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# Magic Quadrant for Master Data Management of Customer Data Solutions

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#### VIEW SUMMARY

Organizations selecting an MDM of customer data solution still face challenges. Overall, functionality continues to mature, but some of the well-established vendors' messages are getting more complex. Meanwhile, less-established vendors continue to build up their credentials.

## What You Need to Know

Gartner's Magic Quadrant for Master Data Management (see Note 1) of Customer Data Solutions provides insight into the portion of the packaged master data management (MDM) solution market that focuses on how organizations master and share a "single version" of customer data with multiple views of it across the organization. Achieving a "single version" of master data is a key initiative for many organizations, while "customer" data here includes other parties such as consumers, business customers and channel/trading partners, prospects and citizens. This analysis positions MDM of customer data solution vendors (and their products) on the basis of their Completeness of Vision relative to the market, and their Ability to Execute on that vision.

The four market share leaders — IBM, Informatica, Oracle and SAP — continue to consolidate their positions, but the megavendors' (that is, IBM Oracle and SAP) MDM portfolios have become more complex. IBM is focusing on a convergence road map for its multiple products; Oracle is also converging onto common middleware and MDM infrastructure; and SAP now has two products in this space — NetWeaver MDM and Master Data Governance (MDG). Informatica continues to thrive in the MDM market, while other contenders, such as DataFlux and Tibco Software, are putting new emphasis on MDM. VisionWare continues to provide a distinct Microsoft-based value proposition. Other vendors, such as Ataccama, Information Builders, Microsoft, Orchestra NetWorks and Talend are also active in the market, but their presence is still too small to be included in the Magic Quadrant.

Use this Magic Quadrant to understand the MDM of customer data solutions market segment, and how Gartner rates the leading vendors (and their offerings) in that market. Draw on this research to evaluate vendors based on a set of objective criteria that you can adapt to your particular situation. Gartner advises organizations against simply selecting vendors in the Leaders quadrant. All selections are buyer-specific, and vendors from the Challengers, Niche Players or Visionaries quadrants could be better matches for your requirements. See "Magic Quadrants and MarketScopes: How Gartner Evaluates Vendors Within a Market."

Although important, selecting an MDM for customer data solution is only part of the MDM challenge. To succeed, you should put together a balanced MDM program that creates a shared vision and strategy, addresses governance and organizational issues, leverages the appropriate technology and architecture, and creates the necessary processes and metrics for your customer data system (see "The Seven Building Blocks of MDM: A Framework for Success").

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## Magic Quadrant

Gartner's Magic Quadrant for Master Data Management of Customer Data Solutions provides insight into the portion of the constantly evolving packaged MDM systems market that focuses on managing customer data to support CRM and other customer-related strategies. It positions relevant technology providers on the basis of their Completeness of Vision relative to the market, and their Ability to Execute on that vision.

Figure 1. Magic Quadrant for Master Data Management of Customer Data Solutions

## NOTE 1 MDM DEFINITION

MDM is a technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the enterprise's official, shared master data assets. Master data is the consistent and uniform set of identifiers and extended attributes that describes the core entities of the enterprise, such as customers, prospects, citizens, suppliers, sites, hierarchies, and chart of accounts.

#### NOTE 2 DEFINITION OF MULTIDOMAIN MDM TECHNOLOGY

Multidomain MDM technology is a purpose-built solution targeted at addressing the multidomain technology requirements of an MDM program. It has the following characteristics:

- It can be implemented in a single instance. The data model is uniform or is interoperable and able to manage cross-domain intersections. The workflow and user interface elements are uniform or interoperable.
- It supports at least one use case, implementation style and organization/governance model, for specific industry scenarios.

#### NOTE 3 RESTATEMENT OF MARKET DATA

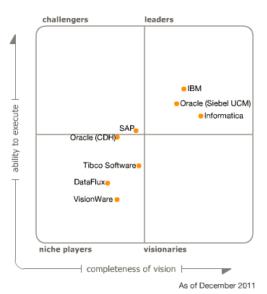
As part of the research process that underpins the MDM of customer and product data Magic Quadrants, Gartner estimates each vendor's software revenue and buying patterns for products through surveys, inquiries and thousands of customer touchpoints. During 2011, data came to our attention that warranted a re-statement of historical software revenue for particular vendors. This new data was used in the analysis for the 2011 MDM customer and product data Magic Quadrants. For vendors' software revenue, please also refer to "Forecast: Master Data Management, Worldwide, 2010-2015."

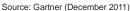
#### NOTE 4 OTHER VENDORS

In addition to the software vendors that have been rated in this Magic Quadrant, many software vendors are on the periphery of the MDM of customer data solutions market.

Vendors whose MDM of customer data solutions revenue is too small, do not have a sufficiently developed customer base or that focus on a limited geographical region, include:

Ataccama (Headquarters — Stamford, CT, USA; Development Center — Prague, Czech Republic; Website — www.ataccama.com): Ataccama is Czech vendor with an MDM product called Master Data Center (MDC) v.7.0, which has been generally available from December 2010, and includes





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## Market Overview

MDM is a technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the enterprise's official, shared master data assets. Master data is the consistent and uniform set of identifiers and extended attributes that describes the core entities of the enterprise, such as customers, prospects, citizens, suppliers, sites, hierarchies, and chart of accounts.

#### The Need for a Single View of the Customer

The business drivers for creating a single view of the customer include:

Compliance and risk management drivers, such as "know your customer," anti-money laundering or counterparty risk management in banking, or Sunshine Act compliance in life sciences. These initiatives tend to have the hardest benefits and they are mandatory.

Cost optimization and efficiency drivers. Very often these drivers are associated with business transformation initiatives and end-to-end business process improvement. These have tangible benefits and are a good fit for organizations' needs during a down economy.

Growth in revenue and profitability drivers. Examples are improvement in cross-sell, upsell and retention, together with improvements in the customer experience. These can be more difficult to measure, but are a major focus when the economy is going well.

However, most large enterprises have heterogeneous application and information management portfolios, with fragments of often inaccurate, incomplete and inconsistent data residing in various application silos. No single system contains the single view of the customer or is designed to manage the complete life cycle of the customer master data.

#### Approaches to Creating the Single View of the Customer and the Increasing Adoption of MDM

The ability to create, maintain and leverage a single, trusted, shareable version of customer master data is increasingly seen as an essential requirement in commercial and noncommercial organizations to support business processes and business decision making. When creating and managing customer master data, many organizations and vendors originally thought that CRM, ERP or vertical industry systems would solve the problem of inconsistent master data gread across multiple systems; however, CRM, ERP and vertical industry systems weren't designed for that task, and often there are multiple CRM or ERP systems. Since 2004, leading organizations have invested in creating a new central system to master the customer data. This new system can be bought or built, but the majority of organizations are buying packaged MDM of customer data solutions.

Gartner started tracking the MDM of customer data solutions market (then known as the customer data integration [CDI] hub market), together with the MDM of product data solutions market (previously known as the product information management [PIM] market — see "Magic Quadrant for Master Data Management of Product Data Solutions") in 2004. As time has progressed, these individual markets have become part of a larger emerging MDM market.

Investment in MDM of customer data solutions continues to occur across all vertical industries and government. Product-oriented industries tend to be interested in a wide set of data domains (such as product, supplier and customer), whereas the service industries (such as financial services) and government tend to focus mainly on the customer data domain. There is global interest and investment in MDM of customer data technology, although best-of-breed vendors tend to have geographical limitations. So far, large enterprises have been the primary investors in MDM of customer data

Ataccama's data quality tool product called Data Quality Center (DQC). The vendor has a total of 11 MDC customers using the MDC product. Historically, most of Ataccama's customers were in central and eastern Europe, and Canada, but it is now expanding into the German and U.S. markets. Ataccama also has an OEM relationship with Information Builders, which resells MDC and DQC. D&B (Headquarters - Short Hills, NJ, USA; Website www.dnb.com): D&B is best known for providing information and insight on business customers. It is generally regarded as the leading supplier in the B2B area, with the most worldwide coverage (more than 200 million businesses). D&B's hosted data service (D&B Optimizer) can be used to bring structure to business data by persistently identifying legal entities via D&B D-U-N-S Numbers and providing an understanding of legal entity hierarchies, and it also has a newer data-asa-service offering called D&B 360. Both offerings can support a wider MDM strategy. D&B also used to be a player in the MDM solutions market with the Purisma Data Hub MDM solution, but in 4010 announced that although this product will continue to be supported, there will be no further proactive sales or development of the product. Information Builders (Headquarters - New York, NY, USA; Website -

www.informationbuilders.com): Information Builders' IWay product division provides MDM, DQC and Data Governance solutions that are based on a combination of Ataccama's MDC MDM and DQC data quality technologies and iWay technologies. Information Builders licenses these Ataccama technologies and owns the source code. Information Builders now has a total of 15 MDM customers, including 11 managing customer data. Its value proposition is based on a combination of its Way integration technologies, which includes an extensive adapter portfolio, MDC, DQC, WebFocus, BI and reporting. Information Builders can also leverage its extensive global presence.

Hybris (Headquarters — Munich, Germany; Website — www.hybris.com): hybris is a German-based software vendor that sells to enterprises with requirements related to e-commerce, catalog, print/media and multichannel integration. It focuses mainly on managing product master data across multiple channels, although an increasing number of its customers are also using it to manage customer, supplier and asset master data. Hybris recently acquired iCongo, a North American e-commerce managed services vendor, which will help hybris increase its focus on MDM-based solutions and services.

Kalido (Headquarters - Burlington, MA, USA; Website - www.kalido.com): Historically, Kalido focused on the BI world, and its MDM customers typically used it for multi-subject-area analytical MDM use cases, such as dimension and hierarchy management, Now, Kalido MDM is increasingly applicable to both analytical- and workflow-oriented operational MDM requirements, and we estimate that it has 65 MDM customers, including nine managing customer data in a workflow-oriented operational MDM use case. In addition, Kalido has expanded its focus to include enabling data governance, and Kalido Data Governance Director was introduced in December 2010. It is designed to operationalize data governance programs through data policy management, and is complementary to MDM products.

Microsoft (Headquarters - Redmond, WA, USA; Website - www.microsoft.com): SQL Server 2008 R2, generally available since May 2010, includes an MDM platform called Master Data Services (MDS) that comes bundled with SQL Server Enterprise and Data Center Editions. MDS is based on technology from Stratature, an analytical MDM vendor which Microsoft acquired in 2007. MDS is a multidomain MDM platform, with good hierarchy management and version control that will enable customers to build their own MDM solution and manage the variety of data domains they have. The forthcoming SOL Server 2012 release will include enhancements to MDS. It will enable business users to manage their own changes to their master data elements from within a new Excel add-in. This will be complimented by Data Quality Services (DQS), a new solution in SQL Server 2012 based on Microsoft's Zoomix acquisition, which will provide data cleansing and matching capabilities. Orchestra Networks (Headquarters - Paris,

France; Website — www.orchestranetworks.com): Orchestra Networks is a French MDM vendor. It has

#### solutions.

## Different Generations of MDM Technology and Technology Evolution

We are routinely asked whether we have an overall MDM Magic Quadrant, but, while we continue to keep this under review, we still believe that it is premature, because MDM needs are very diverse (see "The Five Vectors of Complexity That Define Your MDM Strategy"), leading to different market segments and the majority of the buying activity and evaluations still focused on initiatives for specific master data domains. In addition, although many MDM solutions are marketed as multidomain MDM, although they don't always conform with our definition of multidomain MDM technology (see Note 2), we find that they don't provide similar depth of capability in every data domain (see "A View of Master Data Management Vendors' Experience In Handling Multiple Master Data Domains").

