business, legal, and compliance objectives increasingly demand for real-time access to all information for longer durations. When these

FIGURE 2 Data Growth is Accelerating



Sources:

1. Science Daily, Big Data, for better or worse: 90% of world's data generated over last two year, 2013
2. Business Insider, Morgan Stanley: 75 Billion Devices Will Be Connected to The Internet of Things By 2020, 2013
3. Digital Universe of Opportunities: Rich Data & The Increasing Value of the Internet of Things. EMC Digital Universe with Research & Analysis by IDC, April 2014

Source: Solix

This growth in data is fueled by the change in the definition of enterprise data. While structured data in ERP and CRM systems continue to be vital, the rise of unstructured data is notable. Today it is estimated that 80 percent of "enterprise data" now includes unstructured data such as documents, text, csv, audio, video, online click streams, social media posts, and IoT log files.

The result of this data growth is that every organization today is data rich. It augurs well for the success of the mission as data is at the core of digital revolution and is a key ingredient in the success of digital transformation.

demands are not managed well, they can cause failure of Data Transformation initiatives.

Legacy applications can be roadblocks to progress

As technology becomes obsolete, and organizations grow, merge or consolidate operations, a number of enterprise applications end up outliving their usefulness. Some of the older applications which still are part of essential processes are unfit to be repurposed or modernized due to their monolithic buildpreventing adoption of modern applications. As organizations embark on digital transformation, the non-critical legacy

applications continue to lockup valuable infrastructure resources and software licenses. Inability of legacy applications to integrate with modern interfaces add up to the challenge of IT managers who are trying to create a cohesive application landscape in their organizations. While these legacy applications provide minimal business value, backing up the applications to an offline storage is not an option as organizations need to retain active access to the retired data either for regulatory, legal or business requirements.

Conflicting demands of modern data access and compliance

Data collected for one purpose is often applied to multiple business applications. For instance, the record of clicks a customer makes while shopping online can influence financial planning, product design, and the allocation of IT resources. Hiring trends can yield information about skills, geography, and the design of compensation. Customer feedback, combined with CRM and historic transaction data, can provide insights into product strategy. Weather data combined with point-of-sale records can influence inventory and demand forecasting.

We live in a universe of continuous potential. Every time we stretch the boundaries, we find there's more - complex problems and bigger opportunities to pursue. For organizations to realize their potential, data needs to flow seamlessly across applications and departments, allowing employees, partners, and customers to create new economic value from existing data, creating new insights for the enterprise. This requires providing self-serve real-time data access to employees across the organization that they can leverage to make better business decisions every day. Collaboration around data and data democratization are essential for the success of digital transformation initiatives.

However, this data often contains sensitive financial and customer information. Enabling a collaborative data environment without mature data governance and access policies could result

in internal and external data hacks and misuse of data. This could expose the organizations to a range of risks associated with regulatory non-compliance.

While modern practices need unbounded access to data, stringent regulations require organizations to protect data from unauthorized access and processing. Regulations require that all data and data consumers not be treated alike. Policies need to change based on the type of data and the role of the data consumer. This creates a unique challenge for IT, business, and compliance professionals caught between enabling data collaboration and meeting corporate information and regulatory compliance policies.

Meeting the needs of modern digital initiatives

Enterprises wish to harness all of their data in real-time to deliver exceptional customer experiences, eliminate inefficiencies, and drive higher revenue. Modern technologies like Hadoop stack and ML/AI are making this possible. However, enterprises must make all of their data available through easy access and for longer duration. To process this data, high compute infrastructure must be made available on an ad-hoc burst basis. Meeting these demands through the traditional IT model results in huge capex and underutilization of resources.

Another reality that organizations need to come to terms with is the proliferation of hybrid and multi-cloud scenarios. With high adoption of SaaS application, in-house hybrid systems and new software written on IaaS systems, the new hybrid reality will only grow, driven by economic necessity. The traditional capex-based IT model is becoming prohibitively expensive anchor that will always lag far behind the needs of business. IT needs a more agile opex model to meet the unpredictable demands of modern data-driven organizations.

The Future Lies in the Cloud

In its first decade, cloud primarily disrupted IT – changing the expectations of business leaders, introducing a new economic model, and redefining what is possible. In its second decade, cloud disruption is moving beyond IT to disrupt business. Revenue growth and competitiveness are increasingly tied to the adoption of digital business principles, which rely on the dynamic and innovative foundation established by cloud computing. Cloud-based digital business is disrupting markets and industries. It is making the AI, machine learning, cognitive computing, and IoT promise a reality for organizations of all sizes.

