Enterprise Integration Software

Business Intelligence: The Race Up the Stack

Industry Trends and Drivers
CPM – The Next Wave
Democratization and Standardization
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In our Fall 2004 edition of the Enterprise Integration Software Industry Spotlight, we speculated that the Business Intelligence (“BI”) industry would undergo two rounds of consolidation – the first wave would drive technology convergence between traditional BI tools and Corporate Performance Management (“CPM”) applications, and the second wave would tie BI suites into broader integration software platforms comprised of Business Process Management (“BPM”), Enterprise Content Management (“ECM”) and application servers (“EAI”) (see Figure 1.3). Thus far, we were half right.

Customer demand for real-time reporting, the penetration of BI into operational levels of customers, regulatory compliance initiatives and a proliferation of data sources has earned BI the top spot in Gartner’s “Top 10 Technology Priorities in 2006”. According to IDC, the industry is forecasted to grow at a compounded annual growth rate of eight percent over the next five years as a result (see Figure 1.1). All of the leading vendors raced to market with major product upgrades in the last 18 months and we have counted 24 M&A transactions in the space since January 2005. Robust demand, product innovation and rapid consolidation have fueled 35.6% growth in BCF’s BI Index since the beginning of 2005, outpacing both the S&P 500 and the NASDAQ by more than a 26.0% margin over the same period (see Figure 1.2). In a race to create the premier end-to-end suite of BI and CPM applications, leading vendors are jockeying for position in what remains a highly fragmented marketplace. Despite mainstream adoption of BI tools, per-seat pricing has continued to drop as the mix of users shifts from power users (i.e. report authors) to consumers (report recipients). BI providers are feeling pressure from the database vendors, the Enterprise Resource Planning (“ERP”) players and a host of small, best-of-breed specialists that continue to steal market share with better functionality and lower price points. We expect these dynamics to drive further market consolidation and technology convergence with ancillary software markets in what will likely be an exciting 2H06 for the BI sector.

Figure 1.1 – Growth Forecasts for Business Intelligence

![Growth Forecasts for Business Intelligence](image-url)
BUSINESS INTELLIGENCE: The Race Up the Stack

Figure 1.2 – BI Equity Market Performance

Indexed Price Performance

<table>
<thead>
<tr>
<th>Nasdaq</th>
<th>S&amp;P 500</th>
<th>BCF BI Index</th>
</tr>
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BCF BI Index includes: ACTU, APLX, ATU, BOBJ, COGN, DMC, EMBT, HYSL, INFA, IFUL, MSTR

Source: BCF

Figure 1.3 – BCF’s View of the Enterprise Integration Software Industry

Business Intelligence, Analytics & CPM

Structured Data

Unstructured Data

ETL & Warehousing

Profiling & Analysis

Application Servers

Integration Servers

Data Integration

Business Intelligence, Analytics & CPM

Modelers

ECM

BPM

BAM

Rules

BEA (Fuego) (Plumtree)
Metastorm-CQ
Tibco-Staffware
Vitria

EAI

INFORMATION BUILDERS

Ab Initio
Arkdata
Atlanity
Calixta
DataMirror
Embarcadero

Adobe
Amdocs
EMC
Hummingbird
Interwoven
Mobius
Open Text
Stellent
Vignette

Oracle

Microsoft

Source: BCF
BI software is used to transform enterprise data into business information, distribute business information across the enterprise and assist decision makers in evaluating this information. Several factors have emerged that have facilitated significant market demand for BI solutions:

- Regulatory compliance initiatives surrounding Sarbanes-Oxley and HIPAA
- Systems integrators are building up their BI services practices and pushing these solutions similarly to the way they did with ERP tools in the mid-late 90’s
- Proliferation of data sources
- Board mandates to drive more value out of existing ERP systems
- Mentality towards smaller, return-oriented technology investments
- Demand for real-time decision-making capabilities
- Demand for BI at the operational level of an organization (widespread access)
- Increasingly fluid workforces
- Demand for corporate dashboards and mechanisms to identify bottlenecks
- Maturation of Service-Oriented Architecture (“SOA”) standards

