![Informatica]

4 Keys to Strategic Master Data Management in the Cloud

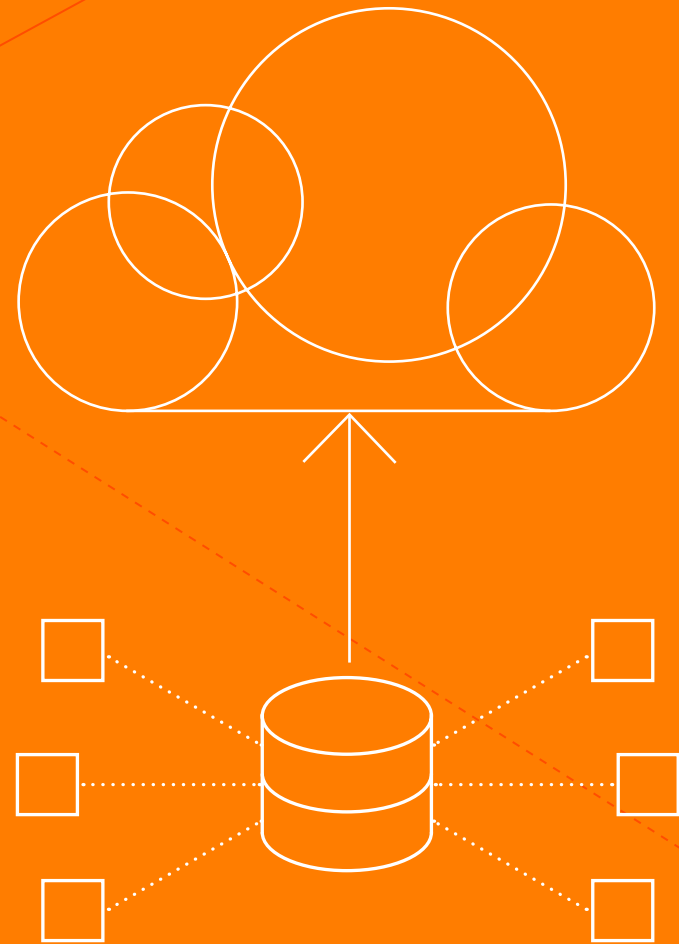# Contents

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Introduction

Why You Need a Strategic MDM Solution for the Cloud

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Organizations deploy a master data management (MDM) strategy to gain a single, trusted source of reliable information to deliver business value. Until recently, those seeking an MDM solution had to choose between a full-featured on-premises master data management platform or a cloud-based solution.

Making this selection entailed significant trade-offs.

On the one hand, mature on-premises solutions provided comprehensive and robust MDM capabilities, including data governance. But they required significant time and effort from IT to get up and running and to manage over time—resources that could potentially be better used driving business value from master data. Moreover, they did not offer modular, agile deployment options for adding new capabilities to support business innovation.

On the other hand, many fully cloud-based solutions met business demands for speed and flexibility, but lacked tested, enterprise-class functionality and scale because these vendors were new to the market. This was of particular concern if you needed to comply with regulations that demand robust protections for sensitive data.

For the agility to deliver results at the speed of innovation, you need an MDM solution with the robust capabilities to meet all your strategic requirements in the cloud.

This eBook describes why organizations are increasingly looking to move their MDM strategy to the cloud, and what to look for in a cloud-based solution that can successfully support your MDM strategy.
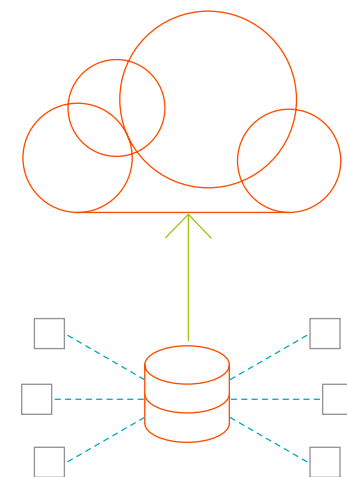
Why You Need a Strategic MDM Solution for the Cloud

Why move MDM to the Cloud?

Your organization needs to continuously innovate to stay competitive. And business insights are necessary to fuel all of your key digital transformation initiatives—whether you're looking to boost customer experience, enhance operational efficiency, implement advanced analytics, improve governance and compliance, or streamline processes during mergers and acquisitions.