The products featured in this Magic Quadrant initially were first-generation MDM solutions (that is, they were still focused on a single master data domain). We then saw the evolution into second-generation MDM solutions (that is, they were able to demonstrate the ability to manage multiple domains, but mainly within the same province, such as party or thing). And now we see third-generation MDM solutions (that is, they are able to demonstrate the ability to manage all master data domains and provinces) starting to build up their maturity.

In terms of new MDM capabilities, the past year has seen particular emphasis on adding or improving data stewardship and governance facilities, including data profiling, workflow, data visualization and manipulation, dashboards, and reporting. Better user interfaces and workflows for business users, including increased leveraging of business process management (BPM) technology and MDM applets, which allow existing applications to leverage MDM-hub-based data, have been introduced. The leading vendors are starting to provide support for cloud computing and social networks (see "Three Trends That Will Shape the Master Data Management Market").

## Market Growth and Vendor Evolution Continue

Gartner estimates that total software revenue for MDM solutions was \$1.4 billion in 2010 (see "Forecast: Master Data Management, Worldwide, 2010-2015" and Note 3), an increase of 15% from 2009. Within those overall figures we estimate that the market for MDM of customer data solutions was \$446 million in 2010, an increase of 23% from 2009. We project five-year compound annual growth rates (CAGRs) of nearly 20% for both the overall MDM and the MDM of customer data software markets through 2015. As detailed in "Forecast: Master Data Management, Worldwide, 2010-2015," IBM is the market share leader in the MDM of customer data solutions market (based on sales of what historically have been known as the InfoSphere MDM Server and Initiate MDS products), with total software revenue of \$180 million. Oracle is in second place (based on sales of its Oracle Customer Data Hub [CDH] and Siebel Universal Customer Master [UCM] products) with revenue of \$92 million. Informatica is in third place with revenue of \$52 million. And SAP is in fourth place with revenue of \$38 million (based on sales of NetWeaver MDM). Together, these top four market share leaders account for 81% of the MDM of customer data solutions market.

There haven't been the same number of acquisitions in 2011 as there were in 2010, when IBM acquired Initiate Systems, Informatica acquired Siperian and Software AG acquired Data Foundations. The four market share leaders continue to consolidate their positions, but their MDM portfolios have become more complex. IBM is focusing on a convergence road map for its multiple products; Oracle is also converging onto common middleware and MDM infrastructure; and SAP now has two products in this space — NetWeaver MDM and MDG. Informatica continues to thrive in the MDM market, while other contenders, such as DataFlux and Tibco, are putting new emphasis on MDM. VisionWare continues to provide a distinct Microsoft-based value proposition. Other vendors, such as Ataccama, Information Builders, Microsoft, Orchestra Networks and Talend, are also active in the market, but their presence is still too small to be included in the Magic Quadrant.

## Vendor Positioning in the MDM of Customer Data Solutions Market

In this year's Magic Quadrant, the Leaders quadrant consists of three vendors — IBM, Informatica and Oracle (with Siebel UCM). IBM InfoSphere MDM has strong momentum in the market and it provides a range of options for organizations requiring different implementation styles, with Standard Edition (previously Initiate MDS) strong in healthcare and government and for registry-style "virtual" MDM requirements in other verticals, and Advanced Edition (previously InfoSphere MDM Server, plus Initiate MDS) continuing to have a strong position in financial services and in some parts of retail.

We continue to rate Oracle's Siebel UCM and Oracle CDH products separately, as although they are increasingly leveraging common infrastructure components, they are positioned differently, as alternatives. Oracle does not position one as a subset of the other. Also, although Oracle Fusion Customer Hub is available, it didn't qualify to be rated in this Magic Quadrant. Gartner believes that it is still several years away from becoming Oracle's lead product for MDM of customer data solutions. At the moment, Siebel UCM continues to be Oracle's lead product for MDM of customer data, substantially outselling Oracle CDH and having been the beneficiary of greater investment over the past few years. The latest release of Siebel UCM features enhanced support for several industry verticals, as well as integration with the Oracle Fusion MDM user interface for data governance.

Informatica MDM continues to do well. It has strong momentum in the market and Informatica has done a good job in scaling up its MDM business. Informatica's "universal MDM" message plays well with buyers trying to find a single MDM product that might meet all their MDM needs.

This year's Magic Quadrant moves SAP's NetWeaver MDM up to the Challengers quadrant in recognition of the extent to which the SAP base has now adopted the product, although the satisfaction levels are still below average. NetWeaver MDM continues to improve and SAP is successfully leveraging the BusinessObjects and NetWeaver BPM technologies. However, NetWeaver MDM is mainly positioned as a

a strong and growing blue-chip client list in France, has a presence in the U.K. and is gaining customers in North America. Its EBX.Platform provides flexible, multidomain data-modeling facilities, based on a semantic approach, including the ability to create and manage complex hierarchies in a workflow usage pattern. In EBX v.5, it can also support relational schemas for higher volume, transactional usage patterns. The product has been more widely used for product and internal organization data, but now the number of organizations using it to manage customer master data is growing and it has an innovative hybrid architecture for tackling both workflow and transaction-oriented requirements. Software AG (Headquarters - Darmstadt, Germany; Website - www.softwareag.com): Software AG entered the MDM market in 4Q10 with

the acquisition of Data Foundations, a small U.S. vendor whose OneData product was an MDM platform with a drop-in data model, fully configurable and extendible, that manages multiple domains of master data, reference data, hierarchies and metadata, and analytical and operational MDM use cases — all integrated in the same instance. Software AG renamed the product as webMethods OneData and released v 8.3 in September 2011. Gartner estimates that Software AG has 20 MDM customers. The vendor's positioning in the market is around "process driven MDM."

Talend (Headquarters - Suresnes, France and Los Altos, CA, USA; Website - www.talend.com): This open-source vendor, best known for its data integration products, entered the MDM market in early 2010. Talend MDM leverages open-source technology, including Talend's own data integration and data quality products. It is employed mainly in operational use cases and can provide flexible, multidomain data-modeling facilities, based on XML schemas and a native XML datastore. Talend MDM is available as a free downloadable Community Edition and a commercially-licensed Enterprise Edition. We estimate that Talend has a total of 18 Enterprise MDM customers, including eight managing customer data, as well as 55 known Community Edition users.

Teradata (Headquarters - Miamisburg, OH, USA; Website - www.teradata.com): Teradata sees MDM as an integral part of data warehouse solutions, and views data mart consolidation as an ideal opportunity to achieve data synchronization with analytical MDM; however, it also supports workflow-oriented operational MDM use cases with central authoring. Teradata MDM has the most experience in managing product and supplier data, not customer data. Teradata MDM v.3.1, which became generally available in March 2011, introduced reference data management capabilities. We estimate that Teradata has a total of 25 MDM customers, including fewer than 10 managing customer data. In addition, over half of Teradata's 1.000 plus data warehouse customers use Teradata for aspects of customer data management

Vendors that focus solely on a single vertical-industry market include:

**Cegedim Relationship Management (formerly** known as Cegedim Dendrite) (Headquarters Paris, France; Website - www.cegedim.com/rm): This company has an MDM product called Nucleus 360, which is offered to life sciences companies looking to build a single view of healthcare professionals, organizations and related hierarchies. Nucleus 360 is provided in multiple deployment options: service, hosted and on-premises with full-scale global deployment options. The service option (Nucleus as a Service) is increasingly popular, and is increasingly being sold in combination with OneKey (Cegedim's healthcare professional reference database and data governance service) and AggregateSpend360 (a spend compliance reporting solution). The combination is aimed at providing an end-to-end approach to master data governance, locally and globally.

GoldenSource (Headquarters — New York, NY, USA; Website — www.thegoldensource.com): This company enables financial services companies, including investment banking, asset management, wealth management, securities services and exchanges, to power their business applications with trusted data. GoldenSource EDM provides a data management platform, including a centralized repository for sourcing, cleansing, auditing, controlling and managing securities reference data, customer data, counterparty hierarchies, as well as position and transaction data in a capital markets B2B solution that does not support high-volume, real-time transactional environments.

We have no Visionaries in this year's Magic Quadrant, but there are a number of vendors in the Niche Players quadrant. Our analysis has positioned Oracle's CDH in this quadrant due to its lower sales traction compared to Siebel UCM. It continues to have a loyal user base, with Oracle's current focus on modernizing the technology foundations. Oracle CDH is mainly positioned for established Oracle E-Business Suite (EBS) customers in product-oriented industries, often as part of a single-instance multidomain solution with the other Oracle Hubs. DataFlux has a steadily improving MDM of customer data solutions product, in the shape of qMDM, and is starting to tackle the packaged MDM market more aggressively, though is still torn between "build" and "buy" strategies. Tibco Software is putting new focus on MDM and has filled gaps in its functionality, but still needs to prove its ability, through a combination of benchmarks and customer references, to cope with the transaction-oriented, centralized style of MDM that it is pitching for. VisionWare continues to have success in the public sector and healthcare industries, with some expansion into financial services. It is a good option in the Microsoft .NET segment of the market and can leverage Microsoft's SQL Server Master Data Services (MDS) if required.

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#### Market Definition/Description

Markets are sets of potential buyers that view a product as solving a common, identified need, and that reference each other. Market segments are portions of that generic market that are qualified by more exact criteria, thus grouping potential buyers more tightly. Segmentation may take two forms:

A generic market may be divided into recognizable sub-markets, where the same rules prevail for defining a market.

An individual vendor may segment the market to target its products more precisely and differentiate itself from (or avoid competing with) other players that address the same overall market. However, the targeted buyers may not know they are part of the same market segment. Such segmentation will not be reflected explicitly in the Magic Quadrant, although it may be reflected implicitly (for example, via placement of a vendor in the Niche Players quadrant).

MDM of customer data solutions are software products that:

Support the global identification, linking and synchronization of customer information across heterogeneous data sources through semantic reconciliation of master data.

Create and manage a central, database-based system or index of record for master data.

Enable the delivery of a single customer view (for all stakeholders).

Support ongoing master data stewardship and governance requirements through monitoring and corrective action techniques.

MDM of customer data solution implementations and their requirements vary in terms of:

Instantiation of the customer master data, varying from the maintenance of a physical golden record to a more virtual, metadata-based, indexing structure.

The usage and focus of the customer master data, ranging across use cases for operations (running a business) and analytics (reporting on the business).

Different organizations structures, spanning small, centralized teams to global, distributed organizations.

The latency of the customer master data maintenance, varying from real-time, synchronous reading and writing of the master data in a transactional scenario between systems to a messagebased, workflow-oriented scenario of distributed tasks across the organization.

Organizations use MDM of customer data solutions as part of an overall MDM strategy, which in itself is part of a wider enterprise information management (EIM) strategy. An MDM program potentially encompasses the management of customer, product, asset, person or party, supplier and financial masters. As the name suggests, MDM of customer data technology focuses on the domain relating to customer/party data, whereas MDM of product data technology focuses on management of the domain relating to product and other "things" data.