As a consequence of these drivers, the BI industry has grown to encompass several sub-categories of applications and solutions that collect, store and analyze data (see Figure 1.4). Although the more mature areas of BI, including query & reporting and online analytical processing (“OLAP”), have performed in line with the broader software industry, interactive applications that leverage existing BI tools to visualize, analyze, plan, scorecard, budget and model have significantly outperformed the rest of the marketplace. The trend has forced many traditional BI vendors to “climb the stack” into more customer-facing, analytical applications. This has paved the way for a growth explosion in a new genre of applications that has been coined Corporate Performance Management, Business Performance Management or Enterprise Performance Management.

Figure 1.4 – The BI Spectrum

Source: BCF
CPM and BI

The Next Wave

CPM is the application of analytics to improve business processes that span multiple business management systems, including BI, ERP, BPM and Customer Relationship Management (“CRM”). Technologies such as data visualization, Business Activity Monitoring (“BAM”), budgeting, planning and forecasting, profitability models, balanced scorecards and financial consolidation tools, once discrete CPM technologies, are now becoming critical components of enterprise BI suites. Commoditization in traditional BI has forced many vendors to focus on expanding their solutions into these ancillary markets as a competitive differentiator. This strategy has opened up new growth areas, generated add-on sales of core BI products and maintained price protection by providing higher-value solutions. This has driven leading BI and ERP vendors such as Business Objects (SRC Software, FirstLogic and Infommersion), Cognos (Adaytum/Frango), Microsoft (ProClarity), Geac (Systems Union and Comshare), Siebel (nQuire), Lawson (Closedloop/Numbercraft), Sage Group (IntelligentApps) and Actuate (PerformanceSoft) to lead a consolidation wave in the CPM space. Such consolidation is expected to continue as small cap vendors with compelling CPM strategies become viable takeover candidates in a commoditizing application sector. Many vendors such as Hyperion, Cartesis, Oracle, SAS and SAP are also making headway in the CPM arena with internally developed solution sets.

Building differentiated solutions is driving larger deals and price protection for these vendors. Accordingly, CPM has morphed into an evolution of BI and ERP systems as customers seek solutions that monitor both operational and financial metrics. These trends are expected to facilitate a 10% compounded annual growth rate in the CPM industry through 2009, at which point the market will reach an estimated $900 million (Source: Gartner).

Democratization of BI

A precipitate of the CPM evolution has been the passing of the torch from traditional strategic BI to Operational BI (“OBI”), which places heavier emphasis on real-time process data that is usable at the analytic and operational levels of an organization. Historically, BI has been used at the strategic level by a specific group of business analysts, executive team members or designated BI power users as a tool to view static performance metrics that would guide the decision-making process. More recently, customer demand for real-time decision-making has facilitated adoption of BI tools across the enterprise at all levels to improve day-to-day worker productivity or identify bottlenecks/opportunities in the sales process. This trend has forced BI vendors to broaden their reach to a larger set of data touch points. Classic BI platforms delivered information from a data warehouse that was built specifically as a feed for this purpose. OBI requires that these tools be able to tap into ERP systems, databases, BPM systems, CRM tools and other proprietary customer applications. This has exacerbated the need for highly robust integration capabilities, a trend that bodes well for the technology agnostic BI suite vendors given that most organizations have multiple-vendor, heterogeneous software environments.
BI Standardization – Not Any Time Soon

Most of the leading players in the space have been promulgating a seamlessly integrated platform for reporting, analysis and CPM that customers can leverage across the enterprise as an end-to-end tool for all of their BI needs. Conceptually, this would be an ideal scenario for customers as it would lower implementation costs, streamline maintenance costs, provide for the cost efficiencies of product bundling, make BI accessible to more decision-makers, and create an integrated BI platform that sits on top of any SOA-based infrastructure. It would also provide a homogenous view of an entire enterprise’s data. While there is marginal evidence of customers undertaking such BI standardization initiatives, we believe that the leading vendors are at least three years away from making this a mainstream occurrence for a few reasons.