A master data strategy creates trusted data for your organization to use. It ties all your systems and information together into a single source of truth for your data-driven digital transformation. MDM enables your organization to maximize your data to generate the greatest business impact.

Because Cloud MDM solutions enable you to obtain MDM as a service, you can:

- Speed time to value through automated MDM infrastructure provisioning
- Free your IT department from having to manage and maintain complex MDM installations, allowing greater focus on driving business value from master data
- Automatically leverage the latest features and enhancements
- Reduce hardware and maintenance costs through the use of low-cost hosted infrastructure such as Amazon Web Services, the Google Cloud Platform, or Microsoft Azure
- Lower capital and operating expenses through subscription pricing
- Future-proof your operations

But as we've said, many cloud MDM solutions miss the mark because of thin capabilities and immature implementations. In order to gain the advantages of strategic MDM, the solution must address four critical requirements. It must:

1. Deliver end-to-end capabilities
2. Ensure data governance and stewardship
3. Support a phased implementation
4. Be based on a modern architecture

What is a Master Data Strategy?

A master data strategy defines how an organization overcomes specific data challenges to attain business goals through the applied use of master data assets. A master data strategy sits between the overall business strategy and data governance activities. It's about how your organization will maximize its data to generate the greatest impact.

Intelligent
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Key One

End-to-End Capabilities

Key One: End-to-End Capabilities

Because of the immaturity of many cloud MDM solutions today, businesses often find themselves having to create a complete MDM solution in the cloud using tools from multiple vendors. A comprehensive cloud-based solution will make users more efficient by enabling them to learn just one tool and use all capabilities together seamlessly so they can focus on deriving business value from MDM. Here are a few tools that a comprehensive integrated solution should include:

Data catalog – With massive amounts of data scattered across different departments, applications, and data warehouses both on-premises and in the cloud, a cloud-based MDM solution must be able to find all your data. A solution that relies on artificial intelligence and machine learning will be able to locate and catalog all your master data assets.

Data integration – Once you know what data you have and where it's located, you need to bring it into a single place. Data integration capabilities should integrate all your disparate data sources and heterogeneous applications, in a batch or in real time. These integration tools should provide high performance and availability for large volumes of mission-critical data.

Data quality – Data formats in different sources will vary widely. Data quality ensures that all your data is complete and consistent. Where possible, the system should automatically check for incomplete or invalid entries, automatically resolve conflicts, and add missing information using third-party sources. Machine learning can help augment human stewardship of quality by automatically tuning match rules to increase accuracy and confidence levels.

Business process management – No matter how advanced your automated data quality tools, humans will always need to answer the most complex data quality questions. Business process management capabilities help data stewards collaborate effectively across the enterprise. Customizable workflows, voting/ranking/chat features, mass maintenance and machine-learning enabled workflows that recommend potential actions to users can greatly enhance productivity.

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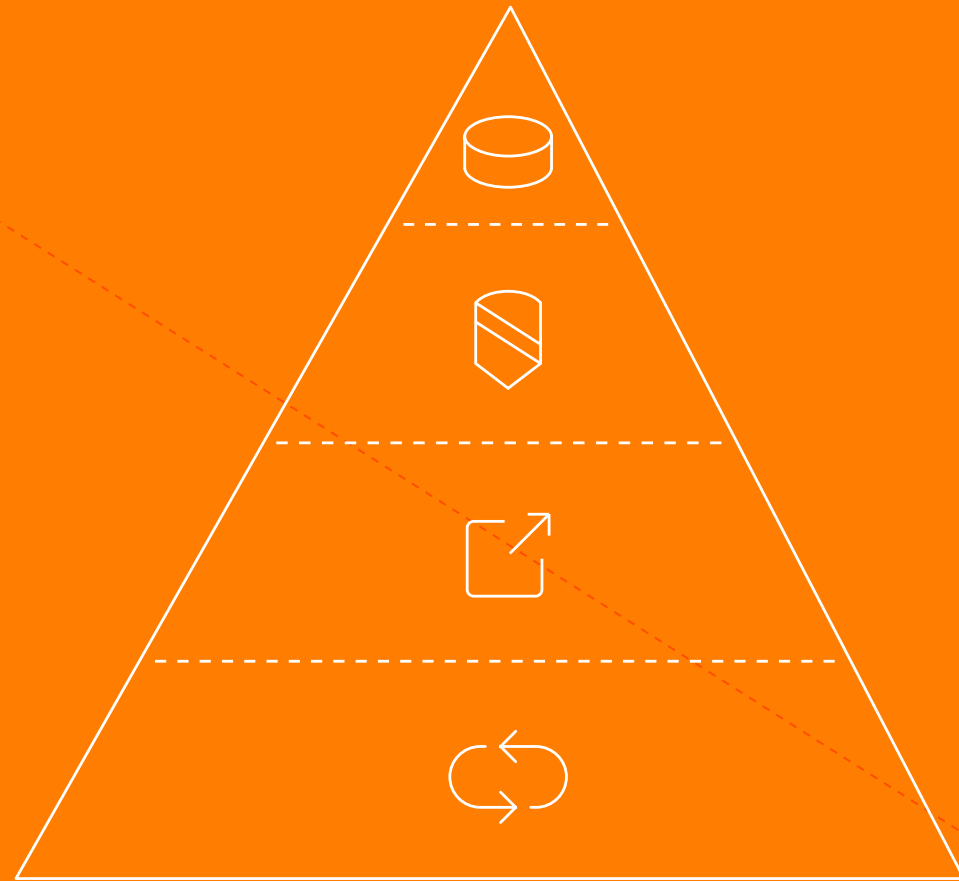
Key Two

