

# Magic Quadrant for Data Integration Tools, 2006

Gartner RAS Core Research Note G00141484, Ted Friedman, Mark A. Beyer, Andreas Bitterer, 22 November 2006, R2101 06082007

**D**iscrete markets for special-purpose data integration tools have converged into one single market, supporting multiple modes of delivery. Vendors' offerings in this sector reflect this convergence to varying degrees.

## WHAT YOU NEED TO KNOW

Discrete markets for single-purpose data integration tools, such as extraction, transformation and loading (ETL), have given way to a broader market for data integration tools that address a range of data delivery styles. This market comprises a mix of vendors from diverse backgrounds, including database management systems, business

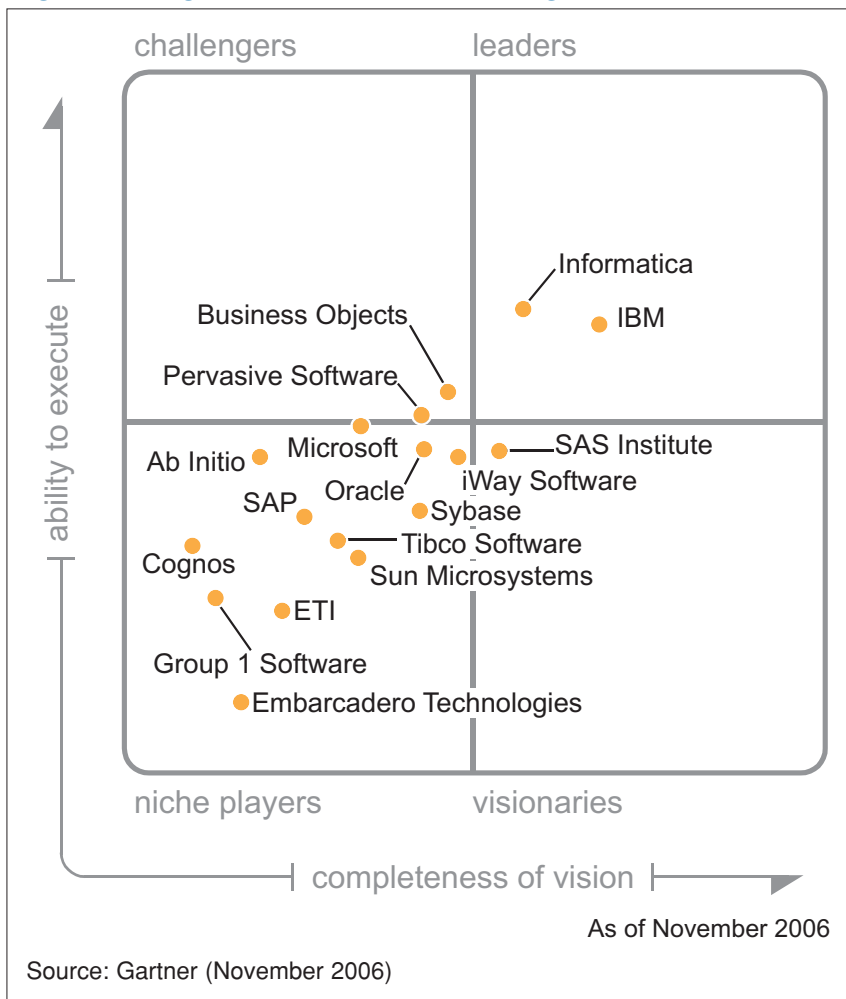
intelligence (BI) platforms and business applications, as well as a number of pure-play vendors focused solely on this market. Vendor consolidation is preceding the convergence of single-purpose tools – most vendors address the full breadth of delivery styles through multiple products, rather than through a single, comprehensive product. At the same time, some of the newer vendors emerging in and around this market are starting out with metadata-driven architectures, promising to bypass single-purpose, connection-driven tools. Organizations seeking data integration tools should focus not only on the product functionality detailed in this analysis, but also on the experience base of the vendors – not all are proven in enterprisewide deployments and some demonstrate competence only in certain application

domains. In addition, buyers must recognize that as an “early stage” market, disruptions due to merger and acquisition activity are likely as smaller vendors with valuable technology are subsumed into larger entities to form more complete data integration tools portfolios.

## MAGIC QUADRANT Market Overview

The discipline of data integration comprises the practices, architectural techniques and tools for achieving the consistent access and delivery of data across the spectrum of data subject areas and data structure types in the enterprise, in order to meet the data consumption requirements of all applications and business processes. Contemporary pressures are leading to an increase in investment in data integration in all vertical industries and geographies. Business drivers, such as the imperative for speed to market and agility to change business processes and models, are

Figure 1. Magic Quadrant for Data Integration Tools, 2006



forcing organizations to manage their data assets differently. Simplification of processes and the IT infrastructure are necessary to achieve transparency, and transparency requires a consistent and complete view of the data, which represents the performance and operation of the business. The trend toward an increased focus on data integration is also driven by people – the users of corporate data. In many organizations there is a general dissatisfaction with the lack of data consistency, and a constant desire for the proverbial “single version of the truth.” Data integration is a critical component of an overall enterprise information management strategy that can address these data-oriented issues.

From a technology point of view, data integration tools have traditionally been delivered via a set of related markets, with vendors in each market offering a specific style of data integration tool. Most of the activity has been within the ETL tools market, with a growth in the use of ETL tools for data warehouse implementations and, more recently, other types of data integration problems. Markets for replication tools, data federation (enterprise information integration [EII]) and other submarkets each contained vendors offering tools optimized for a particular style of data integration. A variety of other related markets, such as data quality tools, adapters and data modeling tools, also overlap with the data integration tools space. The result of all this historical fragmentation in the market is the equally fragmented and complex way in which data integration is accomplished in large enterprises – different teams using different tools with little consistency, lots of overlap and redundancy, and no common management and leverage of metadata. Technology buyers have been forced to acquire a portfolio of tools from multiple vendors in order to amass the capabilities necessary to address the full range of their data integration requirements.

This situation is now changing, as the separate and distinct data integration tool submarkets are converging both at a vendor and technology level. This is being driven by buyer demands (for example, organizations realizing they need to think about data integration holistically and have a common set of data integration capabilities they can use across the enterprise). It is also being driven by actions of the vendors (for example, vendors in individual data integration submarkets organically expanding their capabilities into neighboring areas, and acquisition activity bringing vendors from multiple submarkets together). The result is a market for complete data integration tools that address a range of different data integration styles and are based on common design tooling, metadata and runtime architecture. This market supplants the former data integration tools submarkets, such as ETL, and becomes the competitive landscape in which Gartner evaluates vendors for placement within this Magic Quadrant.