Many MDM vendors have evolved with a deep focus on a single domain — such as MDM of customer data or MDM of product data. Some of these vendors remain focused on a single domain while others have expanded their focus (and offerings) toward a multidomain offering. If the vendor offers such capability, along with support for MDM of customer data solutions, in one technology solution, we call this multidomain MDM. If the vendor offers such capability but with specific technology solutions (that is, multiple solutions) we call this multiple domain MDM. We introduce this terminology to make it clear to users the vendor perspective. However, end-user organizations typically use the term "multidomain MDM" without delineating the different approaches of the vendors. This creates potential confusion in the market and can create a mismatch in expectations between user and vendor.

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## Inclusion And Exclusion Criteria

For inclusion based on market traction and momentum, vendors should have:

At least 12 production customers for MDM of customer data solution functionality. At least eight new customers for MDM of customer data solutions in the past four quarters. Generated at least \$4 million (down from \$8 million in 2010) in total software revenue (licenses context. The components of the GoldenSource EDM platform include GoldenSource Securities & Products, GoldenSource Positions & Transactions, and GoldenSource Customers & Counterparties NextGate (Headquarters - Arcadia, CA, USA; Website - www.nextgatesolutions.com): This company focuses on the healthcare provider market and has a product line called MatchMetrix, which provides MDM, EMPI, provider registry terminology registry, and other registry products that support single view and health information exchange (HIE) initiatives. NextGate's senior personnel have years of experience in the master index space at SeeBeyond and Sun Microsystems, where they implemented master index and integration products and solutions

Vendors that focus mainly on analytical (downstream) MDM requirements include:

IBM's Cognos (Software Business Unit) (Headquarters - Armonk, NY, USA; Website www.ibm.com): IBM Cognos Business Viewpoint v.10.1, which is part of the Cognos 10 suite, enables business users to collaboratively create, maintain, govern and share dimensions and hierarchies for use across BI and performance management applications. It is data-domain-neutral. Oracle (Hyperion DRM) (Headquarters Redwood Shores, CA, USA; Website www.oracle.com): Oracle offers a product called Oracle Hyperion Data Relationship Management (DRM). It is a data-model-neutral solution that focuses on managing change in hierarchical structures and building consistency in the relationships among information assets, such as general ledger accounts, cost centers and related entities. DRM is typically used for analytical MDM; however, because it is data-model-agnostic and contains the capabilities to author new data and write it back, it can be used in an operational MDM context, and not just with financial data.

#### NOTE 5 IMPLEMENTATION STYLES OF MDM SYSTEMS

There are different implementation styles for MDM systems. They provide different capabilities, require different levels of architectural and governance commitment, and are applicable to different situations.

The **consolidation** style achieves a single version of master data mainly for lookup or BI purposes. Master data is authored in the source systems, then copied to the central "hub" where it undergoes a match-and-merge process to create a golden copy. There is no explicit goal to clean up the source master data when errors are found in the process of consolidation. There is no publishing or use for the data in any operational systems, only in BI environments. A complication emerges once such a data source is used as a source for new applications that create new data as a result; this implies a different focus for governance of the master data. Therefore, the style shifts from consolidation to one of the other styles where there is an explicit desire to fix source data.

The **registry** style matches and links master data from source systems to create and maintain a central index into the master data. Different versions of the truth are held in the index and, at runtime, the system assembles a point-in-time composite view. This style is a relatively noninvasive, virtual approach and requires less governance agreement relative to the styles that maintain a physical golden record.

The centralized style supports a centralized repository of all the master data for authorship, storage and validation, and is the most invasive style, due to the change in application and information architecture. This is commonly desired when there is a high demand for automated integration between source systems and MDM infrastructure. It handles two main scenarios: where access to the "hub" by "spoke" applications is transactional and could be very demanding, and where authoring and access to the "hub" is via collaborative workflow.

The **coexistence** style recognizes that master data may be authored and stored in different systems across a heterogeneous and distributed environment. It creates greater consistency and data quality across systems, and rapid access to a single version (publishing that view to subscribing and maintenance) related to MDM of customer data solutions in the past four quarters.

For inclusion based on near-term viability, vendors should have:

Sufficient professional services to fulfill customer demand during the next six months. Enough cash to fund a year of operations at the current burn rate (that is, if the year of operations is cash-flow-negative, then companies spend their cash reserves).

This Magic Quadrant excludes:

Vendors focused on a single vertical industry market or single geographical region.

Vendors that solely focus on analytical (downstream) MDM requirements.

Vendors reselling another vendor's MDM of customer data solution, unless they exceed the revenue minimum for inclusion (see above).

Hosted services, marketing service providers or data providers that provide trusted reference customer data external to the enterprise, but don't provide an MDM for customer data solution that specifically meets the definition.

For MDM software vendors that have been excluded for these reasons, see Note 4.

Following IBM's repackaging of InfoSphere MDM (to encompass the products formally known as IBM InfoSphere MDM Server, IBM Initiate Master Data Service [MDS] and IBM InfoSphere MDM Server for Product Information Management) we are now providing a single rating for IBM's InfoSphere MDM. IBM InfoSphere MDM Standard Edition is positioned as a subset of IBM InfoSphere MDM Advanced Edition and some customers will leverage what was Initiate MDS and MDM Server in combination. We continue to rate Oracle Siebel UCM and Oracle CDH separately, as although they are increasingly leveraging common infrastructure components, they are positioned differently, as alternatives. Oracle does not offer one as a subset of the other and customers are unlikely to implement both. Oracle Fusion Customer Hub is available, but it didn't qualify to be rated in this Magic Quadrant.

As part of the Magic Quadrant process, we sought the views of vendors' reference customers via an online survey. The survey included requests for feedback on vendor maturity (for example, understanding industry verticals, provision of innovation, responsiveness to new requests, total cost of ownership [TCO] and pricing) and product capabilities (for example, flexibility in data modeling, support for data quality, user interface [UI] support for data stewardship, internal workflow and support for multiple architectural styles). More than 100 organizations, representing all the featured vendors' reference bases, were contacted. Not surprisingly, the references were generally pleased with their vendors and products, but they gave relatively low marks in some areas, which we have detailed in the analysis of each vendor. Some of the issues may be historic, as not all organizations are on the latest product versions.

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Added

None.

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## Dropped

We have dropped D&B Purisma from this year's Magic Quadrant. D&B has announced that although this product will continue to supported, there will be no further proactive sales or development.

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## **Evaluation Criteria**

## **Ability to Execute**

Gartner analysts evaluate technology providers on the quality and efficacy of the processes, systems, methods or procedures that enable IT provider performance to be competitive, efficient and effective, and to have a positive effect on revenue, retention and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their visions.

Vendors are rated on the basis of the following criteria (and weightings).

#### Product/Service (High)

This refers to software products offered by the vendor that compete in/serve the MDM of customer data solutions market. This includes product capabilities, quality, feature sets and skills, etc., whether offered natively or through OEM agreements/partnerships, as defined in the market definition and detailed in the subcriteria.

Vendors will be measured on the ability of the product release to support the following MDM of customer data solution subcriteria:

Data-modeling capabilities — The applicability of the data model to your organization is a fundamental requirement. It must:

Model the complex relationships between the internal application sources inside the organization, its business and consumer customers, as well as intermediaries and other parties, with the ability to handle complex hierarchies.

systems). This style is much more complex than the other styles because it is not really one style. Some instantiations represent "simple" publish/subscribe models (ERP pushes data out to a best-of-breed application), while others, newly emerging, mix and match where individual attributes persist that, combined at runtime (i.e., transaction request), represent the master data.

## VENDORS ADDED OR DROPPED

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor appearing in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. This may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by a vendor.

#### **EVALUATION CRITERIA DEFINITIONS**

#### Ability to Execute

Product/Service: Core goods and services offered by the vendor that compete in/serve the defined market. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability (Business Unit, Financial, Strategy, Organization): Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all pre-sales activities and the structure that supports them. This includes deal management, pricing and negotiation, pre-sales support and the overall effectiveness of the sales channel.

Market Responsiveness and Track Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word-of-mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

**Operations:** The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

#### Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service and communication affiliates that extend the scope and depth of market reach, skills, Map to the master customer information requirements of the entire organization.

Be configurable, customizable and extensible, but also upgradable.

Support industry-specific requirements. This is particularly important across operational and analytical MDM requirements.

Provide a base for the required workload mix and level of performance.

Be expressed using commonly accepted logical data model conventions with associated metadata.

Information quality management capabilities — A good data model has little value if it lacks accurate, up-to-date customer data. The MDM of customer data solutions product should:

Have strong facilities, in batch and real-time mode, for profiling, cleansing, matching, linking, identifying and semantically reconciling customer master data in different data sources to create and maintain a golden record. These facilities may be provided by the MDM of customer data solutions vendor or by offering tight integration with products from specialist data quality partners.

Configure rules for comparing and reconciling semantics across data sources, matching and linking the data, and managing the merging and unmerging of customer records with full auditability and survivability.

Ensure that business rules and associated metadata related to data cleansing are sufficiently visible to satisfy compliance requirements.

Loading, integration and synchronization capabilities — The MDM of customer data solution needs to provide facilities for loading the product data in a fast, efficient and accurate manner. There will also be a need for integration middleware, including publish and subscribe mechanisms, to provide a communication backbone for the bidirectional flow of customer data between the central repository and the spoke systems, be they copies or subsets of the repository, or remote applications (coexistence style). These facilities may be provided by the MDM of customer data solution vendor or by offering tight integration with products from specialist middleware partners. The MDM of customer data solutions product should support, as necessary, the MDM implementation styles that each use loading, integration and synchronization in different ways, by being able to:

Leverage a range of middleware products to data sources, including legacy data sources, and expose industry-standard interfaces.

Support integration with different latency characteristics and styles (for example, real time and batch).

Support integration with downstream business intelligence (BI) and analytical requirements.

Business services and workflow functionality — Many leading organizations will plan to use the new customer master database as the basis for new operational (both transaction- and workfloworiented) and analytical applications. In the new service-oriented architecture (SOA) world of enterprise architecture, service-oriented composite business applications may consume MDM of customer data solutions' business services through Web services standard interfaces. The MDM of customer data solution should protect and complement the data layer with a layer of business services for accessing and manipulating the product data that is built for an SOA environment, and exposing Web services interfaces. Additionally, many implementations of MDM focus on not only how systems interact (i.e., transaction scenarios), but also more on how business users collaborate in the authoring and management of master data. As such, the MDM of customer data solution needs to support flexible and comprehensive workflow-based capability to model data services, as well as user interaction across applications and data stores where master data is stored and used.

Performance, scalability and availability capabilities — If the MDM of customer data solution supports operational and analytical applications, and is tightly integrated with established systems and new applications, then serious demands are likely to be made on its performance, scalability and availability. The MDM of customer data solution should have:

Proof points, preferably through live references, of different aspects of performance and scalability that match your current and future requirements.

Appropriate availability characteristics regarding planned and unplanned downtime.

Manageability and security capabilities — This refers to the availability of facilities for management and controlled access of the MDM of customer data solution, such as facilities for reporting on activity inside it. It also includes the ability to integrate the MDM of customer data solution with common system management and security tools. On the security and data privacy management front, this refers to the ability to:

Manage the policies and rules associated with potentially complex privacy access rights.

Configure and manage different rules of visibility, providing different views for different roles.

Stewardship support and services — The MDM of customer data solution needs to support a range of capabilities for the day-to-day operation and management of MDM. The resulting focus of this will be the role of the (business-led) data steward. Among the different user roles that interact with MDM, the data steward requires a suitable UI whereby these services are provided. These services will include, but are not be limited to:

Analytics and performance measures related to a range of processes and activities taking place within MDM, from the running of batch data loads to the execution of workflows against benchmarks to the data quality of active master data to the business value provided by MDM.