Data Governance and Stewardship

Key Two: Data Governance and Stewardship

Master data management must enable you to define and enforce policies and procedures regarding activities such as data collection, quality, protection, access, use, and retention. Without governance and stewardship, MDM reduces business value and increases business risk. This is an area that immature cloud solutions often overlook.

Key areas of data governance and stewardship that cloud-based master data management should support include:

Ownership and Accountability – Who are the authors, reviewers, and approvers for policies, rules, and standards? Who is responsible for remediating issues?

Consent Management – What consent has been given? Processing activities must be based on consent and compliance with relevant laws.

Privacy and Protection – What data is subject to regulatory compliance (HIPAA, GDPR, CCPA, LGDP)? Does the solution enforce appropriate protection and security controls (e.g., access, masking, encryption, and cross border movement)?

Embedded Controls – The solution should provide validation checks at the point of entry, separation of duties between changers and approvers, dynamic data masking at the time of access, and deletion based on retention date.

Monitoring and Analysis – The solution should provide monitoring at the level of policy, rule, metric, master data object, workflow step, and individual/organization. Also essential are exception-based notifications with context-aware routing based on things like role, data domain and triggering event.

Audit and Reporting – Look for a solution that tracks complete change history with roll-back, including what was changed, by whom, what match and survivorship rules were used, and who approved. It should also document how and why policy decisions were made.
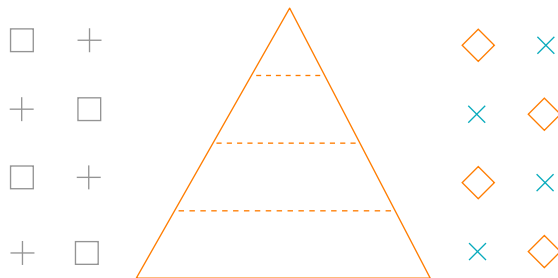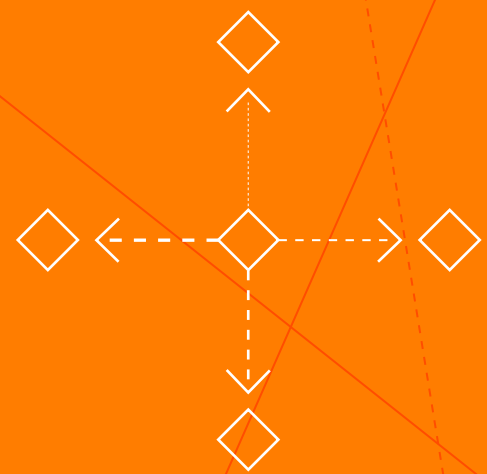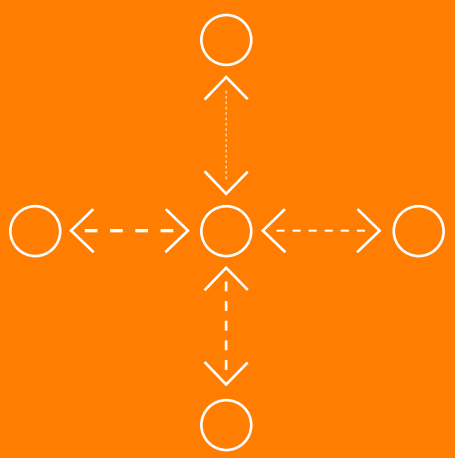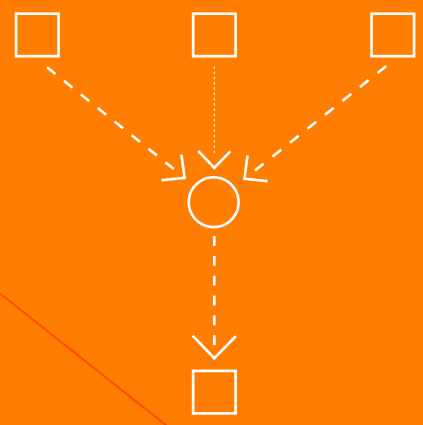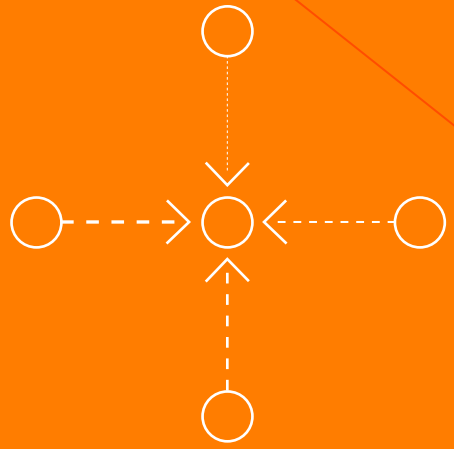
Key Three