No, it is not about cost savings

Cloud services are often seen as a money saving strategy due to their low cost, start-small-grow-big as needed offerings. The real benefit, however, is the huge increase in agility from several factors.

First, most cloud services are provided and priced according to immediate need – compute and, data volumes, etc. – with capacities modified in real time to meet changing needs. Second, the services can be provided immediately and in most cases anywhere the customer needs them, worldwide. Third, it shifts the IT model from a capex to an opex model with pay-as-you-go, giving IT greater flexibility to meet the unpredictable compute needs. Fourth, the infrastructure is constantly

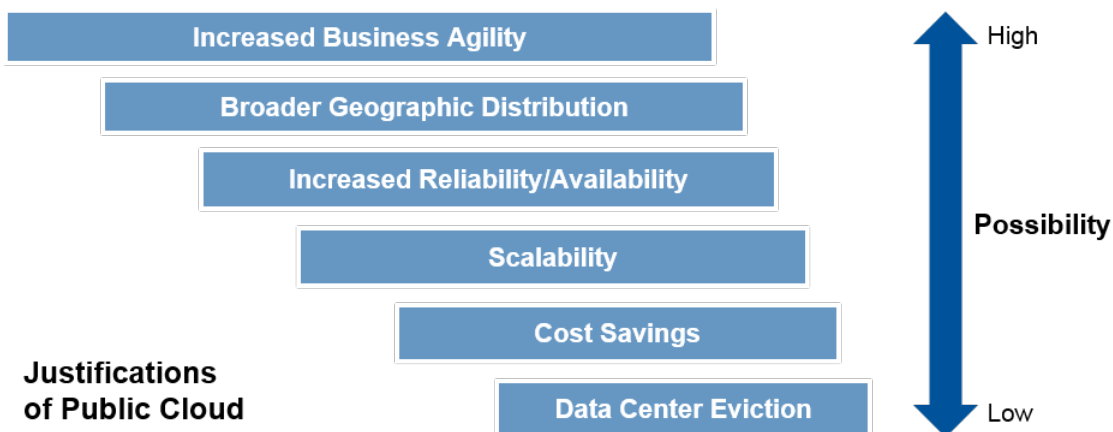
Some of the key advantages cloud offers

- Shifts IT from Capex to Opex model
- Offers massive economies of scale
- On-Demand Capacity
- Fast and Agile
- Bottomless low cost storage
- Limitless Compute
- Scalable & Elastic
- Serverless computing
- Geographic distribution and availability
- Fully managed and offered as infrastructure as a service

modernized, and innovative technologies are made available as on a services model, enabling organizations to leverage cutting-edge technologies without the hassle of deploying and managing them. Fifth, the infrastructure is available on demand across geographies making it easier for IT to manage global deployments and meeting the new data storage and processing requirements with greater ease.

The result is increased business agility and innovation, broader geographic distribution, increased reliability and availability, essentially infinite scalability, and in many cases, yes, cost

FIGURE 3 Justifications of Public Cloud



savings. Financially, it shifts IT from a capex to an opex model, and it eliminates the need to plan today's infrastructure purchases based on projections of five-year demand growth. But the largest benefit is that it turns IT into a business service with a business value that business executives can understand and appreciate. As a result, companies are adopting a 'cloud first' strategy for all their new digital initiatives. And not just for new applications: Organizations are looking to move existing business applications to the cloud, either by migrating existing software to IaaS vendors such as AWS and Microsoft Azure, or by replacing them with SaaS services that can be tailored to provide exactly the services the company needs. Major vendors such as IBM, Oracle Corp., and Microsoft are migrating their customers wholesale to their clouds. This again ties back to the need to remove road blocks such as data volume and legacy applications in your current on-prem environments.

The many flavors of cloud adoption

Cloud computing can be leveraged in several ways. Cloud services range from lower-level infrastructure (IaaS) to high-level business processes (SaaS),

and from public (shared) to private (dedicated) implementations. Corporate strategies range from migrating existing applications and writing new ones to IaaS platforms to replacing applications with SaaS or custom software that leverages cloud-centric distributed and parallel processing capabilities in the hyper scale public cloud. Some of these approaches demand new skills and techniques to build, deploy, manage, and maintain applications. Some require a complete re-examination of assumptions, while others leverage existing approaches.

Gartner refers to cloud computing as a global-class phenomenon because it focuses on outcomes connected around the world, rather than on technologies and internal enterprise strategy. In the global computing model of digital business, the focus is on the culture of the consumer and an externalized view of computing. Service-oriented architecture (SOA) principles apply along with global-class concepts that involve Web-oriented architecture (WOA), cloud/client models, and REST-based approaches. In addition, the inherent focus on services in cloud computing goes beyond SOA to self-service interfaces and SLAs.