Status and management tools for the chief steward to monitor to-do lists of users to ensure effective action takes place across MDM.

Systemwide master/meta models to help identify what users, roles, applications and systems are responsible for which master data.

Workflow services for remediation of quality issues in master data.

expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

**Business Model:** The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

**Innovation:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market. Business rules services to interrogate which rules are used by MDM and to provide suggested enhancements to such business rules; also used to determine under which circumstances source preference is revised to give preference to the most-dependable source.

Technology and architecture considerations — MDM of customer data solutions should be based on up-to-date, mainstream technologies, and capable of flexible and effective integration with a wide range of other application and infrastructure platform components (whether from the same vendor or not) within end-user organizations. They should be capable of flexible configuration into a range of architectural styles in terms of instantiation, latency and use of customer master data to enable the product to satisfy different use case scenarios, such as the consolidation, registry, coexistence and centralized scenarios (see Note 5). The vendor will also be measured on the ability of its architecture to support global rollouts and localized international installations.

### **Overall Viability (High)**

Viability includes an assessment of the MDM of customer data solution vendor's financial health, the financial and practical success of the business unit or organization in generating business results in the MDM of customer data solutions market (on a global basis), and the likelihood of the organization or individual business unit to continue to invest in development of the product, and to continue offering the product and advancing the state of the art within the organization's portfolio of products.

#### Sales Execution/Pricing (High)

This refers to the vendor's capabilities in all MDM-of-customer-data-related presales activities, on a global basis, and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

#### Market Responsiveness and Track Record (Standard)

This is the ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve, and market dynamics change within the MDM of customer data solutions market. This criterion also considers the vendor's history of responsiveness.

#### Marketing Execution (Standard)

This refers to the clarity, quality, creativity and efficacy of programs designed to deliver the vendor's message, on a global basis, to influence the MDM of customer data solutions market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This mind share can be driven by a combination of publicity, promotional, thought leadership, word-of-mouth and sales activities.

#### **Customer Experience (High)**

This refers to the relationships, products and services/programs that enable clients to be successful, on a global basis, with the products evaluated. This includes implementation and support, and the way customers receive technical and account support. It also includes a measure of clients' success in implementing MDM for customer data products — customer references and total cost of ownership. With the increasing hype around multidomain MDM, we also look for demonstrated proof — via proof of concepts, customer evaluations or live implementations — of multidomain/multiprovince capability.

Implementation and support. This service and support area includes:

Professional services — provide internal professional service resources or partner with external service providers (ESPs) with vertical industry expertise, MDM of customer data domain knowledge, global and localized country coverage, and a broad skill set (including project management and system configuration) to support a complete project life cycle.

Customer support - provide satisfactory, prompt service to its customers worldwide with

ranges of SLAs to meet different requirements.

User groups — provide support to active user groups.

**Customer references.** Vendors need to produce production-level references, on a global basis, with varying levels of scenario complexity and workload to demonstrate the viability of their MDM of customer data solutions in the marketplace.

**TCO.** The TCO for the MDM of customer data solution — including purchase of software licenses, implementation, and ongoing maintenance and administration — should, during a three- to five-year span, provide a good balance between cost and the value obtained. This was gauged by means of the online survey of references.

#### **Operations (No Rating)**

This refers to the ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis. This criterion was not explicitly rated, but was rolled in the Viability and Sales and Marketing Execution criteria.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product/Service	high

Weighting
high
high
standard
standard
high
no rating

Source: Gartner (December 2011)

## **Completeness of Vision**

Gartner analysts evaluate technology providers on their ability to convincingly articulate logical statements about their market direction, innovation, customer needs and competitive forces, as well as how they map to the Gartner position. Ultimately, technology providers are assessed on their understanding of the ways that market forces can be exploited to create opportunities for the provider.

Technology providers are rated on the basis of the following criteria (and weightings).

#### Market Understanding (High)

This is defined as the vendor's ability to understand buyers' needs, and to translate these needs into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance them with their added vision. Vendors should demonstrate a strategic understanding of MDM for customer data opportunities (for example, new application functionality or customer segments) and ongoing vendor market dynamics (for example, consolidation trends), on a global basis, and translate these needs into products and services. Additionally, an understanding of the wider implications and position of MDM for customer data within an organization's multidomain, multi-use-case and multi-implementation style program is increasingly important; also, the relationship to EIA and EIM initiatives is valuable to customers taking the strategic view.

#### Marketing Strategy (High)

A vendor's marketing strategy is evaluated based on the need for a clear, differentiated set of MDM of customer data solutions messages consistently communicated throughout the organization and externalized globally through the website, advertising, customer programs and positioning statements. Intersection with MDM of product data and wider MDM and industry challenges, as expressed by Gartner clients, is important.

### Sales Strategy (Standard)

A vendor's strategy for selling the MDM of customer data solutions systems should use an appropriate global network of direct and indirect sales, marketing, service, and communication affiliates that extends the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

#### Offering (Product) Strategy (High)

A vendor's approach to product development and delivery should emphasize differentiation, functionality, methodology and feature set as they map to current and future requirements. The vendor's published "statement of direction" (or Gartner's understanding of it) for the next two product releases needs to keep pace with or surpass Gartner's vision of the MDM of customer data solutions market. Gartner's main product-oriented criteria focus on:

- Data modeling capabilities.
- Information quality management capabilities.
- Loading, integration and synchronization capabilities.
- Business services and workflow functionality.
- Performance, scalability and availability capabilities.
- Manageability and security capabilities.
- Stewardship support and services.
- Technology and architectural considerations.

The vendor needs to offer an MDM of customer data solution that can be configured into a range of architectural styles, in terms of instantiation, latency, search and usage of customer master data, to allow it to satisfy different use case scenarios, such as the consolidation, registry and centralized style scenarios, leading up to hybrid models such as coexistence style.

The vendor needs to show how an MDM of customer data solution supports the wide range of user cases from business operations (operational MDM) and BI (analytical MDM). Most vendors focus on one use case, so they need to demonstrate how they intend to support the growing convergence in requirements across these use cases.

The vendor must also understand major technology/architecture shifts in the market and communicate a plan to leverage them, including migration issues that may affect customers on current releases. Specifically, the vendor should have a vision to support mainstream software infrastructure technology,

as opposed to a proprietary stack, and have an evolutionary path toward SOA.

#### **Business Model (Standard)**

The soundness and logic of the underlying business proposition of a vendor of MDM of customer data solutions should be incorporated into a well-articulated strategy for revenue growth and sustained profitability. Key elements of strategy include the sales and distribution plan, internal investment priority and timing, and partner alliances, such as with ESPs.

## Vertical/Industry Strategy (High)

This involves the vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical industries. Included in the assessment are reviews of the vendor strategy for meeting the needs of such vertical industries as banking, manufacturing, communications and government.

## Innovation (High)

Vendors need to be able to lead this market and, in so doing, provide customers with an innovative solution and approach to service customer needs in a complex, heterogeneous environment. Innovation here implies leading the way with MDM of customer data issues, today and in the future. Understanding of and support for the most complex and broadest set of MDM of customer data environments and growing requirements of multidomain and multi-use-case MDM, in general, is looked for. In addition, we look for the vendor's strategy on MDM in the cloud and MDM and social data.

### Geographic Strategy (Standard)

This refers to a vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, directly or through partners, channels and subsidiaries, as appropriate for that geography and market. It includes sales, marketing and support for complex global companies.

# **Table 2.** Completeness of VisionEvaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	high
Marketing Strategy	high
Sales Strategy	standard
Offering (Product) Strategy	high
Business Model	standard
Vertical/Industry Strategy	high
Innovation	high
Geographic Strategy	standard

Source: Gartner (December 2011)

## Leaders

Vendors in the Leaders quadrant have strong results and delivery capabilities, and will continue to have them. They typically possess a large, satisfied customer base (relative to the size of the market) and enjoy high visibility in the market. The size and financial strength of the Leaders enable them to remain viable in a challenging economy. Leaders have mature offerings and track records of successful deployments, even in the most-challenging environments, across all geographies and in many vertical industries. Leaders have the strategic vision to address evolving client requirements; however, they're not always the best choice.

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## Challengers

Challengers demonstrate a clear understanding of today's MDM of customer data solutions market, but they have not demonstrated a clear understanding of the market direction or are not well-positioned to capitalize on emerging trends. They often have a strong market presence in other application areas.

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## Visionaries

Visionaries display healthy innovation and a strong potential to influence the direction of the MDM of customer data solutions market, but they are limited in execution or demonstrated track records. Typically, their products and market presence are not yet complete or established enough to reach Leaders status.

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## Niche Players

Niche Players do well in specific segments of the MDM of customer data solutions market, or have limited ability to be innovative or outperform other vendors in the market. They may be focused on a specific functionality, domain or industry, or have gaps relative to broader functionality requirements. Niche Players may have limited implementation and support services, or have not achieved the necessary scale to solidify their market positions.

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Vendor Strengths and Cautions

## DataFlux

DataFlux's packaged MDM of customer data solution, qMDM v.3.0, became generally available in June 2011. Customers can purchase the full qMDM solution or start with a more modest approach, using selected components of the DataFlux Data Management Platform v.2.2 bundled as Master Data Management Foundations. DataFlux operates a subscription software licensing model. Pricing varies according to the number of integrated systems and number of data stewards. Annual maintenance fees are 22% of the license cost. In March 2011, DataFlux acquired Baseline Consulting, an experienced data management consulting firm, which expanded its professional services arm.

Global Headquarters: Cary, North Carolina, USA

Website: www.dataflux.com

## Strengths

**Strong parent company and improving focus on MDM:** Wholly owned by SAS, DataFlux has healthy growth and strong viability. It is able to leverage SAS's development, sales and marketing resources worldwide, though DataFlux maintains its own brand and has a great deal of autonomy. In early 2011, DataFlux acquired Baseline Consulting, a well-known boutique consulting company in the areas of BI, MDM and data governance. This will help DataFlux get into MDM deals earlier at the strategy stage. DataFlux has more than 2,500 customers, mostly for data quality tools. Its focus on MDM is increasing and it claimed to have 60 MDM customers at the end of 1Q11 (versus 47 a year earlier). However, the majority of these customers are taking a build approach to MDM and we estimate that the number of customers for the qMDM package is only 18, with 15 of them managing customer or party data.

**Broad product set across data quality, data integration and MDM:** qMDM is based on DataFlux's Data Management Platform, which provides an integrated set of data quality and data integration technology. The idea of an integrated product set covering data quality, data integration and MDM will be an attractive proposition to many organizations. DataFlux is a leader in the data quality tool market (see "Magic Quadrant for Data Quality Tools") and in the data integration tools market (see "Magic Quadrant for Data Integration Tools"); however, it has yet to achieve such substantial penetration in the packaged MDM solutions market.

**Graduated approach to MDM:** DataFlux offers organizations a graduated approach to MDM, providing data quality and data integration tools, batch-based MDM support with the Master Data Foundations bundle, or the more advanced qMDM solution, depending on the organization's maturity in data management and governance. This enables an organization to start relatively small and to evolve toward addressing more-challenging MDM needs, which can be useful when an organization has budget constraints or doesn't feel ready to tackle the data governance challenges of MDM.