### Market Definition/Description

The data integration tools market comprises vendors that offer software products to enable the construction and implementation of data access and delivery infrastructure for a variety of data integration scenarios, including:

- Data acquisition for BI and data warehousing – extracting data from operational systems, transforming and merging that data, and delivering it to integrated data structures for analytic purposes. BI and data warehousing remains a mainstay of the demand for data integration tools.
- Creation of integrated master data stores – enabling the consolidation and rationalization of the data, representing critical business entities such as customers, products and employees. Master data management may or may not be subject-based, and data integration tools can be

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used to build the data consolidation and synchronization processes that are key to success.

- Data migrations/conversions – traditionally addressed most often via the custom coding of conversion programs, data integration tools are increasingly addressing the data movement and transformation challenges inherent in the replacement of legacy applications and consolidation efforts during merger and acquisition activities.
- Synchronization of data between operational applications – similar in concept to each of the prior scenarios, data integration tools provide the capability to ensure database-level consistency across applications, both on an internal and interenterprise basis, and in a bidirectional or unidirectional manner.
- Creation of federated views of data from multiple data stores – data federation, often referred to as EII, is growing in popularity as an approach for providing real-time integrated views across multiple data stores without physical movement of data. Data integration tools are increasingly including this type of virtual federation capability.
- Delivery of data services in a service-oriented architecture (SOA) context – an architectural technique, rather than a data integration usage itself, data services are the emerging trend for the role and implementation of data integration capabilities within SOAs. Data integration tools will increasingly enable the delivery of many types of data services.
- Unification of structured and unstructured data – also not a specific use-case itself, and relevant to each of the above scenarios, there is an early but growing trend toward leveraging data integration tools for merging both structured and unstructured data sources, as organizations work on delivering a holistic information infrastructure that addresses all data types.

Gartner has defined several classes of functional capabilities that vendors of data integration tools must possess in order to deliver optimal value to

organizations in support of a full range of data integration scenarios:

### **Connectivity/adaptor capabilities (data source and target support)**

The ability to interact with a range of different data structures types, including:

- Relational databases.
- Legacy and non-relational databases.
- Various file formats.
- XML.
- Packaged applications such as customer relationship management (CRM) and supply chain management (SCM).
- Industry-standard message formats such as electronic data interchange (EDI), Society for Worldwide Interbank Financial Telecommunication (SWIFT) and Health Level 7 (HL7).
- Message queues, including those provided by application integration middleware products (such as MQ) and standards-based products (such as Java Messaging Service [JMS]).
- Semi-structured data, such as e-mail, Web sites, office productivity tools and content repositories.

In addition, data integration tools must support different modes of interaction with this range of data structure types, including:

- Bulk acquisition and delivery.
- Granular trickle-feed acquisition and delivery.
- Changed-data capture (ability to identify and extract modified data).
- Event-based acquisition (time-based or data value-based).

### **Data-delivery capabilities**

The ability to provide data to consuming applications, processes and databases in a variety of modes, including:

- Physical bulk data movement between data repositories.
- Federated views formulated in memory.

- Message-oriented movement via encapsulation.
- Replication of data between homogeneous or heterogeneous database management systems (DBMSs) and schemas.

In addition, support for delivery of data across the range of latency requirements is important:

- Scheduled batch delivery.
- Streaming/real-time delivery.
- Event-driven delivery.

### **Data transformation capabilities**

Built-in capabilities for achieving data transformation operations of varying complexity, including:

- Basic transformations, such as data type conversions, string manipulations and simple calculations.
- Intermediate complexity transformations, such as lookup and replace operations, aggregations, summarizations, deterministic matching and management of slowly changing dimensions.
- Complex transformations, such as sophisticated parsing operations on free-form text and rich media.

In addition, the tools must provide facilities for development of custom transformations and extension of packaged transformations.

### **Metadata and data-modeling capabilities**

As the increasingly important heart of data integration capabilities, metadata management and data-modeling requirements include:

- Automated discovery and acquisition of metadata from data sources, applications and other tools.
- Data-model creation and maintenance.
- Physical to logical model mapping and rationalization.
- Defining model-to-model relationships via graphical attribute-level mapping.
- Lineage and impact analysis reporting, via graphical and tabular format.
- An open metadata repository, with the ability to share metadata bidirectionally with other tools.
- Automated synchronization of metadata across multiple instances of the tools.

- Ability to extend the metadata repository with customer-defined metadata attributes and relationships.
- Documentation of project/program delivery definitions and design principles in support of requirements definition activities.
- Business analyst/end-user interface to view and work with metadata.

### **Design and development environment capabilities**

Facilities for enabling the specification and construction of data integration processes, including:

- Graphical representation of repository objects, data models and data flows.
- Workflow management for the development process, addressing approvals, promotions and so on.
- Granular role-based and developer-based security.
- Team-based development capabilities, such as version control and collaboration.
- Functionality to support reuse across developers and projects, and facilitate identification of redundancies.
- Testing and debugging.

### **Data governance capabilities (data quality, profiling and mining)**

Mechanisms for aiding the understanding and assurance of quality of data over time, including interoperability with:

- Data profiling tools.
- Data mining tools.
- Data quality tools.

### **Runtime platform capabilities**

Breadth of support for hardware and operating systems on which data integration processes may be deployed, specifically:

- Mainframe environments such as IBM z/OS.
- Midrange environments such as IBM iSeries/AS400 or HP Tandem.
- Unix-based environments.
- Wintel environments.
- Linux environments.

## Operations and administration capabilities

Facilities for enabling adequate ongoing support, management, monitoring and control of data integration processes implemented via the tools, such as:

- Error-handling functionality, both pre-defined and customizable.
- Monitoring and control of runtime processes.
- Collection of runtime statistics to determine usage and efficiency, as well as an application-style interface for visualization and evaluation.
- Security controls, for both data “in flight” and administrator processes.
- Runtime architecture that ensures performance and scalability.

## Architecture and integration

The degree of commonality, consistency and interoperability between the various components of the data integration toolset, including:

- Minimal number of products (ideally one) supporting all data delivery modes.
- Common metadata (single repository) and/or the ability to share metadata across all components and data delivery modes.
- Common design environment for supporting all data delivery modes.
- Ability to switch seamlessly and transparently between delivery modes with minimal re-work.
- Interoperability with other integration tools and applications, via certified interfaces and robust application programming interfaces (APIs).
- Efficient support for all data delivery modes regardless of runtime architecture type (centralized server engine vs. distributed runtime).

## Service-enablement capabilities

As acceptance of data services concepts continues to grow, data integration tools must exhibit service-oriented characteristics and provide support for SOA deployments, such as:

- Ability to deploy all aspects of runtime functionality as data services.
- Management of publication and testing of data services.
- Interaction with service repositories and registries.

- Service-enablement of the development and administration environments, such that external tools and applications can dynamically modify and control runtime behavior of the tools.