Need for a Modern Data Platform That Embraces Cloud to Fuel Digital Transformation

Over the next five-to-ten years, almost all traditional compute loads will migrate to cloud. Hybrid computing will be a temporary architecture in most enterprises, increasingly dominated by cloud services until very little remains in the internal data center, and IT operations will refocus on managing those cloud services. However, this journey will take a phased approach, and no single path fits every scenario. IT organizations need to support on-prem, hybrid, and multi-cloud

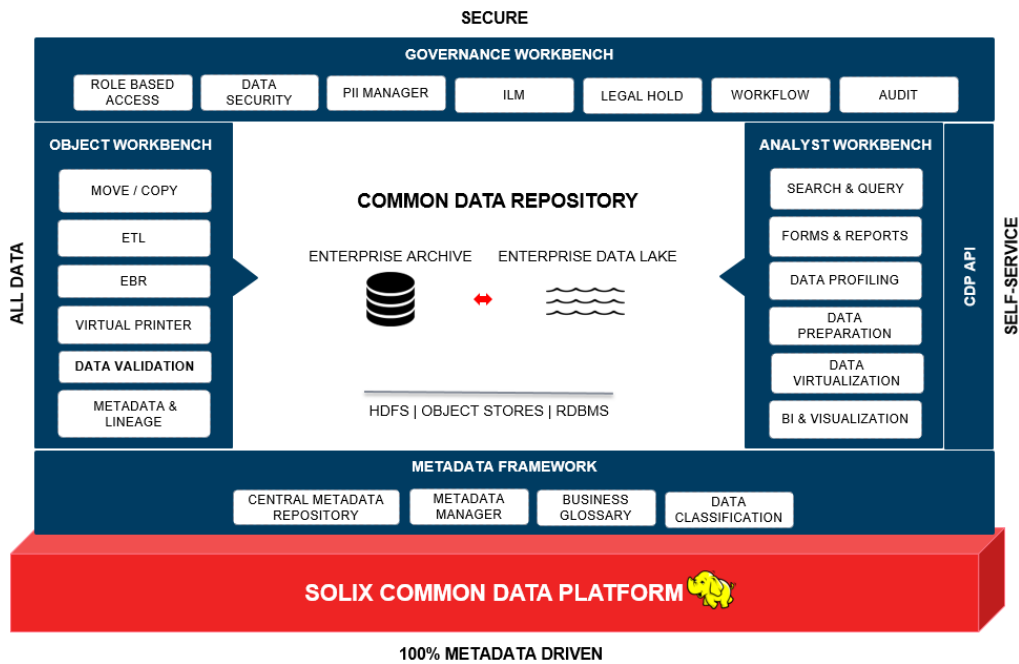
deployments during this transition. They will need a data management framework based on the modern realities of data origins spread across on-prem and cloud environments, data variety, massive data volumes, complex governance requirements, data privacy, and universal data access. For this reason, organizations need to adopt next generation data platforms such as Solix Common Data Platform.

Introducing the Solix Common Data Platform – A Big Data Application Framework

The Solix Common Data Platform (Solix CDP) is the only enterprise-ready big data management platform for modern data-driven enterprises. It uses the best open-source big data technologies to help companies better organize, manage, and process

all of their structured and unstructured data for advanced analytics, compliance, infrastructure optimization, and data security. With inbuilt features such as data ingestion, data governance, metadata management, ILM, data

FIGURE 4 Solix Common Data Platform



Source: Solix

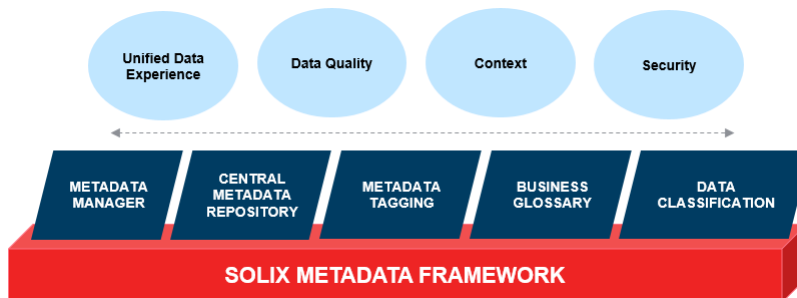
preparation, visualization, and APIs, Solix CDP offers enterprises the much needed framework to build data-driven digital applications and fulfil the ever growing requirements of self-serve data access and complex data regulations.