**Continuing investment and steadily improving product:** DataFlux's qMDM product shows continuing investment, and is an increasingly capable product for MDM of customer data. It has a flexible entity-based data model that can potentially be leveraged to model multiple data domains, though DataFlux has the most experience with customer data. The qMDM product has excellent data quality and data-profiling facilities, and includes a business rule engine. It has good dashboarding, monitoring and reporting facilities. The input from the acquired Baseline Consulting resources should prove valuable in progressing the product even further.

#### Cautions

Still not concentrating strongly enough on the packaged MDM solutions market: DataFlux has not had the same impact on the MDM market as it has had on the data quality and data integration tools markets. It still seems more comfortable with these tools markets and a component-based build approach to MDM, rather than selling a packaged MDM solution, despite developing an increasingly capable packaged MDM product. The increased marketing focus on MDM and the incentives for the sales force to sell MDM are positive, but we find its messaging confusing. We estimate that its MDM of customer data solution revenue in 2010 was only \$4.9 million (versus \$4.7 million in 2009), well behind the market share leaders, though we understand that the increased marketing focus is starting increase the deal flow.

**Not all customer references were for qMDM:** DataFlux provided a full set of references, but the majority were based on implementations leveraging its data quality technology, DataFlux Data Quality Integration Platform, and taking a "build" approach, as opposed to implementation of the packaged qMDM solution. More than half of the implementations went live in 2010, and DataFlux's clients are now quite evenly spread across MDM use cases and implementation styles. Although DataFlux received high marks in the online survey for areas such as the business success of the implementation and data model flexibility, its ratings were average in the areas of local presence and understanding of vertical industries, and there were some remarks that its packaged MDM technology suffers functionally in comparison to its flagship data quality and data integration technology.

Some functionality gaps, needs to prove transactional capability: Relative to best-in-class

vendors, DataFlux still needs to provide greater life cycle management around the data model. There are plans to improve hierarchy management capabilities and some components of the Master Data Manager user interface in a 2012 release. Most implementations are consolidation and coexistence style, and although DataFlux has begun some larger transactional implementations, they are not yet fully live. To compete with the strongest players in the market, it needs to demonstrate qMDM across a range of implementation styles, use-case scenarios and vertical industries. It lags behind other vendors in terms of internal workflow, integration with BPM systems and multidomain capabilities (although many of these are on the qMDM road map), and it hasn't shown innovation in the areas of MDM applets, cloud deployment and MDM and social data.

**Needs to demonstrate global execution and stronger partnerships:** DataFlux's international revenue continues to rise, with subsidiaries in most major European countries and in Australia, plus it can leverage SAS's global organizational strength. However, DataFlux still needs to demonstrate its ability to execute as a strong global player in the MDM of customer data solutions market. We don't hear of qMDM on many shortlists, competitors rarely mention it and ESPs don't talk of having projects with qMDM, nor are they building assets on top of qMDM.

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#### IBM

IBM is working on integration of the three products in its MDM portfolio (InfoSphere MDM Server, InfoSphere MDM Server for Product Information Management [PIM] and Initiate Master Data Service [MDS]) into a single software stack that includes the key capabilities of each product, together with common UIs, workflow, services and metadata. In October 2011, IBM announced availability of a unified offering, InfoSphere Master Data Management v.10.0, comprising of four options: the Standard, Collaborative, Advanced and Enterprise Editions. These offerings can be mapped to the prior products as follows: Standard Edition equals Initiate MDS; Collaborative Edition equals InfoSphere MDM Server for PIM; Advanced Edition equals Initiate MDS plus InfoSphere MDM Server; and Enterprise Edition equals Initiate MDS plus InfoSphere MDM Server plus InfoSphere MDM Server for PIM. Version 10.0 is the first step in a multiyear convergence road map. Price points for InfoSphere MDM vary by industry, by data domain (individual, organization, account, product, custom), and by the number of managed records per data domain type. Subscription and support is an annual flat percentage (approximately 20%) of the license price.

Global Headquarters: Armonk, New York, USA

Website: www.ibm.com

#### Strengths

**Broad information management strategy includes MDM capabilities:** InfoSphere MDM is part of IBM's Information Management portfolio that includes BI, performance management, information integration, warehousing and management, content management, and data management. This remains an attractive proposition for organizations looking for a wide range of information management functionality from a single, highly viable vendor. InfoSphere MDM leverages other products from within the Information Management group — such as InfoSphere Information Server and the InfoSphere BigInsights and InfoSphere Streams "Big Data" related products — and it also leverages products from the WebSphere group, such as BPM Express product. In the MDM area, by rationalizing its MDM offerings into a single, more consistent product set with upgrade opportunities, IBM's MDM capabilities become more logical and more leveragable.

**Market leading revenue, helped by Initiate acquisition:** IBM's MDM customer base continues to grow, benefiting from the vendor's large sales and marketing organization, and its large customer base. The acquisition of Initiate Systems gave a significant boost to the MDM revenue. We estimate that at the end of 2Q11 IBM had a total of 650 licensed MDM customers with 475 of them managing customer data, split between MDM Server with 210 customers (versus 190 in mid-2010) and Initiate MDS with 265 customers (versus 250 in mid-2010). We also estimate that IBM's 2010 MDM-of-customer-data-related revenue was \$180 million (versus a total of \$140 million in 2009, made of up \$92 million for MDM Server and \$48 million for Initiate MDS).

The convergence of two very capable MDM offerings: The two prior MDM products for managing customer data (Initiate MDS and InfoSphere MDM Server) represented, respectively, strong solutions for lighter, registry-focused and high-end, transaction-driven, centralized implementations in SOA environments. Both products contain flexible and extensible prepackaged party data models (with accompanying capabilities to store light product and account data), and provide the capability to model new data domains as required. The Advanced Edition has good support for hierarchy management and has rich prebuilt functionality in a multilevel business service library. In v.10 IBM is starting to show its ability to leverage key functionality across prior products. For example, it has ported the Initiate MDS matching engine across to MDM Server, harvesting components from both prior products to create the MDM Application Toolkit, while at the same time leveraging BPM Express.

**Strong in a broad set of industries and geographies:** The combination of the InfoSphere MDM Standard and Advanced Editions allows IBM to penetrate diverse industries, such as financial services and retail (formerly the favored territory of InfoSphere MDM Server), and healthcare and government (formerly strongly penetrated by Initiate MDS). The Initiate acquisition in 2010 also allowed IBM to strengthen its position in insurance, where it had faced strong competition from Initiate. Additionally, IBM maintains a strong global balance of clients, with 60% in the U.S., 25% in EMEA, and 10% in Asia. IBM states that it currently has between eight and 10 Advanced Edition clients in the financial services industry in China.

## Cautions

Complexity and inconsistencies within the new InfoSphere MDM product: At first sight,

the IBM InfoSphere MDM go-to-market story is simple, there is one product with multiple editions. But as you look beneath the surface it gets more complex and the inconsistencies, in terms of underlying technologies, UIs and workflows, that result from three separate acquisitions become more obvious. These inconsistencies will continue to confuse and create complexity for prospects and current customers until the different editions are fully integrated from an external visibility perspective and they share common underlying services. In the meantime, organizations will need to carefully think through the implications of starting to manage customer data with a lightweight registry style and then move to a prepackaged data model with out-of-the-box business services. Or, alternatively, if starting a multidomain MDM journey, by managing product data with Collaborative Edition. It is likely to be a more complicated journey than it seems at first.

**Challenging future product convergence road map:** IBM has shared a road map with its clients for how it will integrate the three prior MDM products into a single stack with three embedded MDM engines. This will be a multiyear journey, as IBM provides more increasing integration between the different "engines" and creates common shared services, partly by harvesting key functionality from the prior products. Version 10.0 is a good first step, though it is not clear whether it will be possible to deploy all editions in one instance, and the tooling around the different prior products is likely to remain inconsistent for many years. An example is the fact that the collaboration and workflow elements of Collaborative Edition will remain very different from the workflow to be developed on IBM's BPM Express for Standard and Advanced Edition.

**Prepackaged approach is not for everyone and functionality is behind in some areas:** Although Advanced Edition is a very capable product with a prepackaged data model and services library coming out of the box, some organizations are looking for a more client-driven approach. IBM does offer a "platform" version of Advanced Edition called Custom Domain Hub Stand-Alone (previously known as Master Information Hub), but it is mostly being used for reference data management. Also, IBM has more work to do in areas such as embedded analytics, master data stewardship, business rules governance and BPM/workflow integration. Although some of this may be available in one of the editions, it is not available to all in a consistent fashion. On the multidomain front, all editions can support multiple domains to a degree, but there are limitations. With respect to innovation, there is a risk that IBM could devote too much of its energies to the convergence road map — but the beginnings of the MDM and Big Data story are promising, while the MDM Application Toolkit, providing what Gartner calls MDM applets, is also promising, but again very new. We are not aware of any multitenant SaaS strategy with InfoSphere MDM, although Cognizant has launched a cloud-based offering with IBM.

**Customer references scored relatively low in several areas:** IBM provided a full set of references for both InfoSphere MDM Server (now included with Initiate MDS in InfoSphere MDM Advanced Edition) and Initiate MDS (now InfoSphere MDM Standard Edition). In the online survey, Initiate MDS was rated relatively highly on its matching capabilities, performance and scalability, and high availability functions. Conversely, it scored relatively low with respect to its flexibility in data modeling and internal workflow facilities. MDM Server scored relatively low on understanding master data governance, as well as the transparency of its pricing structure and TCO. It also scored relatively low for hierarchy management, data quality facilities, monitoring, measurement and reporting facilities of master data quality. IBM earned relatively low marks for its support of MDM Server, both pre- and post-sales, and the most positive references stressed direct involvement of IBM Labs resources during the initial implementation as a critical success factor.

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#### Informatica

Informatica entered the MDM market by acquiring Siperian in January 2010. It positions its MDM product as Universal MDM, claiming the ability to handle all multidomain, multistyle, multideployment and multiuse requirements. Informatica's MDM, together with its data integration and data quality tools offerings (it is a Leader in both markets; see "Magic Quadrant for Data Quality Tools" and "Magic Quadrant for Data Integration Tools"), make up the Informatica 9 platform. Informatica MDM v.9.1 became generally available in March 2011. Pricing is by data domain, then the number of records per data domain. Informatica Data Director and Data Controls cost extra and are licensed on the basis of the number of users. Annual maintenance fees are 20% of license price for standard support and 25% for mission-critical support.

Global Headquarters: Redwood City, California, USA

Website: www.informatica.com

## Strengths

**Informatica has good vendor viability and strong MDM momentum:** Informatica has good vendor viability and global reach. It had total company revenue of \$650 million in 2010 and is growing at approximately 30% per year (with acquisitions a major contributor). It sees MDM as key to its growth strategy, is strongly promoting MDM and is growing its MDM business with great success. We estimate that Informatica's 2010 MDM revenue was \$60 million (versus Siperian's \$31 million in 2009), with MDM-of-customer-data-related revenue of \$52 million (versus Siperian's \$27 million in 2009). We also estimate that at the end of 2Q11, Informatica had a total of 150 licensed MDM customers (versus 80 a year earlier), with 145 of them managing customer data and 70 licensed for multiple data domains.

Flexible MDM product capable of managing multiple domains: Informatica MDM offers a flexible, integrated, client-driven MDM platform with strength in hierarchy management. It supports multiple data domains, including party, product and location data, but its core strength is customer data. It has good proof points with B2C and B2B customers, and has several customers running very large volumes of records, indicating good performance and scalability. Informatica MDM supports both the registry implementation style (that is, match and link creating an index) and the implementation styles that instantiate a physical "golden record" in a single product. Most customers use coexistence style.