## Inclusion and Exclusion Criteria

For vendors to be included in this Magic Quadrant they must meet the following requirements:

- Possess within their technology portfolio at least 90% of the product capabilities deemed critical for all data integration toolsets. This allows vendors to be competitive in the market despite gaps in their product capabilities, and because this is an early-stage market, the specific gaps will vary across vendors. The subset of capabilities identified by Gartner as most critical from within the overall range of capabilities expected in data integration tools is as follows:
- Range of connectivity/adaptor support (sources and targets): relational DBMS products, non-relational legacy data structures, flat files, XML and packaged business applications (such as CRM, SCM and human resources management [HRM]) via the application-provided interfaces.
- Mode of connectivity/adaptor support (against a range of sources and targets): bulk/batch, real-time or trickle-feed, changed-data capture, and event capture (for example, data evaluation or timed).
- Data delivery modes support: bulk/batch (ETL-style) delivery, and at least two modes of delivery in total.
- Data delivery latency support: at least two of the three latency classes (scheduled/batch, streaming/real-time and event-driven).
- Data transformation support: packaged capabilities for basic transformations (such as data type conversions, string manipulations and calculations), and mechanisms for custom transformation development.
- Metadata and data modeling support: metadata discovery, data model creation/maintenance, lineage and impact analysis reporting, and synchronization of metadata across instances of the tools.
- Design and development support: graphical design/development environment and team development capabilities (such as version control and collaboration).

- Runtime platform support: Unix and Windows.
- Generate at least \$20 million of annual software revenue from data integration tools or maintain at least 200 production customers.
- Support data integration tools customers in at least two of the major geographic regions (North America, Latin America, Europe and Asia/Pacific).
- Have customer implementations that reflect the use of the tools at an enterprise (cross-departmental and multi-project) level.

Vendors focusing only on one specific data subject area (only customer data integration, for example), a single vertical industry, or just their own data models and architectures are excluded from this market.

Gartner notes that many other data integration tools vendors currently exist beyond those included in this Magic Quadrant. However, most do not meet the above criteria and are therefore not included in this analysis. Market trends over the past three years indicate that organizations want to utilize data integration tools that provide flexible data access, delivery and operational management capabilities within a single vendor solution. Excluded vendors frequently provide products to address one very specific style of data delivery (for example, only data federation/EII) but cannot support other styles. Others provide a range of functionality, but operate only in a single geography or support only narrow, departmental implementations. Some vendors meet all the functional, deployment and geographic requirements but are very early in their maturity and have limited revenue and few production customers. The following vendors are sometimes considered by Gartner clients alongside those appearing in the Magic Quadrant when deployment needs are aligned with their specific capabilities, or are newer market entrants:

**Alebra Technologies**, Minneapolis, MN, USA, [www.alebra.com](http://www.alebra.com) – Parallel Data Mover for cross-platform file and database copying and sharing.

**Attunity**, Burlington, MA, USA, [www.attunity.com](http://www.attunity.com) – A range of data integration-oriented products, including adapters (Attunity Connect), changed data capture (Attunity Stream) and data federation (Attunity Federate) for various platforms and database/file types.

**BEA Systems**, San Jose, CA, USA, [www.bea.com](http://www.bea.com) – AquaLogic Data Services Platform for data source abstraction, access and federation in support of data services delivery.

**CA**, Islandia, NY, USA, [www.ca.com](http://www.ca.com) – Advantage Data Transformer provides ETL-oriented data integration.

**Certive**, Redwood City, CA, USA, [www.certive.com](http://www.certive.com) – Certive platform provides federation-oriented (EII) data integration and persistence focused on BI environments.

**Composite**, San Mateo, CA, USA, [www.compositesw.com](http://www.compositesw.com) – Composite Information Server provides data federation/EII capabilities and supports delivery of data services.

**DataMirror**, Markham, Ontario, Canada, [www.datamirror.com](http://www.datamirror.com) – Real-time heterogeneous changed data capture and replication capabilities via the Transformation Server product.

**Datawatch**, Chelmsford, MA, USA, [www.datawatch.com](http://www.datawatch.com) – The Monarch Data Pump product provides ETL functionality with a bias toward extracting data from report text, PDF files, spreadsheets and other less-structured data sources.

**Denodo**, Palo Alto, CA, USA and Madrid Spain, [www.denodo.com](http://www.denodo.com) – The Denodo Platform provides data federation/EII capabilities for joining structured data sources with data from Web sites, documents and other less-structured repositories.

**Exeros**, Santa Clara, CA, USA, [www.exeros.com](http://www.exeros.com) – The DataMapper product automates the process of discerning the business rules that enable mapping and transformation of data between dissimilar data structures.

**GoldenGate**, San Francisco, CA, USA, [www.goldengate.com](http://www.goldengate.com) – Real-time, heterogeneous data replication capabilities provided by the Transactional Data Management (TDM) Software Platform.

**Ipedo**, Redwood City, CA, USA, [www.ipedo.com](http://www.ipedo.com) – Ipedo XIP provides data federation/EII capabilities with an XML-oriented approach.

**Itemfield**, San Mateo, CA, USA, [www.itemfield.com](http://www.itemfield.com) – Design, development and deployment of complex mapping and transformation logic is supported via the ContentMaster product line.

**Kalido**, Burlington, MA, USA and London, UK, [www.kalido.com](http://www.kalido.com) – The Kalido Active Information Management Software enables dynamic data modeling and change management for data warehouses and master data environments.

**Lakeview Technology**, Oakbrook Terrace, IL, USA, [www.lakeviewtech.com](http://www.lakeviewtech.com) – Real-time database replication functionality is provided in the MIMIX replicate1 product.

**Metamatrix**, Waltham, MA, USA, [www.metamatrix.com](http://www.metamatrix.com) – The MetaMatrix Server, Enterprise and Query products support creation of data models and EII-style federated queries.

**Open Text (Hummingbird)**, Lincolnshire, IL, USA, [www.opentext.com](http://www.opentext.com) – The Livelink ECM Data Integration product (formerly Hummingbird Integration Suite prior to the acquisition of Hummingbird by Open Text) supports ETL-style data delivery.

**Progress Software**, Bedford, MA, USA, [www.progress.com](http://www.progress.com) – The DataXtend and DataDirect product lines provide tools for data access, replication and synchronization.

**SchemaLogic**, Kirkland, WA, USA, [www.schemalogic.com](http://www.schemalogic.com) – Creation and maintenance of data models (Workshop), business models (SchemaServer), and the ability to propagate models and data across applications (Integration Service).

**Software AG**, Darmstadt, Germany, [www.softwareag.com](http://www.softwareag.com) – The Enterprise Information Integrator product provides data federation capabilities and is oriented toward SOA deployments.

**SyncSort**, Woodcliff Lake, NJ, USA, [www.syncsort.com](http://www.syncsort.com) – DMExpress provides ETL capabilities and supports a range of data source/target and platform types.

**Sypherlink**, Dublin, OH, USA, [www.sypherlink.com](http://www.sypherlink.com) – Metadata discovery and mapping via Harvester, and access to data sources for creation of integrated views via Exploratory Warehouse.

**Vamosa**, Glasgow, UK and Cambridge, MA, USA, [www.vamosa.com](http://www.vamosa.com) – Provides content integration and migration, aimed at synchronization and consolidation of document repositories, via its Content X-Change and Content Migrator products.