Is 100% metadata driven

The Solix platform is built on a strong and complete metadata framework. This is required to

govern, model, and report on data successfully. Allowing data users to add custom metadata to their ingested data supports a far richer business glossary, which in turn enables a better contextual understanding of the data. Supporting automatic metadata ingestion from multiple sources enables full lineage of the data to manage compliance, validation, audit and granular security on a single pane of glass supporting all data across the enterprise, whether it is physical, logical, or virtual.

FIGURE 5 Solix Metadata Framework

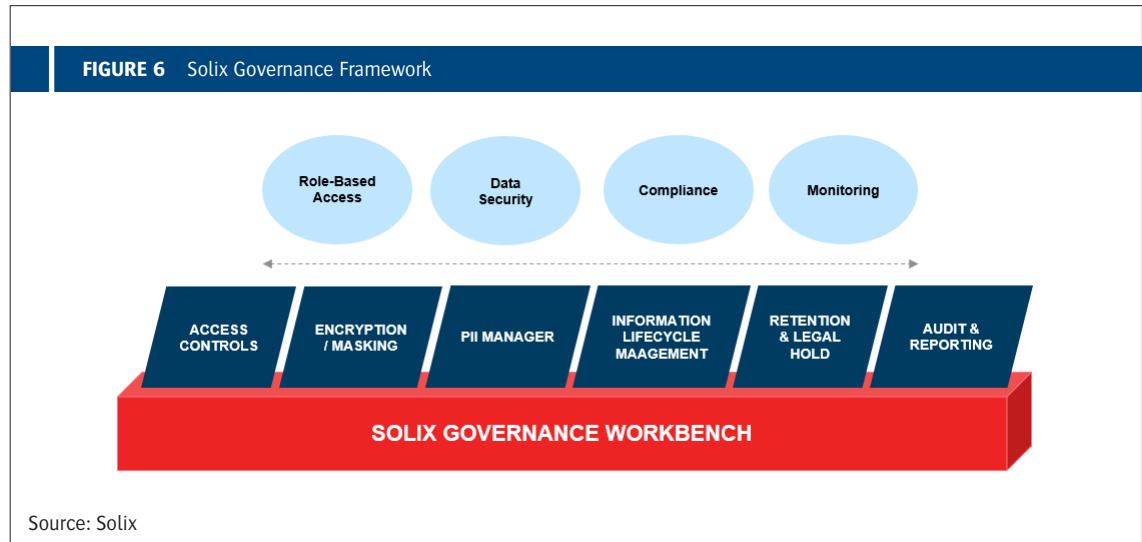


Source: Solix

End-to-End Governance

Comprehensive information governance provided by the Solix CDP establishes the control framework necessary for proper data access control, data assessment, data discovery, data classification, data validation, retention management, legal hold, and privilege management to achieve robust ILM. Its security mechanism integrates with

existing implementations such as Active Directory, LDAP, and SSO. The Solix CDP provides a true ILM continuum that addresses the complexity of governance in the big data world, while ensuring governance for core enterprise applications is not sacrificed. The Solix ILM framework manages the data within its repository and provides integrated retention management and legal-hold capabilities.



Plug-and-Play Big Data Adoption

The Solix CDP includes all the non-standard interfaces required to build and maintain the Hadoop stack. As new technologies emerge, the Solix technical team will add any new interfaces and other technology required to connect these to the stack. The current Solix CDP stack already includes support for Hive, Spark, Impala, Apache Ranger, Apache Sentry, R and cloud-based database query engines such as Big Query, Redshift, and Cosmos DB. This turns big data adoption from a huge technical challenge into a plug-and-play exercise and future-proofs the stack.