Support for a Phased Implementation

Key Three: Support for a Phased Implementation

Organizations rarely move to a full end-to-end MDM implementation all at once. Best practice is for implementation to follow a phased approach, starting with simpler use cases and working up to the more complex and powerful instances. Your cloud-based MDM solution should support all of these phases, so you can move through each phase seamlessly as your requirements change and grow without having to replace your MDM platform.

Even if your master data requirements warrant skipping some of these phases, your cloud-based MDM should nonetheless support all these implementation styles. These phases typically proceed in the order shown below, but this depends largely on the use case and the type of results you're looking for.

Registry	Consolidation
Low control, autonomous environments • Nonintrusive to edge applications • Emphasis is on remote data and application-to-application integration (lots of real-time network access) • Distributed governance • Faster to implement then coexistence and centralized	**Ideal for reporting or analytics that reside in a business intelligence/data warehouse** • Nonintrusive to the business • BI is the business platform • Any industry • Benefits dependent on success of BI strategy • No attempt to clean up source data
Centralized	**Co-existence**
High-control, top down environments • Largest change to application infrastructure • Hugely invasive to the business • Centralized governance • Greatest control over access, security • Focus on common services	**Large-scale distributed model** • Largest change to information infrastructure • Greatest need to mirror data • Global and local governance • Greatest risk over control, security • Focused on shared services

Key Three: Support for a Phased Implementation

Registry

This phase creates a link between the data source and the MDM. The MDM creates a central index to master data that is authored in a distributed fashion and remains fragmented across source systems. MDM assigns a unique global identifier to duplicate records but is generally not the authoritative system of record for master data. The source remains responsible for managing and changing the data. This phase is mainly used to support your analytic initiatives.

Advantages:
- Lowest cost method of MDM integration
- Requires minimal intrusion to your applications
- Good for analytics use cases

Consolidation

In the consolidation phase, you bring the data from individual sources into a single consolidated system to create a "Golden Record"—a clean version of the data. While the registry phase links source data with the MDM, the consolidation phase stores data in a database on the MDM. After the MDM has run automated algorithms to cleanse, match, link, and merge the data, human data stewards make the data even better. Downstream applications can use the golden record without altering source systems.