**Good data stewardship UI and continuing innovation:** Since its introduction, Informatica Data Director has been one of the best applications for data stewards and business users to create, manage, monitor, consume and generally steward master data. Informatica continues Siperian's reputation for MDM innovation. For example, v.9.1 introduced Informatica Data Controls, a framework for developing MDM-based applets that can be embedded in existing applications, and a multitenant SaaS deployment option that is being offered through ESPs. Informatica's road map includes facilities to leverage social networking and mobile computing. It also includes a facility called Semantic Master that creates a best version of the truth across structured and unstructured data.

**Multiple industries and strong partner ecosystem:** Siperian had particular success in the life sciences industry, which accounted for over 50% of its business. Now, under Informatica's ownership, there is a more balanced presence across industries. It is still strong in life sciences, but has now spread into financial services, hi-tech, government and other industries. Informatica is attractive to potential MDM service provider partners and it has several partners, such as Accenture, Capgemini, Cognizant and Wipro, developing both horizontal and vertical industry assets on top of Informatica MDM.

#### Cautions

Behind the megavendors in terms of revenue, customer base and business process knowledge: Although Informatica has strong momentum in the MDM market, it is still a long way behind the megavendors — IBM, Oracle and SAP — in terms of MDM revenue and numbers of MDM customers. It cannot leverage the extensive customer bases that the megavendors have or their degree of account control. Neither can it leverage their breadth of solution set, or their depth of industry-specific business process knowledge, and it can't provide potential one-stop-shop integrated solutions across business applications (in the case of Oracle and SAP), BI, middleware and database technologies. These megavendors also have a stronger and more widespread presence around the globe.

**The MDM platform story doesn't suit everyone:** Although the Informatica MDM platform provides a high degree of flexibility, it doesn't offer the same degree of prepackaged data model, business services or workflow facilities that some other products provide. This could mean that organizations using Informatica MDM may expend more effort in building up functionality, as opposed to configuring prepackaged facilities. It depends on how well the prepackaged facilities fit the requirements. Informatica does provide horizontal and vertical industry templates as a way to start in the data model area. Their use is expanding, to include preconfigured business rules and services, but there is still a way to go.

**Capability gaps still remain relative to the vision:** Although Informatica is a strong product, some gaps still remain. Relative to its vision of offering Universal MDM, it still has some way to go. Although it has an increasing number of customers licensed for multiple domains it is not comparable to best-in-class products that provide the sophisticated collaborative workflow necessary for managing many data domains. It needs to build workflow-based assets that fill this gap and has had to change partners in the BPM area from Lombardi, which was acquired by IBM, to Fujitsu. Its core competency is in managing customer data, and its revenue is still heavily skewed toward that. In terms of supporting multiple use cases, it introduced point-in-time hierarchy support with v.9.1, but has more to do in supporting analytical MDM use cases.

**Customer references score well for product issues, but less well for company issues:** Informatica provided a full set of references. In the online survey it received high marks for most of its product's capabilities, but below average marks for its capabilities as a vendor. Informatica MDM received average ratings for internal workflow, and monitoring, measurement and reporting on data quality, with above-average ratings for its understanding of master data governance. However, it was marked average for its understanding of the business application of its MDM solution, its vertical industry understanding, its technology innovation, and its response to requests for new features (despite having a good track record in introducing new customer-driven features). It scored below-average with respect to TCO and transparency of pricing structure. Multiple references mentioned difficulties they'd had with v.9.0.1, with many being told to upgrade to version v.9.1 to resolve these issues. References report broad and extensive reliance on ESPs to support implementations.

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#### **Oracle (CDH)**

Oracle has a portfolio of MDM products and Gartner estimates that it has over 1,400 licensed MDM customers (up from around 1,075 a year before), including 630 customers managing customer data. The portfolio includes three products that address MDM of customer data solution needs — Oracle Fusion Customer Hub, Oracle CDH and Oracle Siebel UCM. They are positioned for different segments of the market and Oracle is progressively converging all three products onto a common MDM platform leveraging Oracle Fusion Middleware (OFM) 11g. Oracle CDH is targeted at existing Oracle E-Business Suite (EBS) customers and customers that require a multidomain MDM solution on a single architecture base. CDH Release 12.2 became generally available in October 2011. Pricing is available on Oracle's website, and is shown as Customer Hub for B2C and Customer Hub for B2B. For B2C, CDH is priced per person record, and for B2B, per organization record. When CDH is deployed as an add-on to an existing EBS deployment (that is, the combined-instance deployment option), the per-record pricing is reduced by 50%. The annual maintenance fee is 22% of the net license price.

Global Headquarters: Redwood Shores, California, USA

Website: www.oracle.com

#### Strengths

Oracle has a strong multidomain and multi-use-case MDM portfolio: Oracle has built and

acquired a range of MDM assets, and now has a wide multidomain and multi-use-case capability. In the MDM for customer data area, Oracle is continuing the long-term development of Oracle CDH under the Oracle Applications Unlimited program and progressively leveraging the common Oracle MDM platform and Oracle Fusion Middleware (OFM). For multidomain and multi-use-case requirements, Oracle can complement CDH with Oracle Product Hub, Oracle Supplier Hub, Oracle Site Hub and Oracle Hyperion DRM.

**CDH appeals to EBS customers and can form part of a multidomain solution:** CDH mainly appeals to B2B product-oriented organizations with investments in Oracle's EBS applications. Also, it appeals to organizations wanting a multidomain capability based on the EBS technologies and data model, as CDH can be deployed with Oracle Product Hub, Supplier Hub and Site Hub in a single instance since it shares a common data model. Sales momentum remains relatively healthy, because of Oracle's global reach and extensive EBS customer base and Gartner estimates that Oracle had 335 CDH customers at the end of 1H10 (up from 300 a year before). We estimate that Oracle's 2010 MDM-of-customer-data-related revenue was \$92 million (versus \$64 million in 2009) and that its 2010 CDH revenue was \$23 million, which is a rapid 91% growth from 2009.

Good data model. Increasing leverage of Oracle Fusion Middleware and the MDM platform: Oracle CDH has a rich prepackaged party data model, derived from EBS. Most of the implementations tend to be the consolidation or coexistence styles. Oracle Customer Hub Data Steward provides a data visualization interface and it has integration with third-party data quality vendors and data providers. CDH leverages Oracle Data Quality Server (ODQ) Profiling for data profiling, monitoring and scorecarding, Data Watch and Repair, and Oracle's BI and analytics facilities. CDH includes a layer of Web services that have been harmonized with Fusion MDM, and it comes with Oracle Application Integration Architecture (AIA) facilities for prepackaged process integration with ERP and industry vertical systems. CDH R.12.2 leverages OFM 11g as the native applications server, although the CDH is still based on the Oracle Applications Framework, as opposed to the more modern Oracle Application. In the future, Oracle plans to leverage more components of its evolving standard MDM platform, including the Datanomics technology (now known as Oracle Enterprise Data Quality), MDM Analytics and the Data Governance Manager.

**Customer references are generally happy:** Oracle provided a full set of references for CDH. The references seemed satisfied overall with their experience with Oracle as the vendor for CDH, giving it above-average scores in the online survey for sales and product support, understanding the business application of CDH, as well as meeting its clients' vertical industry MDM needs. However, Oracle's references gave it a below average score when asked if the pricing structure made it easy to understand, predict and manage the future costs of usage. Oracle's references gave high marks to the CDH product for its integration and synchronization capabilities; manageability and security facilities; and performance and scalability. Multiple references reported overall performance issues when mastering over 100,000 customer records in the hub.

#### Cautions

Not the lead product and Oracle Fusion MDM is now available: Oracle CDH is not Oracle's lead MDM product in this area. It takes second place to Siebel UCM, in terms of both the pace of R&D and market investment, and we estimate that Oracle CDH revenue in 2010 was one-third of the comparable Siebel UCM revenue. The fact that Oracle has three offerings for MDM of customer data solutions makes its go-to-market and investment story a complex one, and we believe that Oracle's focus on Oracle CDH will wane even more in the future, as Oracle Fusion MDM grows in maturity and eventually becomes Oracle's premier MDM for customer data product. Oracle CDH customers should increasingly leverage the latest releases, which build on the evolving common MDM platform and Oracle Fusion Middleware, in order to aid any eventual migration to Oracle Fusion MDM.

Behind best in class in several areas: Oracle CDH has fallen behind Siebel UCM, and other best-in-class vendors, in a number of areas, including data quality technology, data governance facilities (for example, Data Governance Manager is not supported), and support for hierarchy visualization and management (there is no leveraging of the Hyperion Data Relationship Manager [DRM] technology, like in Siebel UCM). We haven't seen Oracle CDH win business in large transactional, centralized-style or registry-style environments and it needs a better collaborative workflow facility for centrally authoring data.

**Investment is mainly focused on platform issues**: Oracle's investments in Oracle CDH are mainly directed toward leveraging OFM and Oracle's standard MDM platform. This will modernize the underlying technology and will add a degree of new functionality, such as better data quality tooling, once Datanomics is leveraged, lessening Oracle CDH's current reliance on Data Quality Manager (DQM). But, overall we aren't seeing innovation, and Oracle CDH is behind best-in-class vendors in introducing facilities like MDM applets, multitenancy to support SaaS in the cloud, and prepackaged support for social data monitoring.

Limited addressable market and not seeing third-party investment: Oracle CDH mainly appeals to B2B organizations in the Oracle EBS base who want a prepackaged data model, as opposed to a client-driven data model. We seldom hear about Oracle CDH in open evaluations and it lacks portability (being limited to the Oracle database management system [DBMS]). Oracle tends to sell Oracle CDH in the manufacturing, hi-tech and retail industries, often with other MDM hubs, as part of a multidomain deal. It doesn't have a great deal of experience in industries like financial services, communications, life sciences and government. As a result, we are not seeing strong investment by third-party ESPs in building vertical industry solutions on top of Oracle CDH.

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### **Oracle (Siebel UCM)**

Oracle has a portfolio of MDM products and Gartner estimates that it has over 1,400 licensed MDM customers (up from over 1,075 a year before), including 630 customers managing customer data. The

portfolio includes three products that address MDM of customer data needs — Oracle Fusion Customer Hub, Oracle CDH and Oracle Siebel UCM. They are positioned for different segments of the market and Oracle is progressively converging all three products onto a next generation MDM Platform leveraging OFM 11g. Siebel UCM is Oracle's lead MDM of customer data solution and UCM v.8.2.2 became generally available in October 2011. UCM pricing is available on Oracle's website, where it is shown as Customer Hub for B2C and Customer Hub for B2B. For B2C, UCM is priced per person record, and for B2B, per organization record. There are also a number of options with UCM. When UCM is deployed as an add-on to an existing Siebel CRM deployment (that is, the combined-instance deployment option), the per-record pricing is reduced by 50%. The annual maintenance fee is 22% of the net license price.

Global Headquarters: Redwood Shores, California, USA

Website: www.oracle.com

## Strengths

**Oracle has a strong multidomain and multi-use-case MDM portfolio:** Oracle has built and acquired a range of MDM assets, and now has a wide multidomain and multi-use-case capability. In the MDM for customer data area, Oracle is continuing the long-term development of Siebel UCM under the Oracle Applications Unlimited program and progressively leveraging the common Oracle MDM platform and Oracle Fusion Middleware. For multidomain and multi-use-case requirements, Oracle can complement Siebel UCM with Oracle Product Hub, Oracle Supplier Hub, Oracle Site Hub and Oracle Hyperion DRM.