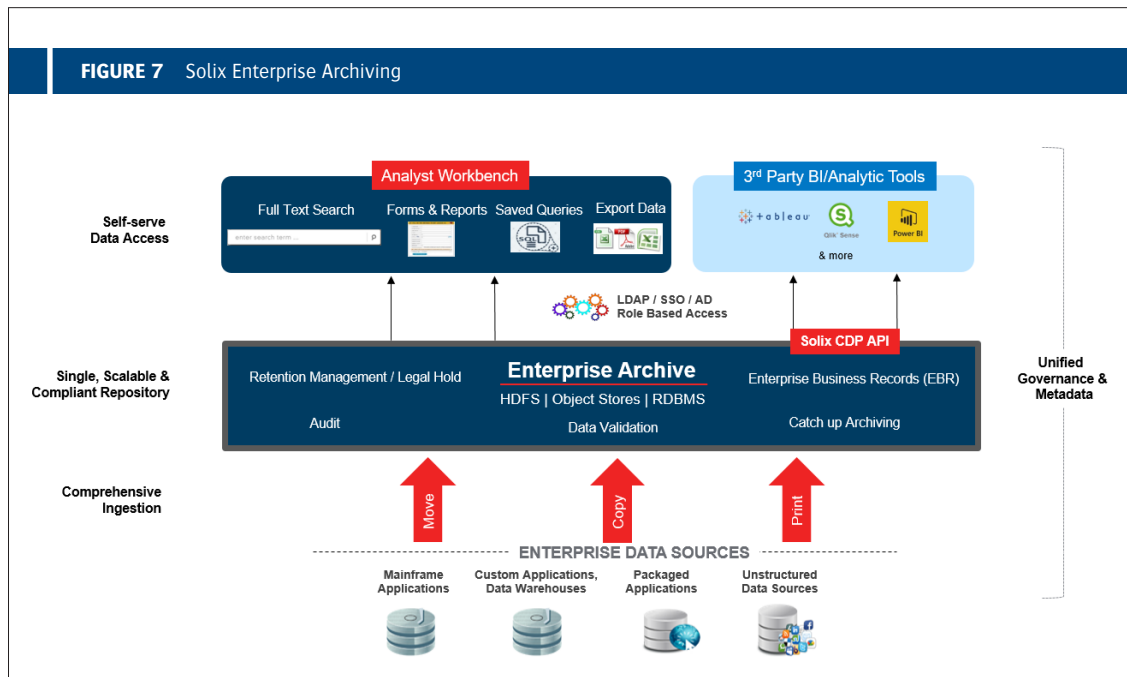
Cloud Ready

Solix CDP is fully cloud ready and supports a choice of deployment options including public cloud, private cloud, and hybrid. It leverages the unique compute and object storage offerings of public cloud services such as AWS, Azure, Google, Oracle and IBM to deliver a dynamically scalable, secure, reliable and low cost data management platform to power the next generation of apps. Additionally, Solix CDP leverages the wide geographic availability of public cloud to allow global companies to store data locally enabling them to comply with local data regulations.

One Platform with Multiple Solutions to Supercharge Your Digital Journey

Enterprise Information Archiving on the cloud

Turn a Data Growth Crisis into an opportunity while keeping Compliance and Costs under control.



Archiving has emerged as an ILM best-practice for meeting data growth challenges. Typically, up to 80 percent of data in core production applications is inactive. At a time when organizations are looking to reduce costs, archiving inactive data can free resources for high-ROI driven digital transformations.

Solix Enterprise Archiving provides a unified, scalable, and compliant storage environment with application-aware ingestion, custom retention policies, e-discovery, legal hold, and data access across structured and unstructured data. It offers

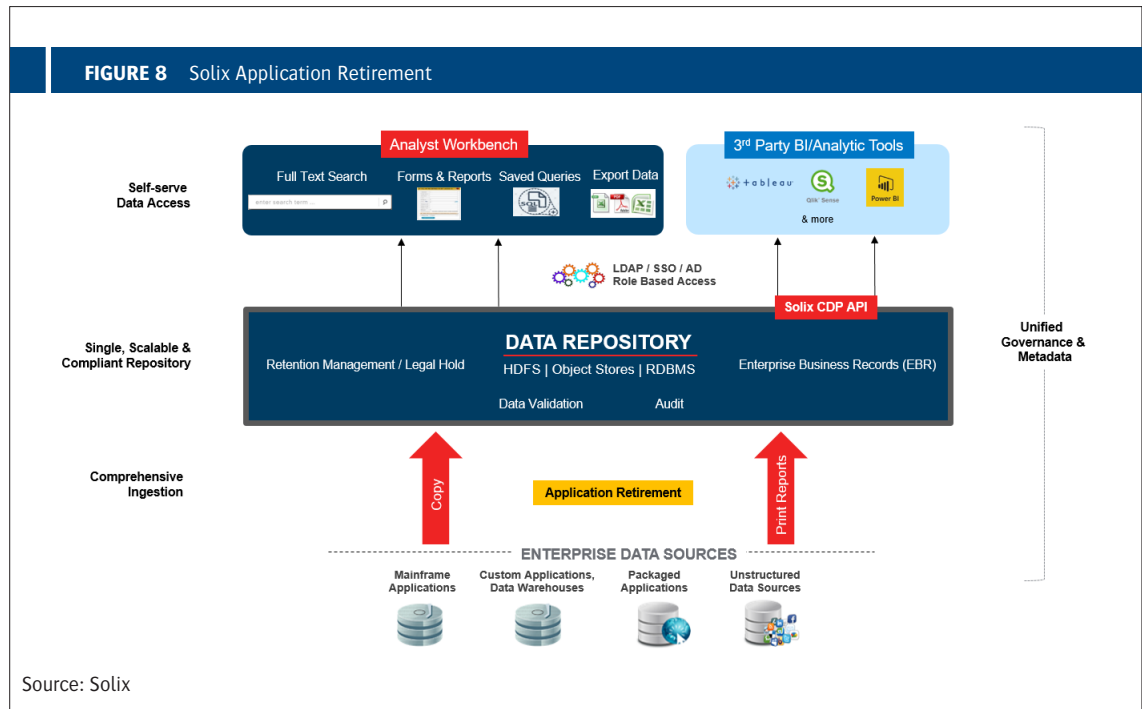
tiered data archiving and leverages secure cloud-based object storage to optimize storage cost, manage data growth, boost application performance, and improve availability, while preserving data access for analysis, legal, and compliance needs. Archiving also has proven to help with application migrations and modernization as it reduces the overall data that needs to be migrated to newer applications. With Solix Enterprise Archiving, IT organizations are better able to reallocate resources to digital transformation without the worry of data growth.