**Xaware**, Colorado Springs, CO, USA, [www.xaware.com](http://www.xaware.com) – Via the XA-Suite product, provides support for the access, integration and service-enablement of data sources.

## Evaluation Criteria

### Ability to Execute

In order to emphasize the need to address a range of data delivery styles, metadata management strength and other technical requirements of enterprisewide data integration activities, the “Ability to Execute” criteria in the data integration tools market includes a strong emphasis on product capabilities. The Product/Services evaluation criteria includes all the major categories of functionality described in the market definition above. In addition, as this is a dynamic and highly competitive market, Sales Execution/Pricing and Customer Experience (which includes the availability and quality of customer references, as well as overall customer satisfaction) are key, and are therefore also heavily weighted. While also important criteria, Overall Viability (which includes an assessment of financial strength and growth), Market Responsiveness and Track Record and Marketing Execution (which reflects the degree of vendor “mind share” in the market) are weighted lower than the other criteria in order to reflect that this is a market that is early in its maturity.

### Completeness of Vision

The “Completeness of Vision” criteria most strongly emphasizes an overall market understanding. This criteria includes an assessment of the degree to which the vendor establishes market trends and direction, as well as the ability of the vendor to capitalize on market trends and survive disruptions.

**Table 1. Ability to Execute Evaluation Criteria**

Evaluation Criteria	Weighting
Product/Service	high
Overall Viability (Business Unit, Financial, Strategy, Organization)	standard
Sales Execution/Pricing	high
Market Responsiveness and Track Record	standard
Marketing Execution	standard
Customer Experience	high
Operations	no rating

Source: Gartner

**Table 2. Completeness of Vision Evaluation Criteria**

Evaluation Criteria	Weighting
Market Understanding	high
Marketing Strategy	standard
Sales Strategy	standard
Offering (Product) Strategy	high
Business Model	standard
Vertical/Industry Strategy	no rating
Innovation	high
Geographic Strategy	standard

Source: Gartner

Both of these characteristics are crucial in the data integration tools market due to the volatility introduced by merger and acquisition activity, as well as the increasing impact on the market of the largest software vendors in the world. In addition, we place a high weighting on Innovation, in the form of the magnitude of R&D investment directed specifically toward data integration tools, and the amount of creativity the vendors exhibit when developing their product and go-to-market strategies. Specific to Offering (Product) Strategy, another heavily weighted criteria category, a key consideration is the degree of openness of the vendors' offerings. For success in this market, vendors must deliver independence from their own proprietary data models and architectures, and be capable of easily interoperating with architectures and technologies of other vendors. The remaining criteria receive moderate weightings with a slight emphasis on Sales Strategy and Geographic Strategy given the rapidly expanding size of the market.

### Leaders

Leaders in the data integration tools market will be front runners in the convergence of single-purpose tools into an offering that supports a range of data delivery styles. These vendors will be strong in the

more traditional data integration patterns such as ETL, they will support newer patterns such as data federation, and will provide capabilities that enable data services in the context of SOA. Leaders have significant mind share in the market, and resources skilled with their tools are readily available. These vendors establish market trends, to a large degree, by providing new functional capabilities in their products, and by identifying new types of business problems where data integration tools can bring significant value. Examples of deployments that span multiple projects and types of use-cases are commonplace within their customer base.

### Challengers

Challengers in the data integration tools market are well positioned in light of the key trends in the market, such as the need to support multiple styles of data delivery. However, they may not provide comprehensive breadth of functionality, or they may be limited to specific technical environments or application domains. In addition, their vision may be hampered by the lack of a coordinated strategy across the various products in their data integration tools portfolio. Because this is a market that is at a relatively early stage in its maturity, Challengers can vary significantly with regard to their financial

strength and global presence. The customer base of Challengers is generally substantial in size, though implementations are often of a single project nature, or reflect multiple projects of a single type (for example, all ETL-oriented use-cases).

## Visionaries

Visionaries in the data integration tools market will have a solid understanding of the key market trends and a position that is well aligned with current demand, but they may lack the market awareness or credibility beyond their existing customer base or outside of a single application domain, or they may not provide a comprehensive set of product capabilities. Visionaries may be new market entrants lacking the installed base and global presence of larger vendors, though they could also be well-established, large players in related markets and have only recently placed an emphasis on data integration tools.

## Niche Players

Niche Players in the data integration tools market have gaps in both vision and ability to execute, often lacking key aspects of product functionality and/or exhibiting a narrow focus within their own architecture and installed base. These vendors have little mind share in the market and are not recognized as proven providers of data integration tools for enterprise-class deployments. Many Niche Players have very strong offerings for a specific range of data integration problems (for example, a particular set of technical environments or application domains) and deliver substantial value for their customers in that segment.

## Vendor Comments

### Ab Initio

Gartner clients frequently indicate that they have little knowledge of Ab Initio because the vendor avoids speaking publicly about its capabilities, its customer base and its financials. As a result, our assessment of the vendor is based on recent and historical discussions with Ab Initio customers and prospects, as well as the limited information that is available in the public domain. The rate of inquiries about Ab Initio from Gartner clients remains consistent with prior years and indicates a moderate market share, for the most part reflecting Ab Initio's mind share in multiple vertical industries (including

telecommunications, financial services, retail and others) where it has had traction in the past. Ab Initio is best known for ETL-style implementations in large-volume and high-complexity data warehousing environments. The vendor claims that it has customers leveraging its technology in a much broader manner, including as a software development environment for building and deploying transaction processing applications. The design and development capabilities of the tools are generally thought by customers to be very rich and intuitive, but the product set overall is reported to be somewhat technically complex and oriented toward highly skilled architecture and development personnel. Overall, Ab Initio customers generally report high satisfaction with the features, functionality and capabilities of the vendor's data integration tools, as well as with the vendor's support and service. Relative to its positioning in this market analysis, Ab Initio's vision is challenged by a delivery model that keeps its corporate strategy, product capabilities and road map, and sales and marketing approach extremely private. Gartner clients often report challenges in obtaining information regarding the vendor's financials and strategy, as well as in obtaining favorable pricing and software licensing terms. Ab Initio states that it has been profitable for the last 10 years and that it facilitates customer reference discussions for prospects.