Siebel UCM is the lead product in the MDM portfolio: Siebel UCM is Oracle's lead MDM of customer data solution and is the most important offering in Oracle's entire MDM portfolio on the basis of product revenue. It gets more investment than Oracle CDH and it is where new strategic functionality is introduced first. It is key to Oracle's industry solution product lines for financial services, telecommunications, media, utilities, large-scale retail and government. UCM appeals to organizations, especially B2C organizations, with long-term strategic commitments to Oracle applications and technology, especially if they have Siebel CRM.

Strong momentum, verticalization and support from third parties: During 2010, Oracle continued its success in selling Siebel UCM, and we estimate that Oracle had 285 UCM customers at the end of 1H11 (up from 250 a year before). We estimate that Oracle's 2010 MDM-of-customer-data-related revenue was \$92 million (versus \$64 million in 2009), while its Siebel UCM revenue was \$69 million, which is a 32% growth rate. Siebel UCM has an impressive number of commitments from blue-chip names across geographies and industries, with particular strength in telecommunications, hi-tech and public sector, and increasing strength in financial services. Oracle continues to introduce vertical industry variants of Siebel UCM, such as for public sector social services, life sciences, healthcare, higher education and wealth management, either through its own developments or with partners.

**Comprehensive functionality and scalability:** Siebel UCM is a capable product with a comprehensive, prepackaged, verticalized and extensible data model. It has tight integration with Oracle Data Quality Server, which is based on Informatica's Data Quality technology, and has looser integration with Trillium and Oracle's own Datanomics technology. Siebel UCM now supports SOAP-based Web services and GoldenGate real-time replication. It leverages the Hyperion DRM technology for hierarchy visualization and management and has embedded rule engine and privacy management functionality. For workflow, Siebel UCM leverages Siebel BPM and can also play a role in business processes built on Oracle BPEL Process Manager. Oracle's Data Governance Manager, which is steadily expanding in scope, runs against Siebel UCM, as does MDM Analytics which provides dashboards and reports. Oracle can provide a good number of references, including live transactional workloads managing more than 100 million consumers. The latest release of Siebel UCM (8.2.2) features enhanced support for several industry verticals, as well as integration with the Fusion MDM user interface for data governance; in addition, UCM 8.2.2 has impressive performance and scalability. Siebel UCM can leverage data in social networks via an integration with Buzzient.

#### Cautions

Multiple products for MDM of customer data solutions, including Oracle Fusion MDM: Oracle has three offerings in the MDM of customer data solutions market; Oracle Fusion MDM, Oracle CDH and Siebel UCM. Oracle is careful to position them differently, but it is a complex situation and can be confusing for prospects. Although Siebel UCM is currently the lead product, by 2014, Oracle Fusion MDM is likely to have become Oracle's premier MDM for customer data product. Gartner believes that many Siebel UCM customers will never migrate to Oracle Fusion MDM (and their investments in UCM will be protected under the Applications Unlimited and Lifetime Support programs), but those new and existing customers who do want to eventually migrate should mitigate the disruption by leveraging the latest UCM release (8.2.2), which increasingly builds on the next generation MDM Platform and Oracle Fusion Middleware.

**Doesn't appeal to everyone and still has some gaps:** Siebel UCM comes with a rich prepackaged data model and set of business services. For many organizations, that is a good fit for their requirements. However, other organizations want a client-driven approach. UCM does have a degree of flexibility and can leverage Siebel Tools, but not as much as the best-in-class products. Data Governance Manager, based on the Fusion MDM platform, now provides monitoring and profiling facilities, but like other MDM vendors, Oracle still has more work to do in governing master data throughout the life cycle and this solution currently only works with customer master data. On the data quality technology front, Oracle will continue to depend on one of its closest MDM competitors, Informatica, until the Datanomics data quality tool is improved and leveraged. Finally, UCM is not available in a multitenant version for SaaS in the cloud and there is still more work to do in moving to the common MDM platform and leveraging OFM.

**Good party model for customer data, but not designed for multidomain:** Although Siebel UCM is based on a strong party model that can handle customer data, and potentially supplier and other people and organization data, it does not support "thing" or "place" data that would allow it

to be the basis of a broad multidomain MDM strategy. Prospects would have to purchase EBS technology-based products as well, such as Oracle Product Hub, Supplier Hub and Site Hub. Also, Siebel UCM is behind the best-in-class products in providing out-of-the box collaborative workflows for authoring data, potentially required for managing business customer data, although Oracle BPMS is pre integrated with Siebel UCM for SOA-based business processes. Finally, UCM supports a range of architectural styles, but it lacks sufficient proof points for "virtual" registry-style implementations, where an index is created and managed.

**Customer references scored below average in several areas:** Oracle provided a full set of references for UCM. In the online survey, Oracle earned average scores for understanding the business application of UCM and their clients' vertical industries, but was rated below average for continuous technology innovation, responsiveness to new feature requests and understanding of master data governance. Oracle's references also gave it a below average score when asked if the pricing structure made it easy to understand, predict and manage the future costs of usage. Some references stated that they believe improvements in these functions are available in UCM v.8.2.2, but they reported having to delay incremental data domain implementations and/or software upgrades due to the magnitude of UCM software maintenance fees reducing available funds for upgrade operations and data integration support. The product also scored below average for support for data quality facilities; its master data modeling design. Oracle scored below-average for slate quality metrics; and support for master data modeling design. Oracle scored below-average for support.

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#### SAP

SAP's NetWeaver portfolio includes NetWeaver MDM, a multidomain MDM offering suitable for supporting "enterprise MDM" in a heterogeneous environment. This has been SAP's key MDM offering since 2005 and the latest version, v.7.1 SP07, has been generally available since May 2011. More recently, SAP has introduced the Master Data Governance (MDG) product as an "embedded MDM" solution for managing application specific data in SAP's ERP application, but it is also increasingly being used as a stand-alone MDM hub. MDG can now manage financial, product and supplier data, and it will be available in "ramp up" status for managing customer data in December 2011. SAP is also introduced SAP BusinessObjects Information Steward in September 2011 to complement both NetWeaver MDM and MDG. Pricing metrics for NetWeaver MDM include data domain type, number of records and usage scenario. Annual maintenance for SAP Enterprise Support is 22% of the license fee. It is also possible to purchase NetWeaver in bundles with SAP BusinessObjects Data Services and with MDG.

Global Headquarters: Walldorf, Germany

Website: www.sap.com

#### Strengths

**Large and loyal user base:** SAP has a large and loyal user base, particularly in product-oriented industries. Many of these organizations are looking for a single vendor to supply them with core business applications and application infrastructure. SAP estimates that it has licensed NetWeaver MDM to over 1,400 customers (as of mid-2011), up from 1,150 at mid-2010. It also claims that approximately 670 of those MDM customers are licensed to manage customer data (versus 500 a year earlier), and that there are 225 live implementations managing customer data (versus 175 a year earlier). We believe that SAP continues to have good momentum in the MDM of customer data solutions are and estimate that it had MDM-of-customer-data-related revenue of \$38 million (out of total MDM software revenue of \$158 million) in 2010.

**Enterprise Information Management is key to SAP:** SAP has brought its various BI and information management assets together under the Enterprise Information Management (EIM) banner (note: Gartner views EIM as a discipline, not a set of software products), and it sees NetWeaver MDM and MDG as key parts of that strategy. MDM is also one of the key Orchestration technologies that enable both the mainstream, on-premises Business Suite applications and the newer, on-demand applications, such as Business ByDesign. A new component of the EIM portfolio, SAP BusinessObjects Information Steward, is designed to help organizations understand and analyze the trustworthiness of their enterprise information. It can be integrated with NetWeaver MDM and MDG, but is not yet fully prepackaged and its primary/initial sales focus will be BusinessObjects users.

Flexible, multidomain MDM capability with mainly B2B experience: NetWeaver MDM has a flexible, domain-neutral data model, and an increasing number of multidomain references. It provides a prepackaged version of the Business Partner data model, as found in Business Suite, and the older Customer data model from SAP ERP, and in May 2011 introduced its Rapid Deployment Solution for CDI, comprising a set of bundled software and services. Most of NetWeaver MDM's experience is with managing B2B business partner data in consolidation and coexistence styles with distributed authoring, or workflow-oriented, centralized-authoring situations.

**Improved data quality, UIs, workflow and data stewardship:** SAP has leveraged other SAP and BusinessObjects technologies and standards. For example, NetWeaver BPM, which includes the business rule engine, is leveraged to provide a sophisticated workflow capability for collaborative authoring and data stewardship. Also, NetWeaver MDM can now generate Web-based data stewardship UIs for business users, based on WebDynpro and not requiring the SAP Portal. There is tight integration with BusinessObjects' Data Services matching engine and increasing leverage of other BusinessObjects' technologies for dashboarding and reporting, and data quality.

#### Cautions

Mainly appeals to SAP customers and has restricted B2C support: NetWeaver MDM mainly

appeals to SAP-centric organizations that have bought into the company's application and application infrastructure vision. SAP makes few shortlists in non-SAP-centric heterogeneous environments. Also, due to the prevalence of enterprise deals there's still a major gap between the number of NetWeaver MDM licenses and the number of live implementations. In addition, NetWeaver MDM isn't currently suitable for supporting high-volume, transaction-oriented B2C use cases (with centralized authoring or registry style) in financial services, communications and government (although it does have several local government organizations using it in consolidated and coexistence style). To meet this requirement, SAP has plans to introduce the Accelerated Customer Hub (a port of NetWeaver MDM on SAP's HANA in memory DBMS) in 2H12. We look forward to assessing the product's scalability, availability and maturity in future.

**Multiproduct "MDM" strategy creates complexity:** SAP's MDM portfolio now comprises NetWeaver MDM for "enterprise MDM" and MDG for "embedded MDM," although Gartner views MDG more as an application-specific data stewardship tool. MDG does not yet support customer data and will not support SAP CRM directly. Although both products are increasingly leveraging common UIs, workflows and Business Objects' technologies, they are based on totally different core technologies and designs. MDG will appeal to a significant section of the SAP customer base and smaller organizations may just implement MDG. However, larger organizations will probably also need SAP NetWeaver MDM to integrate to non-SAP systems, resulting in a need to implement two "MDM" products. And as MDG sales gather momentum, SAP will need to reassure NetWeaver MDM customers that their investment remains strategic.

**Functionality continues to improve, but still not best in class:** SAP has significantly improved NetWeaver MDM over the past three years, though some customers say that it has made the product too complex and heavy in infrastructure terms, and that the nature of the in-memory object model makes it difficult to leverage the data. SAP needs to continue to improve the prepackaged facilities for data stewards to manage the life cycle of master data, and it is behind in offering MDM applets that organizations could use to embed MDM-based business logic in non-SAP application. Although cloud, social and mobile are present in SAP's overall vision, NetWeaver MDM is not available in a multitenant form for MDM SaaS and there is no prepackaged leveraging of social data yet. Finally, although SAP is now offering initiative-specific QuickStart packages, such as for physician spend analysis, it doesn't have a strong partner ecosystem building assets on top of NetWeaver MDM.

**Customer references scored below average in several areas:** SAP provided a full set of references, a significant majority of which are now on v.7.1 SP05, as well as a few still on v.5.5. In the online survey its references gave above-average grades for sales process support, new user training and onboarding, data quality facilities, and user interface functionality. SAP received average marks for its understanding of both the business application of MDM for customer data (including governance) and its references' vertical industry MDM needs. SAP received below-average ratings for pricing transparency, TCO, product road map communication, internal workflow capability, business services facilities, and its ability to monitor, measure and report on master data quality. Specific mention was made of the constraints of the NetWeaver MDM data model.