Benefits of Solix Enterprise Archiving on the cloud

- Single, compliant, and secure data repository
- Leverage low cost cloud storage and on-demand compute
- For Structured & unstructured data from all applications and file stores
- Manage data growth efficiently across the IT landscape
- Improve application performance by up to 50%
- Reduce infrastructure and maintenance costs
- Fulfill E-discovery and Legal hold requirements
- Policy-based data retention and deletion for compliance
- Application aware ingestion and access capabilities
- Offers Hybrid and Multi-cloud options
- Archived data is available for advanced analytics seamlessly
- Audit control and reporting for compliance assurance

Application Retirement on the cloud

Make way for the new



Obsolete, duplicate, and unused applications are major drains on IT budgets. Gartner estimates that “on average, 10 percent of applications in un-optimized portfolios are candidates for retirement. And an additional 1/3rd can require migration or rationalization.” Retiring these apps frees staff, eliminates the need for legacy technical skills and licensing and maintenance fees, and frees servers and storage systems for more valuable use cases. It helps with SaaS adoption, cloud migration, data center consolidation, and digital business enablement.

New regulations provide additional reasons for decommissioning legacy applications and archiving their data. Gartner’s “How To Address

Data Retention and Application Retirement” report warns that “by 2022, 80% of organizations affected by the General Data Protection Regulation (GDPR) that do not engage in application retirement will be fined for noncompliance.”

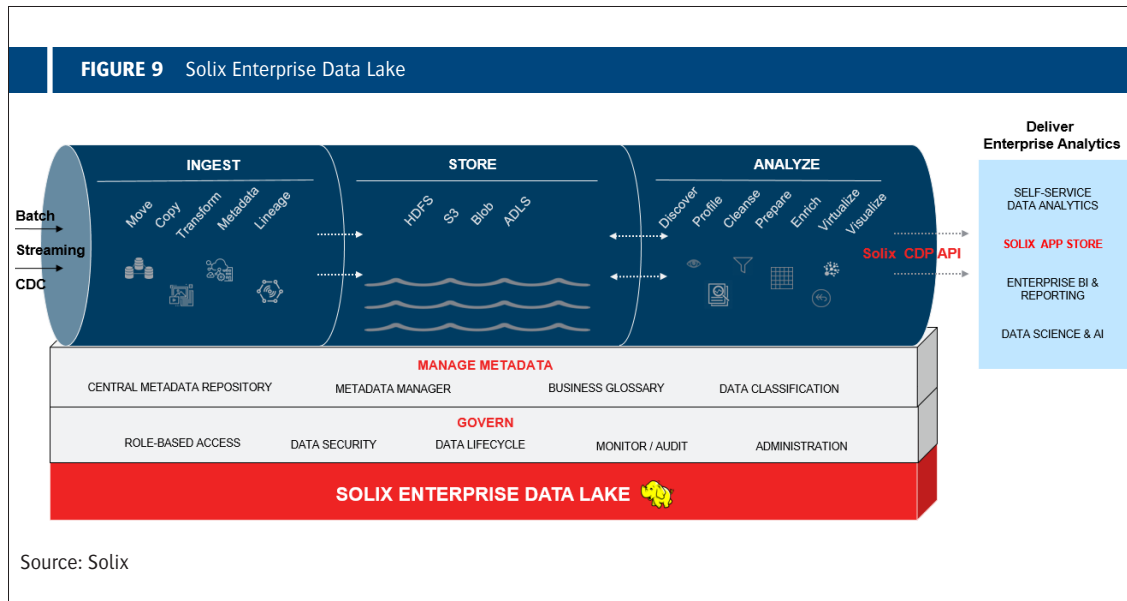
The issue with application retirement often is preserving data access. The Solix CDP copies the legacy data to the cloud archive, preserving the full metadata context in complete business objects. It de-duplicates the data, compresses it as much as 90%, and then stores it in an immutable format that can be viewed, searched, and discovered for legal, compliance, and analytic uses, and standard reporting.