## Business Objects

During 2005 and 2006, BI platform vendor Business Objects expanded the breadth of its data integration tools portfolio through the acquisitions of French data federation technology vendor Medience and data quality tools vendor Firstlogic. Combined with the Data Integrator ETL tool, the new Data Federator, Data Insight and Data Quality products give Business Objects a foundation from which to attack the data integration tools market. The vendor's product road map calls for the delivery of a consolidated metadata management offering in early 2007 and tight integration among the various tools later in the year. Business Objects is seeing significant traction with Data Integrator ETL, but this is largely within its existing base of BI platforms customers and mostly in support of data warehouse and data mart implementations. Customer references cite ease of use, complete functionality for their needs, and reasonable price points as advantages, although most aren't managing highly complex

environments or dealing with extreme data volumes. Customers of the Data Federator offering are rare at this point. The introduction of the data quality tools into the portfolio gives Business Objects an advantage relative to many other vendors in the market. However, despite the fact that the former Firstlogic technology is well established in the North American market, its bias toward customer data represents a potential liability in scenarios requiring broad data quality capabilities, and Business Objects must increase execution with this technology in Europe. From a product functionality point of view, Business Objects has many of the components necessary to compete with more established data integration tools vendors, and is one of the strongest BI platforms vendors in this regard, but it will be hampered by a lack of recognition and credibility beyond scenarios involving BI and data warehousing. To that end, it has adopted the positioning of its data integration tools specifically toward delivery of data for BI purposes. The vendor has chosen to describe the collection of data integration tools as an “enterprise information management (EIM) solution,” creating confusion in the market’s understanding of EIM, which Gartner describes as a strategy and principles for managing information as a strategic corporate asset (not a set of tools).

## Cognos

Cognos, with its Data Manager tool (formerly named DecisionStream), is a Niche Player with a vision to address the specific data integration needs of its customers in the BI platform space. The vendor’s strategy includes partnering with larger data integration tools vendors when its customers’ needs for data integration tools extend beyond BI use-cases. Cognos delivers vertically oriented front-end solutions in its BI offering, and, as a result, builds data integration delivery to support those analytics. With a concentration on various vertical markets (such as banking and retail), the Data Manager tool offers a model-driven approach to generate the transforms to create metrics for those industries. In some cases these are delivered at a detailed level, and in others at a summary level in a data mart. Data Manager is optimized for delivery of data to dimensionally oriented (star schema-based) structures, and is not commonly seen populating enterprise-scale data warehouses with more detailed

and complex (normalized) schemas. In addition, Cognos offers no specialized data quality capabilities within its portfolio. Cognos provides data federation/EII capabilities via technology from Composite Software, the same vendor that supplies these capabilities to Informatica. However, few Cognos customers seem to be aware of this option or have implemented it. Organizations using Data Manager are invariably Cognos BI tools customers, and uses of the tool outside the boundary of BI activities appear nonexistent. References report satisfaction with the tool and cite ease of use, low cost and integration with other Cognos products as the main reasons for selecting Data Manager.

## Embarcadero Technologies

Embarcadero Technologies, perhaps best known for its database administration (DBA) productivity tools, participates in this market with a combination of ETL, data modeling and metadata management capabilities. Delivered via an integrated set of stand-alone products (DT/Studio for ETL, ER/Studio for data modeling and Describe for process and application modeling), these capabilities form what the vendor describes as the architectural pillar of its overall “strategic data management” market positioning. Lack of support for data delivery styles other than physical bulk data movement (ETL) and minimal capabilities for data quality operations represent areas of weakness. Due to its deep database management and data modeling competence, Embarcadero has the foundation to build out a broader competitive product set, but first it must gain the necessary skills in selling to a non-DBA audience. The DT/Studio product has an installed base of 200 to 250 customers, with approximately half of those being reached through direct sales. The other half is serviced via original equipment manufacturer (OEM) partners, a channel that Embarcadero sees as its best opportunity to grow the presence of its data integration tools in the marketplace. Tibco Software, which uses DT/Studio as the foundation for its Data Exchange offering, is the most visible of Embarcadero’s channel partners in this market. The current customer base generally reports satisfaction with the products, and indicates that ease of use and low cost were the most significant factors in selecting Embarcadero. Implementations of DT/Studio tend to be tactical in nature and modest in scope; customer references

exhibiting enterprisewide deployment in large organizations are rare. Currently a public company, Embarcadero is in the process of being acquired by a private equity investment firm, which intends to take it private. This will likely bring longer-term changes in ownership, management and strategy if the transaction is completed as planned at YE06.

## **ETI**

ETI has a long association with the discipline of data integration, having been one of the earliest vendors offering technology in the original ETL tools market. Based on a code-generating architecture and providing support for multiple platforms, ETI has historically been focused on physical, bulk-data movement and delivery. It retains its strength for supporting mainframe environments and legacy data sources, and is often seen in sectors such as federal government, where these characteristics, along with large data volumes and a high degree of complexity, are common. This reflects the vendor's roots in the market and the majority of its customer base, but also acts as a differentiator from much of the competition. Over the years, ETI has struggled to keep pace with the market from a functionality point of view, and it still exhibits weaknesses in areas such as modeling and metadata management and ease of use. It has expanded its capabilities to include support for service-oriented architectures and Web services. As market demand continues to increase for tools that support multiple styles of data delivery beyond traditional ETL, the vendor will come under additional pressure to expand its capabilities and look to new models for delivering value. ETI has begun to do the latter by seeking partners that can leverage some of its specialized capabilities. For example, it has established a relationship with Microsoft where it provides high-performance loading modules for enabling SSIS to extract data from, and deliver data to, Teradata and other non-Microsoft DBMS environments. In addition, ETI recently announced outsourced services for development of data integration solutions. Labeled "Built-to-Order" (BTO) by the vendor, this offering gives customers the option of deploying interfaces or complete data integration processes without having to purchase, implement and build skills on ETI's tools. ETI is one of the smallest vendors in the market and supports a customer base of approximately 300. It has

experienced a slow decline in its installed base, sales force, financial assets and general visibility in the market over the last several years. However, since mid-2005, a new management team has been highly engaged in attempting to reverse this trend. By demonstrating increasing revenue and profitability, ETI has secured new venture capital funding, which it is using to finance expansion of the product line and the sales force.

## **Group 1 Software**

Pitney Bowes Group 1 Software, a division of mailstream hardware and services vendor Pitney Bowes, competes in the data integration tools market via its DataFlow products. These products, originally developed by Sagent Technology, which was acquired by Group 1 in 2003, support ETL and data federation/EII scenarios. While not seen as a Leader from an innovation or functionality point of view, DataFlow gathered a significant following of customers over the years, due primarily to solid ETL functionality, strong ease of use and attractive pricing. Customer references generally reflect traditional ETL implementations in the BI domain, with a mix of more modest, departmental implementations and enterprisewide implementations in midsize businesses. Group 1 intends to integrate DataFlow more deeply with its customer data quality and document management capabilities. These areas represent Group 1's core competence and could be leveraged within DataFlow for stronger positioning versus other vendors in the market. Version 6.0 of DataFlow, expected to be delivered by YE06, will provide new capabilities in this direction, as well as address key weaknesses such as metadata interoperability with other tools. Group 1 supports a substantial customer base of over 2,500 DataFlow users, approximately 80% of which were gained via indirect channels. The majority of these were in place before it acquired Sagent, and Group 1 is not often seen actively competing against the market leaders for new data integration tool opportunities at the enterprise level, and seems to be losing mind share in the market. Building brand awareness and recognition remains a major challenge for Group 1, as "customer communications management" and other mailstream-oriented messages seem to take precedence within the vendor's strategy.