The primary reason is that the platform players aren’t there yet from a technology perspective. The BI vendors only recently started to build/acquire customer-facing analytics applications in areas such as CPM, predictive analytics, scorecarding, financial consolidation and data visualization. There are a number of best-of-breed vendors in each of these niche areas that are still beating the platform players on pure functionality. Further consolidation between these technologies will be required before standardization becomes feasible. Secondly, most of the BI vendors do not have the integration capabilities to make this trend a reality. The maturation of SOA standards are expected to alleviate some of this concern but most vendors rely on data integration and Extraction, Transformation, Load (“ETL”) players such as Ascential (IBM) and Informatica to tap into data stores. As evidenced by Hyperion’s recent acquisition of UpStream Software, the BI vendors recognize that these capabilities need to be brought in-house. The advent of Web-based BI tools is evidence that some of the leading players are getting there (Cognos in particular). Another impediment to standardization in the short term is bureaucracy within customers. Forrester estimates that large companies have between five and fifteen BI reporting and analysis solutions across the enterprise and that some have more than 20. The navigation of political waters involved in displacing several BI product suites across multiple geographical boundaries and business functions, and forcing an entire organization to migrate from a “comfortable” BI environment, is a daunting task for any vendor.

Customer Confusion Slowing Adoption

The standardization wave has also been impeded by increased customer confusion around the product capabilities of the leading vendors. The technology convergence and rapid consolidation that has characterized the sector over the past 18 months has generated quite a bit of “noise”, and customers are now trying to sift through the marketing hyperboles and determine who the ideal vendor is for their specific requirements. Adding to the confusion is the fact that most of the leading vendors have announced major product upgrades since the beginning of 2005, as depicted in Figure 1.5.
Adding to the confusion is SAP’s promise of future BI development around Netweaver as a piece of its fully integrated “Business Process Platform” and Oracle’s marketing blitz around the integration of Siebel’s advanced analytics tools into 10g and its ERP suite as a part of Project Fusion. We have been hearing from our channel checks that this slew of product announcements in the BI space has forced customers to wait on the sidelines until a clear leader emerges. This has elongated sales cycles and deterred the ability of any one vendor to steal substantial market share.

BAM – Marrying BI with BPM

One of the key catalysts in CPM has been the rapid adoption of BAM tools. Demand for OBI solutions has provided a focal point for vendors to delineate themselves in a crowded sector. As BI providers move in this direction, their offerings have started to overlap with the BAM functionality offered by the BPM vendors and a host of pure-plays, such as Celequest, Quantive, Syndera and SeeRun. BAM solutions, which present data in the context of a business process in real-time, will be a key focus area for the BI vendors to accelerate adoption rates at the functional or regional manager level. As evidenced by Hyperion’s acquisition of Razza, the BI vendors are keenly aware of the value in tracking the metadata around static, performance related information. However, a majority of these tools do not have the ability to track data that describes the business processes that generated the performance data.

BAM tools mitigate this issue. These applications focus on the handling and monitoring of process-oriented data. The key issue is that BI and BPM remain “loosely coupled” platforms that, in most cases, do not have the capability to
embed both data sets into a seamless BAM front end. As the BI standardization wave unfolds, the ability to monitor and capture process data across multiple orchestration systems in a central repository will become critical to BI. To date, the BI vendors have pursued process-centric functionality through co-sell, “paper” partnerships. Customers have recognized that BAM tools need to be seamlessly embedded within the framework of a BI platform so that real-time, process-centric data can be viewed simultaneously with static, performance related metrics.