Advantages:
- Inexpensive and quick to set up
- Fast, efficient way to facilitate enterprise-wide reporting and analytics
- Minimally intrusive
- Greater data quality than the registry approach
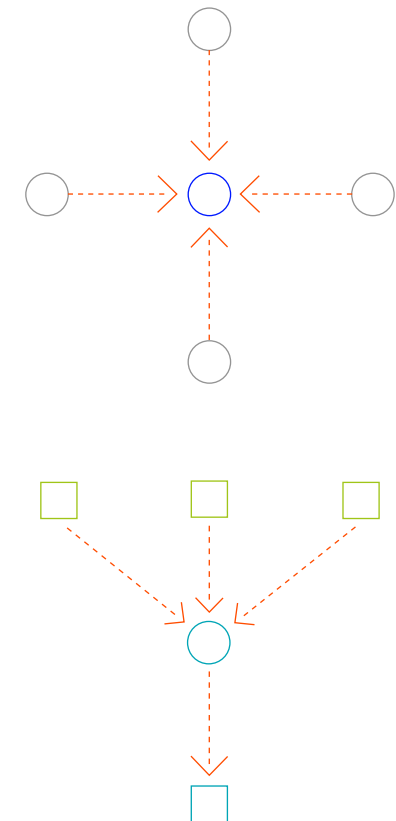
Key Three: Support for a Phased Implementation

Centralized

Here, the MDM hub manages the creation and on-going maintenance of all master data. Any source systems outside the MDM hub are no longer allowed to create or amend the master; they must subscribe to the hub for updates.

Advantages:

- Master data is accurate and complete at all times
- Data is completely consistent across the organization
- Security and visibility policies are supported at the data attribute level
- Improves business process efficiency