## iWay Software

A division of Information Builders, iWay Software was formed in 2001 to house its integration technologies, with the goal of building an integration software business independent of the BI capabilities for which Information Builders is well known. iWay offers capabilities for physical data movement and delivery (via its Data Migrator ETL tool), data federation (via the iWay Data Hub product) and real-time application integration (supported by the Service Manager product). The products are well integrated and leverage common infrastructure, such as an extensive adapter suite providing connectivity to a wide range of data sources, and can be deployed on a wide range of platforms, including the mainframe. iWay positions its products for the requirements of service-oriented architectures, enabling individual data sources and integrated views of data to be accessed via Web services interfaces. It currently lacks competence in the areas of data profiling and quality. Customer references reveal many ETL-only implementations of a tactical nature, but mission-critical data integration processes and deployments involving multiple products (for example, Data Migrator and Service Manager together) are becoming more common. iWay's product capabilities are well aligned with the evolving needs of the data integration tools market, but one of the vendor's biggest challenges is gaining recognition outside the Information Builders customer base. iWay has maintained a low profile, selling into existing Information Builders accounts and entering OEM relationships with other vendors that leverage the iWay adapters. It now wants to build recognition as a strong data integration tools competitor in its own right, but lacks mind share and must continue to improve its sales and marketing execution. Information Builders' large size and global presence afford iWay a strong foundation from which to address these issues and execute its growth strategy.

## IBM

IBM has a long history in data integration technology (as evidenced by products such as DataPropagator and DataJoiner) and was one of the first vendors to invest heavily in data federation/EII technology with its DB2 Information Integrator offering (recently

renamed Federation Server). It also became a premier ETL provider when it acquired Ascential Software in 2005, with Ascential's DataStage product largely replacing IBM's original ETL capabilities in DB2 Warehouse Manager. The family of data integration tools has been placed under the WebSphere brand and sits in the newly formed IBM Information Integration Solutions unit. In addition to DataStage and Federation Server, it also includes the Information Analyzer and QualityStage products for data profiling and cleansing, Metadata Server and Transformation Extender (formerly DataStage TX) for heavy transformation requirements. All of these components have recently been packaged within the new IBM Information Server product, with the exception of Transformation Extender, which was moved to the WebSphere business integration family. The IBM Information Server features a newly architected stack with the metadata repository at its core, significant user interface improvements and additional new capabilities, such as XQuery support and two-phase commit. IBM demonstrates strong vision for this market via this broad set of functionality, but also through a significant focus on modeling and metadata management. This is evidenced by its recent acquisition of semantic modeling technology provider Unicorn, and also via the delivery of a common metadata foundation for the other Information Server components via Metadata Server. IBM also provides process-oriented data integration functionality, such as Information Connectivity and Integration (ICI) found in WebSphere Business Integration (WBI). However, this is offered from a virtually separate platform with distinct architecture, because IBM's products for process and application integration are still a separate product family. In the meantime, the Information Server product can wrap its functions into Web services, which can then be leveraged as a process step. IBM can further strengthen its position in the market by improving on sales and marketing execution. Given the large size of the organization and the significant number of products it offers, the vendor's marketing messages surrounding its various data integration tools have not always been consistently articulated by its sales force, nor clearly received and understood by customers and prospects. Aligning its core data integration tools under the Information Server umbrella is a critical step toward addressing this challenge.

## Informatica

As the largest of the pure-play data integration tools vendors, Informatica has strong brand awareness and recognition as a veteran competitor in the market. The vendor's data integration tooling is centered around the PowerCenter platform, which has its roots in traditional ETL-style data delivery. It has added data federation capabilities as an extension to PowerCenter via technology licensed from Composite Software, although Informatica has few customers that have implemented this option. A more recent OEM arrangement supports the PowerCenter Unstructured Data Option, which is based on technology from the transformation services vendor Itemfield. With the acquisition of Similarity Systems in early 2006, Informatica added data profiling and data quality capabilities to its portfolio and has begun to integrate these with PowerCenter. The vendor discontinued its stand-alone SuperGlue metadata offering and has bundled this capability as the Metadata Manager component of PowerCenter Advanced Edition. Informatica is respected for its consistent track record of delivering solid technology, regular releases, and a positive service and support experience. As one of the few vendors in this market to make strong moves into the "on-demand" arena, Informatica is placing significant emphasis on relationships with software as a service (SaaS) providers such as Salesforce.com, other providers of hosted applications, and business process outsourcing (BPO) providers. With this strategy, Informatica seeks to capitalize on the importance of data integration in a business-to-business context – something that the majority of data integration tools vendors have not directly addressed. While demand for interenterprise data integration capabilities will grow in significance, Informatica is somewhat ahead of mainstream market recognition, and it will not experience a rapid and significant shift away from the typical use of its technology in data warehousing environments and other internally focused integration activities. Informatica's financial results have been strong over the last two years, but a large percentage of its revenue growth has come from within the existing customer base as opposed to acquisition of new customers. Informatica is profitable, growing and supports a very large installed base (of over 2,600 customers), but due to

larger vendors acquiring their way into this market or simply turning their attention to the data integration topic, it now finds itself a midsize vendor rather than one of the largest overall. It must continue to innovate and extend its capabilities (such as in the areas of modeling, metadata management and process-oriented integration) to avoid losing ground to larger rivals.

## Microsoft

With the introduction of SQL Server 2005, Microsoft revealed a fully capable, low cost and easy to use data integration tool in SQL Server Integration Services (SSIS). In addition to SSIS, Microsoft introduced the Unified Dimensional Modeler (UDM) for delivering data federation. They are both included, along with Reporting Services, Analysis Services and a replication and service broker, in the license of SQL Server (basic ETL with the Standard edition and advanced ETL, including complex routing and transforms, in the Enterprise edition). With SSIS, Microsoft provides support for bulk data movement (via ETL) and the ability to interface easily with BizTalk Server, which provides real-time, message-based capabilities. SSIS includes basic data-quality features for profiling and cleansing, is extensible using scripts, SQL and any .NET language, and includes an instance manager in the SSIS controls. Built-in features manage dynamic and slowly changing dimensions to support data mart style tables in relational DBMSs or within Analysis Server-deployed data marts, making it easier to move atomic warehouse data to version-controlled data marts. To support dependent data mart propagation (a data warehouse/mart best practice), a cube wizard and dimension designer capability are included. The UDM features include a proactive caching system that switches dynamically between the database and cache based on the up-to-date relativism of the cache. From a user comprehension perspective, UDM supports "Perspectives," which use an extensible metadata model to create user-defined subject areas within a data set. This feature can be used to create multiple business-oriented interpretations of the same physical model. Various data sources are supported for access, including Extended Binary-Coded Decimal Interchange Code (EBCDIC) text files, but sources of a legacy or non-relational variety must be addressed via adapters provided by Microsoft partners or by using the

separately licensed Host Integration Server (which provides connectivity for DB2/UDB and Virtual Storage Access Method [VSAM]). Additionally, Microsoft indicates that it is often desirable to deploy separate servers for SSIS, UDM, Analysis Services and Reporting Services as demand increases. SSIS has less than one year of market experience, but early usage and feedback from Microsoft customers indicates positive results. Customer references show that the Microsoft data integration tools are most often used in Microsoft-centric environments (often seen in midsize businesses) and for more tactical ETL use-cases in diverse environments. Microsoft has the potential to make a substantial impact in this market, but has yet to really articulate a complete data integration tools vision and message much beyond the capabilities of SQL Server. It must demonstrate competence across a range of data delivery styles beyond ETL and continue to increase its ability to deal with the heterogeneous platforms and data source types that are commonplace in large enterprises.