Benefits for Solix Application Retirement on the Cloud

- One platform to retire all legacy applications
- For structured and unstructured data
- Leverage low cost cloud storage and on-demand compute
- Retain long term access to data
- Meet compliance objectives
- Free up valuable resources for digital initiatives
- Reduce storage, maintenance and infra costs
- Maintain seamless access to archived data for analytics

Enterprise Data Lake on the Cloud

Empower your organizations with machine Learning and advanced Analytics



The Solix Enterprise Data Lake provides a fully governed central data repository to store all your structured and unstructured data at scale. It features advanced capabilities for data ingestion, metadata management, data governance, and universal data access. Massive volumes of data can be captured and stored 'as-is' on low-cost cloud object storage without having to first structure or define a schema. This helps avoid time-consuming and expensive ETL processes at during data ingestion and enables schema-on-read to support the unique needs of every analytics use case your organization might have. Additionally, the in-depth data preparation features and the inclusion of advanced open-source technologies, including Apache Spark, Impala, Jupyter and R, make it an ideal platform for machine learning and advanced predictive and prescriptive analytics. The Solix Enterprise Data Lake can be deployed on-prem or

on any of the public cloud services. It can function in a hybrid and multi-cloud environment too. It leverages the unique auto-scaling capabilities and the bottomless low cost object storage offered by cloud vendors to enable on-demand compute to process large amounts of data at low costs.

The Solix Enterprise Data Lake employs an Information Lifecycle Management (ILM) framework to meet governance, risk, and compliance objectives, and ensure that best practices for data retention and classification are deployed. This helps keep the data lake relevant, compliant and manageable by ensuring data of value is retained in a secure manner and the rest archived or purged as per pre-configured ILM policies and business rules.

Benefits for Solix Enterprise Data Lake on the Cloud

- Single, scalable, low cost and compliant repository for all enterprise data
- 100% metadata driven for unified data experience and understanding
- Comprehensive data governance with inbuilt ILM for compliance and cost management
- Leverage low cost cloud storage and on-demand compute
- Advanced data preparation and query capabilities for making data analytics ready
- Integration with Jupyter, R and other technologies to enable advanced ML and analytics

The Solix CDP is the only platform in the market that unifies legacy and inactive data with current data to enable seamless data experience for e-discovery, data retention, and advanced analytics.