Co-existence

In this phase, the MDM hub maintains and accesses a golden copy of a core set of the master data attributes. MDM publishes this golden copy to subscribing systems to enable real-time data synchronization across your organization. Additional attributes can be added and maintained locally to meet the needs of specific regional, country and use cases.

Advantages:

- Enhances quality and consistency of core master data across business processes
- Increases agility and flexibility to address varied business requirements
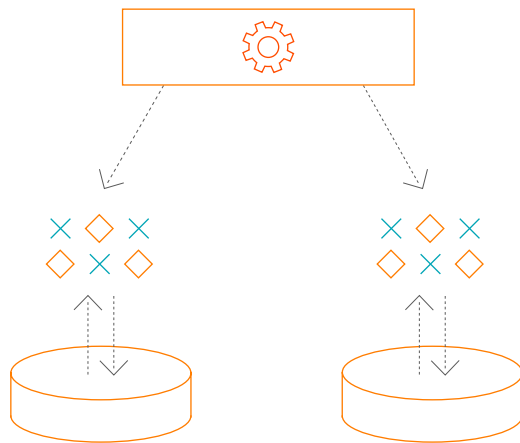- Improves global reporting accuracy and local analysis breadth and depth
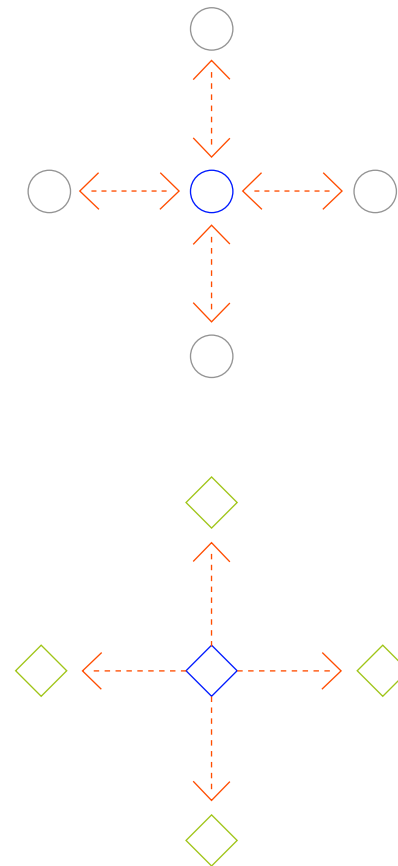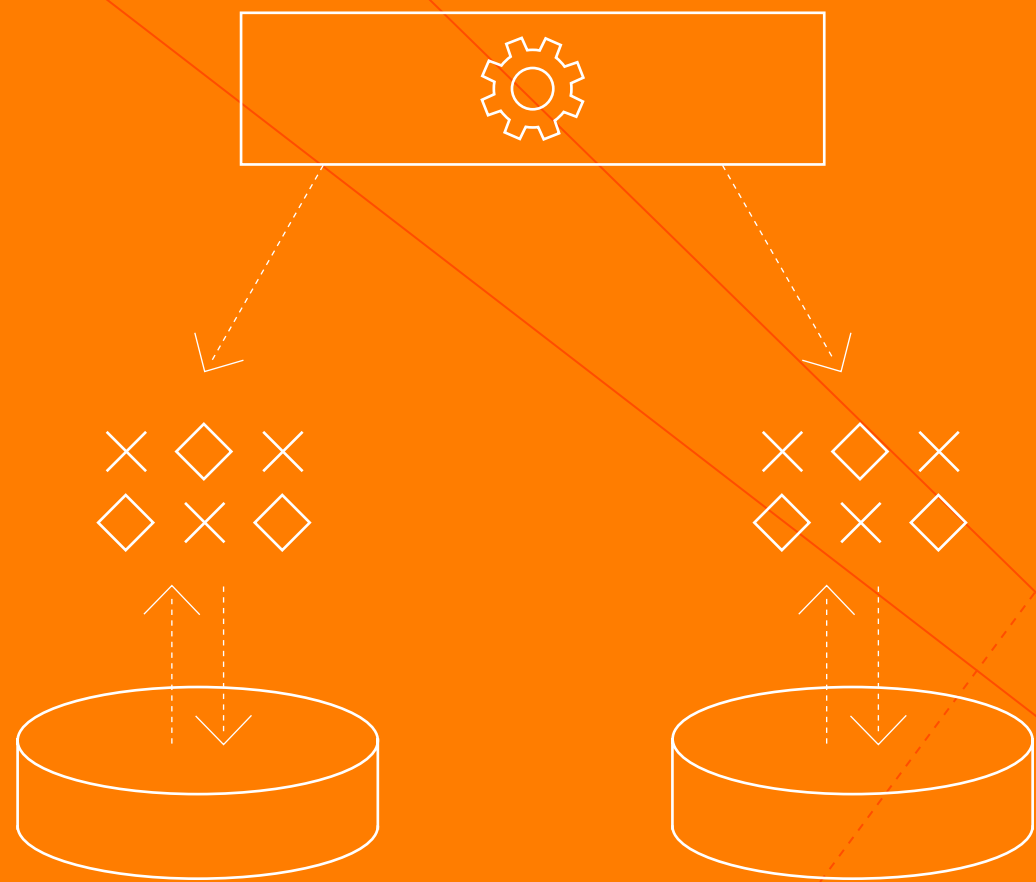
Key Four