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#### **Tibco Software**

Tibco Software's positioning is to enable real-time visibility, understanding and action. It sees its MDM technology as part of a platform, together with analytics, BPM and data quality, that enables business optimization and real-time intelligence. It offers an MDM product called Tibco MDM that was previously known as Tibco Collaborative Information Manager (CIM). This was originally developed by a PIM specialist that Tibco acquired. Tibco positions Tibco MDM as a multidomain MDM system, suitable for centralized authoring and collaborative workflow and real-time transactional environments. CIM v.8.2 became generally available in July 2011. Pricing is both per CPU and per named user, and both project-based and enterprise licenses are available. A single license covers all data domains, unless specifically restricted within the contract. Annual maintenance cost is based on Tibco's standard Gold, Silver and Bronze levels.

We estimate that Tibco Software's MDM-of-customer-data-related software revenue was only \$6 million in 2010 (out of a total of \$19 million).

Global Headquarters: Palo Alto, California, USA

#### Website: www.tibco.com

#### Strengths

**Increased visibility for MDM at Tibco:** Tibco Software is increasingly realizing the importance of MDM, and it now has high-level visibility within the company, and is seen as a strong growth opportunity. The majority of customers use Tibco MDM to manage product data, but it is also being used to manage customer, organization, counterparty and employee master data. In the MDM of customer data solutions area, Tibco MDM has had particular success in the telecom industry and also in retail and consumer packaged goods. Tibco now has 170 customers licensed for Tibco MDM (up from 120 a year ago), including 60 licensed to manage customer data (up from 30 a year ago). Half of these are live.

Leveraging the Tibco customer base and overall value proposition: Tibco had total company revenue of \$754 million in 2010 and we estimate that it has over 3,000 customers in total. It is able to leverage that base for MDM sales. Tibco is best-known for its SOA middleware, such as its enterprise service bus (ESB), and BPM. Its vision increasingly focuses on enabling interactions and business processes, and this means that foundational capabilities like MDM and analytics become essential. It usually sells Tibco MDM as part of the overall value proposition around integration, BPM and analytics. This can provide it with a competitive edge versus more data-centric vendors.

**Flexible multidomain product, with good workflow:** Tibco MDM is a multidomain MDM system, with flexible client-driven data modeling, positioned for collaborative workflow and real-time transactional scenarios. Tibco MDM has strong workflow and process-modeling capabilities for collaborative authoring of data, and can also be called by external BPM tools, such as Tibco ActiveMatrix BPM. Tibco MDM supports survivorship and versioning. Tibco is starting to provide prepackaged data model templates, both horizontal (for example, a telco model). It is also having sales success with prepackaged BPM and MDM solutions (for example, its Concept to Cash Solution for telco).

**The product continues to improve:** Tibco MDM v.8.2 included major improvements in the data quality area with the embedding of the Netrics matching engine and the integration of Trillium Software's data profiling, cleansing and standardization technologies. Tibco MDM v.8.2 contained improvements to MDM Studio, making modeling more graphical and real time, and there was increased use of Spotfire to provide MDM data discovery facilities and an analytics dashboard. The distributed cache platform (DCP) facility for improving in-memory performance now additionally supports Tibco ActiveSpaces, and there is potential to provide integration with social networking sites, both external (such as Twitter) and internal (such as Tibbr), though this is not yet productized.

#### Cautions

**Still a relatively small presence in the market:** Tibco MDM is positioned for multidomain MDM, but most of its experience and revenue is related to managing product data. The number of Tibco MDM implementations licensed to manage customer data is increasing, but Tibco needs to have a stronger stock of references managing customer data. Also, although there was good growth in 1H11, Tibco Software's MDM-of-customer-data-related software revenue of \$6 million in 2010 is still small compared to the market share leaders.

**Needs to provide references performing transactional usage:** Tibco MDM was originally built for workflow-style, central-authoring use cases, and leverages an in-memory object model that cannot transparently benefit from relational database management system (RDBMS) features, such as locking, concurrency control and transaction logging. Tibco Software has clear ambitions to address demanding real-time operational environments with Tibco MDM and is making sales on this basis. However, it needs to clearly demonstrate, in publicly available benchmarks and customer references, that Tibco MDM is capable of handling hundreds of transactions per second on a base of millions of customer records.

**Behind in some areas:** Tibco MDM v.8.2 improves the product, but it is still behind best-in-class products in a number of areas. For example, Tibco Software will need to keep investing in areas of data governance, such as profiling, dashboarding and out-the-box reporting. It also needs to improve its hierarchy visualization and although it has a much stronger data quality capability there is more to do. In a couple of new areas for MDM vendors, Tibco seems to have no strategy for provision of MDM applets and although Tibco MDM has a multitenancy capability, Tibco does not promote any MDM SaaS strategy. Lastly, Tibco seems behind in the strength of its ESP relationships, both for generating business and for the creation of assets on top of Tibco MDM.

Weak in customer references area: Tibco Software's references for MDM of customer data solutions continue to be weak compared with its competitors. The overall number of references supplied was low, and the online survey response was very weak. This will need to improve significantly in order for Tibco's Ability to Execute position in the MDM of customer data solutions market to improve. The references we were able to speak with were happy with Tibco's professional services, and the fact that they were able to obtain MDM and ESB technology from a single vendor. They also gave fairly high marks to Tibco's user interface. References mentioned the necessity to purchase Spotfire in order to obtain adequate reporting and dashboarding capabilities. Tibco has addressed this with a Tibco MDM and Spotfire bundle.

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#### **VisionWare**

VisionWare is a small MDM vendor offering the MultiVue product that leverages Microsoft technologies, such as .NET, Silverlight and SQL Server. The MultiVue v.2.1 product is positioned for operational MDM and was made generally available in November 2010 (v.3 is planned for later in 4Q11). The 64-bit MiDaS product was released at the end of September 2010 and is positioned to support analytical MDM requirements. It runs on top of the Microsoft SQL Server 2008 R2 MDS product and leverages facilities in MDS, such as physical data modeling, hierarchy management, version control and Microsoft fuzzy matching technology for search. MultiVue is priced according to the industry and the size of the organization, if it is in the public sector. There is a base MultiVue license plus additional costs based on the number of source applications, without restriction on the number of records or users. Annual maintenance is charged at 20% of the list price.

Global Headquarters: Glasgow, U.K.; U.S. Office: Newton, MA, USA

Website: www.visionwareplc.com

#### Strengths

Attractive MDM solution for Microsoft users: VisionWare's products are attractive to resourceconstrained organizations that are Microsoft-centric. Both MultiVue and MiDaS are based solely on Microsoft technologies, such as .NET, SQL Server and BizTalk. The company has very competitive pricing and its MDM products are mainly used to manage information on individual parties and households, as opposed to businesses. It has little competition in this Microsoft-centric part of the MDM of customer data solutions market, except Microsoft itself and Profisee's Maestro, which both lack strong operational MDM facilities. VisionWare sells via a mixture of direct and indirect sales, with partners such as HP, Serco and ACS.

Strength in the government market and expanding geographical presence: VisionWare

has a strong domain knowledge of the local government market, and also has some customers in healthcare provision and law enforcement. In addition, the vendor is starting to gain customers in financial services. VisionWare had 78 customers at the end of June 2011 (up from 66 in mid-2010), mainly in the U.K., and also has a partner network in North America, with 19 customers at the state, county and city levels, and MDM applications focused on Medicaid, public health, human services, criminal justice and public safety. There is an increasing focus on healthcare payers, providers and health information exchanges (HIEs) in North America. VisionWare also has two customers in South Africa, via a partner.

**Good facilities and strongly leverages Microsoft technologies:** VisionWare MultiVue has a flexible data model, allowing modeling of other data domains, in addition to customer data. It also includes data profiling, analysis and internal workflow capabilities. MultiVue's sweet spot is where data is authored in a distributed fashion, then brought to a central hub for matching. A single view is created through merging the different versions to create a composite record. It uses VisionWare's own capable probabilistic matching and cleansing technology, and its data integration technologies. Implementations are scaling to hold data on more than 6 million unique customer entities, and benchmarks on commodity hardware indicate scalability well beyond that. The Prism facility, based on Silverlight, provides good visualization and analysis of parties and relationships. In v.3, VisionWare will introduce a data governance facility called Life Events Notification System (LENS), free text search and a multitenancy capability.

**Generally good feedback from customer references:** VisionWare provided a full set of references. The majority of the references are running on the current version of the MultiVue operational MDM product. None were running the MiDaS product, which includes analytical MDM capabilities. In the online survey, VisionWare gained the highest ratings of all vendors. It was rated highly for its understanding of the references' vertical industry needs, mainly in government, and for its pricing. MultiVue's product capabilities were also rated above average, in areas such as loading, integration and performance. Some comments were received with regard to complexity in upgrading the software requiring the vendor to be on-site at a cost.

## Cautions

Still a small company. It needs to expand its indirect channels: VisionWare is a small U.K. company, with estimated total company revenue of \$7 million in 2010. We estimate that its 2010 MDM of customer data solutions software revenue was \$4.7 million, an estimated 13% growth rate over the previous year. It is profitable and has not taken venture capital, but its growth has been slower than the growth of the MDM market. It needs to ramp up sales through indirect channels to achieve the necessary growth momentum in this part of the MDM market and provide local support and services for customers. At this size, VisionWare is also likely to be an acquisition target as the MDM market continues to consolidate during the next few years.

**Only a small presence outside government and limited geographical coverage:** VisionWare's business is concentrated in government, with a small, but growing, presence in healthcare and law enforcement. It has had only minor success so far in commercial organizations. It needs a wider spread of business across verticals and domain expertise across those verticals. The company also has limited geographical coverage. It is strongest in the U.K., and has a growing presence in the U.S. and Canada, plus a partner in South Africa, but VisionWare is not currently offering MultiVue in any other geographies.

**Long-term risk of conflict with Microsoft:** VisionWare has successfully leveraged its Microsoft relationship; however, Microsoft itself is now an MDM player, with SQL Server 2008 R2 MDS (although only as an MDM platform). Microsoft is encouraging partners like VisionWare to offer MDS-based MDM solutions, such as the MiDaS release, although the takeup has been slow. Long term, as Microsoft continues to improve MDS with the forthcoming SQL Server 2012 release (which will include data quality functionality) and succeeding releases, it will become more of a complete and capable MDM solution, and VisionWare will need to find ways to add value and differentiate itself. In the short term, VisionWare is safe, as the current version of MDS lacks key facilities and the customer takeup has been slow; however, longer term, it could become more difficult.

**Restricted to Microsoft environments and has gaps in functionality:** VisionWare's MultiVue and MiDaS are restricted to running on Microsoft SQL Server and strongly leverage Microsoft .NET technologies. They would not be suitable for organizations with Java Platform, Enterprise Edition standards, or IBM or Oracle RDBMS mandates. From a functionality point of view, VisionWare needs to provide better support and proof points for central authoring of data (transactional and workflow use cases) to create and maintain a physical golden record. It also needs additional functionality, such as more comprehensive hierarchy management and integration with additional reference data suppliers, such as D&B, to be considered more for B2B use cases. MultiVue also lacks out-of-the box integration with third-party data integration and data quality tools.

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