Solix Logical Data Warehouse

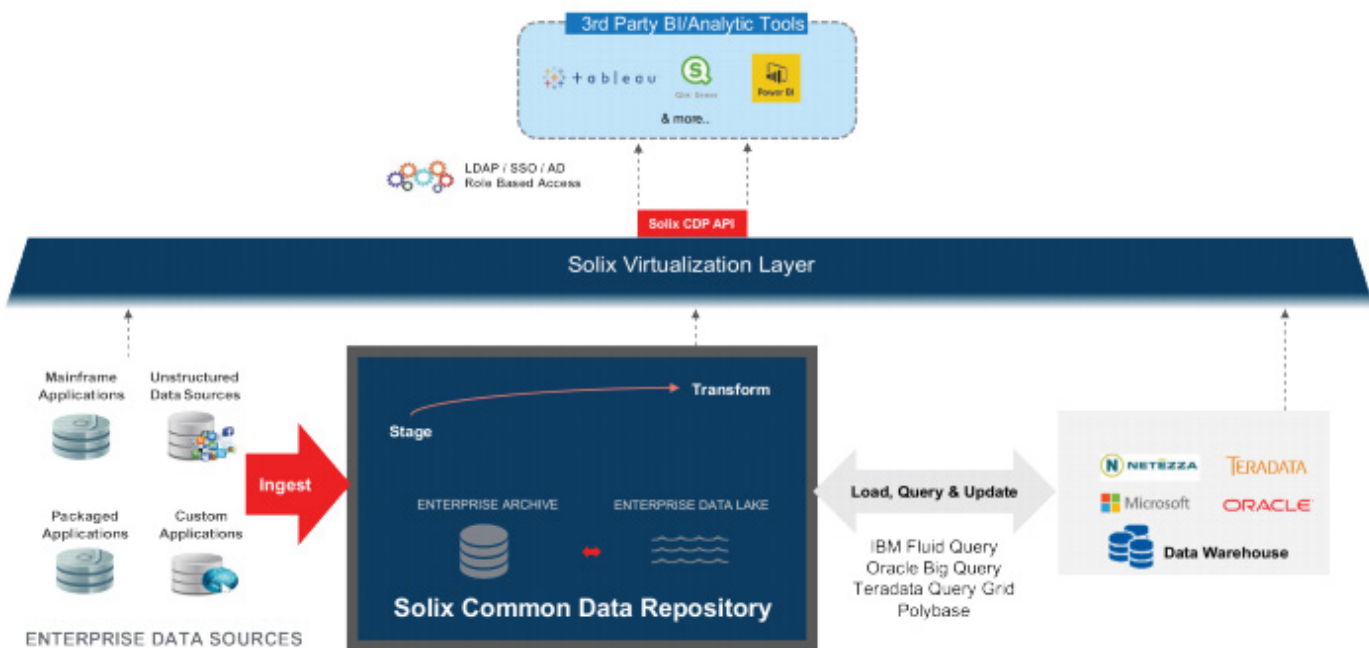
In today’s enterprises, data is spread across different applications, databases, and object stores that are located on-prem and across multiple cloud services. For organizations to really benefit from all of this data, they need to bring it together for trend analysis and advanced predictive and prescriptive analytics. This is no small task considering the technologies powering these applications and data repositories vary widely. This makes real-time direct access to enterprise data for advanced analytics a near impossible task, as business users and analysts do not have all the skills required. While it is time consuming, IT teams can help by engineering several data pipelines to copy this data into a central data lake and make it available for downstream consumption. However, the organization’s information policies or compliance frameworks could prevent copying of some data, resulting in exclusion of certain data from analysis. This directly impacts the quality and authenticity of insights generated.

Solix LDW solves these challenges through its smart central metadata repository and virtualization technology. While the central metadata repository provides a single-pane-of-glass view and understanding of all enterprise data, the virtualization technology helps query all the data while shielding the user from underlying complexities of querying from source systems - different technologies, formats, locations, protocols, etc. – to provide a common consistent method to access data.

Data virtualization is a critical part of the LDW architecture, enabling querying of data from across multiple data sources without the need to move/copy data. It can work with both traditional structured data sources, such as databases, data warehouses, etc., and less traditional data stores, such as Hadoop, NoSQL, Web Services, SaaS applications and so on, while still appearing as a single “logical” data source to the user.

With no need to reboot the organization’s enterprise architecture, the Solix LDW harnesses the current architecture to develop a new enterprise blueprint, establishing an modern cloud-based data architecture capable of evolving with the business requirements of the organization.

FIGURE 10 Solix Logical Data Warehouse



Conclusion

It should come as no surprise that digital transformation is creeping up businesses' agendas as they seek to stay ahead of the competition, steer and make better use of technology, attract talent and drive innovation. Cloud services, which effectively offer unlimited and on-demand IT resources, form the foundation for digital transformation initiatives. Unbound, at least from a technology point-of-view, from fixed infrastructure and proprietary IT, businesses using cloud are free to take more risks and are able to respond quickly to changing market conditions.

To realize the digital promise, organizations will need to leverage all the data generated in the process. After all, data makes digitization meaningful and provides the necessary insights to fuel growth. To achieve this, many organizations need a modern big data framework that can help them derive the desired insights while reducing

infrastructure costs, reducing risks, and ensuring compliance and governance. The Solix CDP is the answer. It provides robust data collection, governance, and preparation tools with self-service visualization and business intelligence. It can ingest, prepare, transform, and orchestrate data from multiple sources in real time to support advanced analytics, integrated dashboards, and actionable insights. It creates a single logical data warehouse (LDW) of structured and unstructured data from all of enterprise on-prem and cloud data sources including Hadoop data lakes, EDWs and streaming data. It ensures end-to-end lineage and enables governed data sharing among peers, employees, partners, and customers. It leverages the scale and flexible nature of cloud to offer a low costs high performant data architecture. The Solix CDP is the data platform on which companies need to build their future business infrastructure.

Source: Solix

Contact Us

For more information contact us at:

Solix Technologies, Inc.
4701 Patrick Henry Dr., Bldg 20,
Santa Clara, CA 95054.

Toll Free: +1.888-GO-SOLIX, (1.888.467.6549)

Telephone: +1.408.654.6400

Fax: +1.408.562.0048

info@solix.com

<https://www.solix.com/>