A Modern Architecture

Key Four: A Modern Architecture

To provide the agility and flexibility modern organizations require, the cloud-based MDM solution must reside on a modern architecture. Characteristics should include:

Portability
The solution should enable you to port from one Infrastructure as a Service (IaaS) provider to another. For example, it should be easy to move from Amazon Web Services to Google Web Services to Microsoft Azure.

Microservices
Microservices are plug and play services. An architecture that supports microservices enables you to continuously update and enhance your solution by simply plugging in new microservices without the need for a major upgrade. This allows you to innovate faster, increase business agility, and easily take advantage of future cloud services.

Scalability
The MDM should give you the scalability you need to add capacity as you need it. The solution should be scalable, especially in terms of:

- **Data size** – it should manage all types of data, both big and small, structured and unstructured
- **Data sources** – It should support all your data sources, both cloud and on-premises
- **End users** – the solution should support ever-growing numbers of users

Modularity
Your MDM solution should allow you to start small, with "low-hanging fruit" projects that are easy to implement and offer quick, visible wins. Once you realize value, it should provide the flexibility you need to grow quickly and scale. This way, you can use the same solution to roll out new business initiatives for your company.
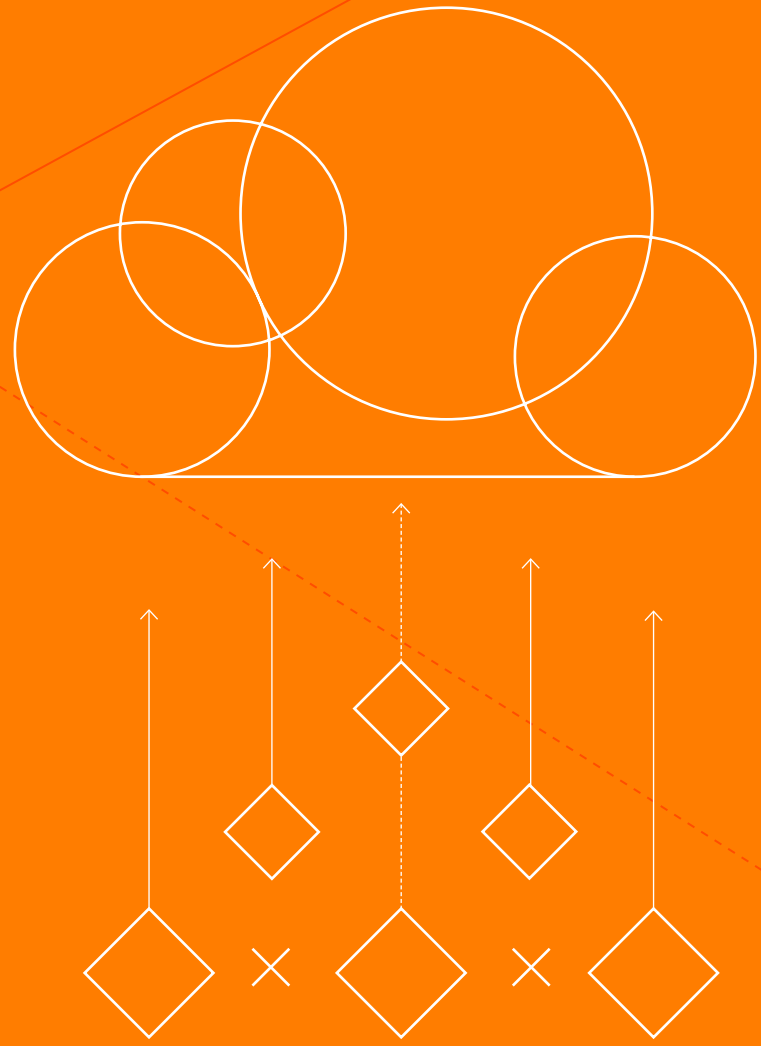
Conclusion

Discover the Right MDM Solution for Your Organization

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Today, when it comes to MDM, you no longer need to choose between having robust capabilities and moving to the cloud. You can now have your cake and eat it too. Modern solutions are now available that deliver all the agility, scalability, and cost effectiveness of a cloud implementation with the comprehensive and robust MDM capabilities of an on-premises solution. This eBook has shown you what to look for to ensure your cloud solution has the right capabilities to drive your digital transformation success.
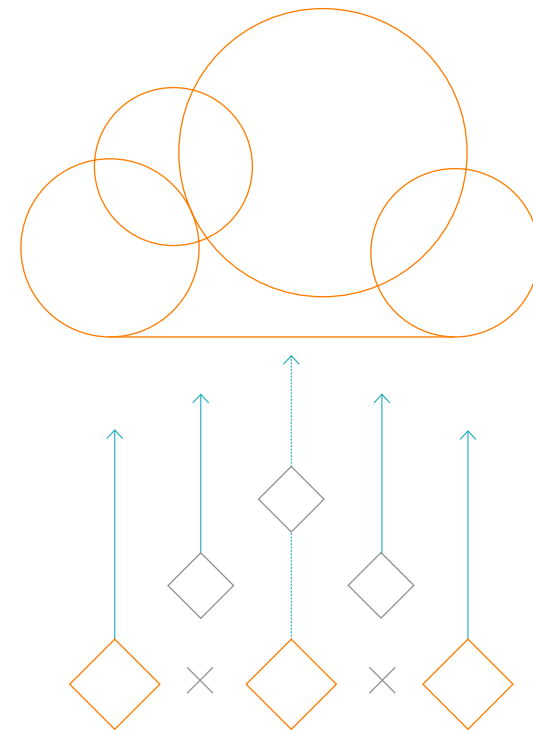
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customers and their relationships with products,
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Digital transformation changes expectations: better service, faster delivery, with less cost. Businesses must transform to stay relevant and data holds the answers.

As the world's leader in Enterprise Cloud Data Management, we're prepared to help you intelligently lead—in any sector, category or niche. Informatica provides you with the foresight to become more agile, realize new growth opportunities or create new inventions. With 100% focus on everything data, we offer the versatility needed to succeed.

We invite you to explore all that Informatica has to offer—and unleash the power of data to drive your next intelligent disruption.

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