## Oracle

Oracle provides several data integration tools, each delivered to customers via different packaging. The most visible offering to date is Oracle Warehouse Builder (OWB), which was predominantly focused on bulk data delivery for data warehousing purposes. In a recent change to its packaging and pricing approach, the basic capabilities of OWB are delivered at no extra cost with licenses of the Oracle DBMS. Several advanced features (such as increased scalability, impact analysis and lineage reporting, and data profiling) are offered as options at an additional cost. Oracle also provides database replication capabilities and support for federated queries in the Oracle DBMS, thus providing additional integration capability. Data federation capabilities are also inherent in the technology underlying the Siebel Analytics product. Oracle has not yet clearly articulated a cohesive positioning and strategy around its various data integration tools, and most Gartner customer interactions reflect the implementation of OWB for ETL use-cases only. Oracle has delivered solid, continual releases of OWB and, as a result, has seen significant uptake in Oracle-centric environments due to the architecture of the tool. However, due to the limited ability of OWB to support non-Oracle DBMS environments,

some former PeopleSoft and Siebel customers have indicated they will continue to use alternatives to OWB in addressing heterogeneous data integration needs. With the acquisition of Sunopsis, Oracle is now able to offer these customers support across heterogeneous environments. Sunopsis brings the ability to deploy transportable data services that run under many DBMS engines on many platforms. Sunopsis conforms to the Eclipse interface standard and supports componentized development, and also offers real-time, message-based integration. With this acquisition, Oracle takes on the challenges of product integration/rationalization due to overlapping functionality with OWB, as well as the risk of confusing customers about which tool is right for the task at hand. In addition, to strengthen its position in the market, Oracle will need to continue to align its data integration tools with a common positioning and message, and increase the level of integration between the various products over time. Oracle has stated its intention to pursue this market aggressively, and, given its significant size, wide range of technologies and strong global presence, it has the potential to make a significant impact.

## Pervasive Software

Pervasive Software is an unassuming but capable player in the data integration tools market. With many years of experience, 50,000 licenses shipped and claims of more than 10,000 users (the number of named accounts is smaller), Pervasive is frequently used for ETL-style data delivery and also supports data federation/EII and real-time messaging style solutions. The Pervasive Data Integrator and Business Integrator products provide business-to-business (B2B) capabilities that support X.12, Health Insurance Portability and Accountability Act (HIPAA) and HL7 delivered using services- or message-based data transfer for both intra- and interenterprise integration. The portfolio also includes a data profiling tool for assessment. The design time interface produces an XML metadata repository and supports structured, semi-structured and unstructured data extraction (including a document schema designer for pulling recurring, untagged data from documents). Pre-built application adapters include SAP, Siebel and Salesforce/AppExchange (Pervasive was one of the first vendors to provide such an interface), among others. From an SOA perspective, Pervasive supports a Web service

invoke utility and the ability to expose any of its data integration capabilities as a service. Independent software vendors (ISVs) and systems integrators are utilizing the Pervasive tools to create market-driven solutions. Many of Pervasive's customers report using the tools in tactical situations, as opposed to enterprisewide, mission-critical uses. However, this may be a remnant of the weaker transformation capabilities it displayed in past versions of the technology, rather than reflecting its current capabilities. In some of the more significant solutions, Pervasive is building solutions for what it calls "data pipelines," which are third-party data services that deliver data collected from various sources and provide external data feeds to your organization. Due to its small size and history of more tactical and departmental deployments, Pervasive has little visibility at the enterprise level and must continue to prove itself in enterprisewide deployments. However, the attractive pricing relative to the market leaders continues to draw interest from organizations seeking data integration tools capabilities at a lower cost.

## SAP

SAP still needs to establish a comprehensive data integration tools story in the marketplace. While the NetWeaver marketing message includes all the right components, from ETL to federation/EII, SAP's product portfolio still shows significant gaps, and the company lacks recognition as a data integration tools provider. SAP has no mind share in this area because it's not acknowledged as useful for dealing with data integration activities that don't involve SAP's own applications. Even in its own customer base, many clients are looking for data integration functionality from third-party providers if highly complex transformations or parallel processing are required. SAP's data integration tools capabilities are exclusively targeted at SAP-centric environments and, to our knowledge, there is virtually no customer that uses SAP data integration functionality in environments not including SAP applications or NetWeaver Business Intelligence. To provide feeds from non-SAP sources into its Business Warehouse (BW) product, SAP had a long reseller partnership with Ascential Software, and following Ascential's acquisition by IBM, SAP now follows a partnership strategy with other companies on this Magic Quadrant, such as Ab Initio, Business Objects, IBM,

ETI and Informatica, because SAP does not provide its own native adapters to other software packages and has limited transformation capabilities. The core integration engine, NetWeaver XI, focuses on process integration, although customers also use it to feed the delta queue of SAP BW. When SAP quietly acquired the assets of San Francisco-based Callixa in September 2005, it seemed that SAP was getting more serious about the data integration tools space. Callixa developed EII software, but the product has had no traction in the market and has only been beta tested by a few Wall Street firms, and SAP has begun to integrate the technology into the SAP NetWeaver family. However, until recently, SAP has not communicated any product name and road map, and, in addition, to provide EII functionality within the portfolio, SAP still has an OEM agreement with MetaMatrix, a specialist vendor of metadata management and data federation technology. This agreement will likely remain active until Callixa becomes SAP's core EII engine. SAP customers still must tap SAP's partner network for data-quality-related functionality, particularly where data quality services are to be embedded into non-SAP applications. Heavily SAP-centric organizations will find most of the necessary core data integration capabilities in the NetWeaver portfolio or in the SAP partner network.

## SAS Institute

SAS Institute's technology has been used for data integration activities for decades. However, most of the vendor's data integration tools activity focuses on BI and data warehousing, given its traditional focus on analytics. SAS's primary product in the data integration tools market is its Enterprise Data Integration server. The engine provides broad platform support and extensive capabilities, such as packaged transformations, metadata management, parallel processing, load-balancing and, through the vendor's DataFlux subsidiary, rich data quality functionality (profiling, cleansing, matching and enrichment). SAS has not visibly moved toward data federation/EII, although its Information Maps offering should be considered a closely related technology. Information Maps provides a business-related metadata layer, with all data access being hidden from the end user. However, the product targets existing SAS customers and should not be seen as a vendor-agnostic data access layer. SAS has strong

vision for this market, as evidenced by the range of functionality and recognition of the importance of an integrated platform, including data quality capabilities. The vendor is gaining traction with its data integration tools, but this is largely with existing SAS technology users. It has yet to gain significant mind share with corporate-level IT organizations, which are the predominant buying center for data integration tools, but have not been the vendor's traditional point-of-sales focus. SAS must also become successful in selling its data integration tools for use in non-BI scenarios, given that the vendor is not commonly recognized outside the BI domain. While SAS has deep knowledge in text mining, with its Text Miner product, the company has not started data integration efforts that span structured (database) content combined with unstructured content from document stores or knowledge management systems. Customer references generally report satisfaction with the tools, but sometimes cite challenges with the SAS pricing model and price points. To strengthen its position in the market further, SAS must continue to build credibility and mind share as an environment- and domain-agnostic data integration tools provider, and also extend its footprint to IT organizations within the existing SAS account base.

## Sun Microsystems

Sun Microsystems' data integration tools are bundled into its Java Composite Application Platform Suite (CAPS) offering. Java CAPS is Sun's vision for all the components needed for its customers to deploy service-oriented architectures. Therefore, Java CAPS includes many technologies and products that are outside the boundaries of the data integration tools market. The data-integration-specific components of Java CAPS were added to the Sun portfolio following the acquisition of SeeBeyond in 2005. eTL Integrator addresses batch, bulk-oriented data delivery, eView Studio enables the creation of "single-view" services that can draw together data from multiple sources, and eGate Integrator provides foundation capabilities such as messaging, data movement and transformation. Best known for deployment in real-time application integration scenarios, eGate Integrator must be deployed in order for customers to use the eTL and eView

capabilities. Building on its core competence with application integration, SeeBeyond delivered eTL Integrator in 2003 to address its customers' needs for data integration support. Uptake of eTL Integrator was slow, with less than 10 production customers at the time of acquisition by Sun. While the eView functionality, combined with the adapters provided in Java CAPS, can, in effect, implement basic EII-like functionality to deliver data federation scenarios, Sun maintains partnerships with pure-play data federation vendors such as MetaMatrix and Ipedo to support customers with substantial real-time federation requirements. Currently, Sun reports an installed base of over 2,000 customers for Java CAPS components, but implementations of the eTL Integrator and eView products appear somewhat limited in number. eTL Integrator and eView customers generally report success with the products, but references often have not pushed the products beyond simplistic transformation requirements and limited numbers of data sources. As was the case for SeeBeyond as a stand-alone vendor, Sun must increase the market awareness of its data integration tools capabilities, as it currently has little recognition. However, the vendor's large global presence, wide range of capabilities in Java CAPS and a stronger focus on SOA than most other vendors in the data integration tools market represent a solid foundation from which it can build.

## Sybase

While not commonly recognized outside its existing customer base as a competitor in the data integration tools market, over the years Sybase has gathered an extensive portfolio of capabilities to address a range of different data delivery styles, and data integration is one of the pillars of its corporate strategy. Most proven is the Sybase Replication Server product, which supports heterogeneous database replication and is often seen in high-volume, mission-critical scenarios involving operational data managed in Sybase ASE databases. Newer additions to the vendor's portfolio include data federation/EII, based on Sybase's acquisition of Avaki in 2005 and, more recently, ETL with the acquisition of Solonde in mid-2006. These newer products round out Sybase's portfolio, but have yet to gain significant adoption by large enterprises. Sybase plans to position its

PowerDesigner modeling and metadata management product as the common repository and design interface underpinning each of its multiple data integration tools, and the basis for a highly model-driven approach to data integration. The combination of these capabilities is packaged within the vendor's new Data Integration Suite offering, which was released in November 2006. The first version of the suite is, for the most part, just new packaging – a collection of the existing products with limited integration between them. Sybase plans to systemically integrate the products more closely in subsequent releases in 2007, with the intent of achieving seamless integration from a metadata, design, deployment and administration point of view during 2008. Beyond the core data integration capabilities, Sybase's strong understanding of "discontinuous" data connections (remote units that require synchronization at an irregular and periodic frequency) will afford it some advantages as organizations continue to work toward loosely coupled deployment models. However, a lack of product and partnerships for data quality remains a weakness. While it has many of the necessary product capabilities to be successful, the disparate architectures and backgrounds of the various components will make tight product integration a challenge. From an execution perspective, Sybase is playing catch-up with the market leaders and other large vendors with regard to market awareness. To gain mind share, Sybase must overcome the market perception that it cannot capably support heterogeneous environments (as opposed to Sybase DBMS-oriented ones). It must also continue to alter its sales and marketing mind-set from being focused on individual products toward communicating the value proposition of the combined data integration tools portfolio.

## **Tibco Software**

Tibco Software recently entered the data integration tools market in a visible manner with the introduction of its DataExchange offering. However, rather than focusing strongly on data integration tools in a stand-alone manner, Tibco's strategy presents DataExchange as a component of its application integration and service-oriented architecture stack. DataExchange is an ETL-oriented product that

extends Tibco's capabilities into the arena of bulk, batch-oriented data movement and delivery. Complementing Tibco's popular BusinessWorks application integration suite, which is used for real-time data delivery, DataExchange is an OEM of the DT/Studio ETL tool produced by Embarcadero Technologies. Tibco has built on Embarcadero's base product by adding real-time and service-oriented capabilities, as well as by integrating it into Tibco's service deployment and monitoring framework. Currently, DataExchange has its own design-time environment and metadata repository, separate from those included in BusinessWorks. Tibco intends to combine the design environments into a single interface under the Eclipse model in 2007. Customers can reuse schema definitions and transformations across both DataExchange and BusinessWorks, though the metadata-level integration of the products is not yet automatic and seamless. Tibco currently lacks significant data quality capabilities in its portfolio, but maintains basic technology partnerships with Trillium Software and Business Objects in the data quality tools market. While Tibco has a large installed base for BusinessWorks (over 1,000 customers), the uptake of DataExchange appears to be slow, and Tibco has not provided production references. While the trend toward the convergence of application integration and data integration technologies continues, Tibco faces the major challenge of gaining recognition for basic data integration competencies such as ETL. The vendor's recent acquisition of capabilities in the master data management domain should help to strengthen its positioning in the data integration discipline, but increased emphasis on cultivating high-profile implementations of BusinessWorks and DataExchange, integrated together and addressing the customer's complete range of integration requirements, will be key.

## **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 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, skills, etc., 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 of the individual business unit to continue investing in the product, to continue offering the product and to 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 in order 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, 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, etc.

**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 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 Web site, advertising, customer programs and positioning statements.

**Sales Strategy:** The strategy for selling product 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, 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 set 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 verticals.

**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.