**Increased Importance of Rules Engines in BI Strategies**

In addition to BAM tools, rules engines have also emerged as a key commonality (and a likely area of technology convergence for that matter) between BI and BPM platforms. Five years ago, a rules engine, or Business Rules Management System (“BRMS”), from vendors such as ILOG, Computer Associates, Pegasystems, Fair Isaac or Corticon, was typically thought of as a front end for a BPM system that allowed organizations to capture their best practices in a central repository and use these best practices to drive process automation throughout the enterprise. On the other end, once these processes had been automated, customers could then use a BI platform to view the results of these processes to gauge financial performance or customer-centric metrics. The issue is that BI tools historically have been used as static reports that are updated periodically. Performance bottlenecks would be identified and users would then go back and revise the process to conform to the newly identified “best practice” from the BI system. More time would pass, the customer would view another set of transaction data and revise the processes accordingly.

The value in implementing a BRMS is that users can run sensitivity analyses on data prior to changing the underlying processes. In the case of mortgage application approvals, a BI system would allow a lender to view customer related demographics for a given set of application approvals/rejections. A BRMS allows the analyst to adjust the approval criteria to provide a BI report for the same set of transactions in a “what-if” scenario. The user can make adjustments to the rules that drive the application approval process and view the results of these adjustments in the BI system in near real-time. Tying business rules into BI platforms allows customers to make policy changes and predict the financial impact of these changes based on historical results. The recent surge in demand for predictive analytics solutions from vendors such as SAS, SPSS, Insightful, Unica, Portrait Software and Angoss will likely catalyze demand for embedded rules engines within BI suites. We expect the convergence between BI and BRMS to accelerate as policy adjustments and process automation become symbiotic events.

**Demand for Robust Front Ends**

Sophisticated data visualization has become one of the fastest growing sectors of the CPM market. As the proliferation of data sources continues, data becomes more complex and the need to analyze large amounts of data in real-time becomes mission-critical. As the cost of storing and collecting enterprise data continues to decline, data warehouse sizes have grown substantially, which has
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precipitated the need for front-end solutions to manage and analyze this information. Most BI platforms are highly capable systems in terms of technology and integration, but they lack the cutting-edge functionality or ease-of-use on the front-end to appeal to all users and fully maximize the inherent potential of the technology. As evidenced in Figure 1.7, data visualization technologies from companies such as Spotfire, Tableau Software and Panopticon Software create a bridge between all forms of data – structured and unstructured – and the human mind. Leading BI vendors recognize that a robust, intuitive visualization tool is becoming increasingly important as BI becomes mainstream within an organization and the number of operational users continues to grow. As evidenced by the recent acquisitions of Infommmersion (Business Objects) and Visual Sciences (Websidestory), data visualization ranks high on the M&A wish list for most BI vendors.

Convergence of the Structured and Unstructured Data Worlds

We believe that data visualization technologies will also catalyze the convergence between structured data handling and unstructured data handling technologies. We view what has been coined the “text mining” universe as the first step in this convergence cycle. Text mining players enable the search, categorization, pattern recognition and federation of unstructured data. While most of the portal players (IBM, Microsoft, BEA, SAP, Oracle, etc.) and ECM vendors (Open Text, FileNet, Interwoven, Vignette, Stellent, etc.) embed these components into their suites, a best-of-breed camp of pure-plays has emerged that has sparked product innovation. Vendors in this space include Autonomy, Inxight Software, ClearForest, Mohomine (acquired by Kofax), Applied Semantics (acquired by Google), Stratify and Recommind (see Figure 1.8). Another indicator of this convergence is the recent alignment of search engine players with the BI community. Search engines are being layered on top of BI tools for inexperienced BI users to search data quickly. As evidence of this trend, Information Builders recently released its WebFocus Intelligence Search product line which leverages its iWay integration software to allow users to search structured and unstructured data using the Google Search Appliance. Cognos, SAS and SPSS have also tied their solutions to IBM’s OmniFind engine. We expect this trend to accelerate going forward.

Figure 1.8 – The Text Mining Landscape

Source: BCF
Predictive Analytics – A Key Catalyst

Predictive analytics software is expected to be one of the next key growth areas for the BI industry. The classical focus on BI has been to gather and report on historical, static data. Current demand is focused on using this data to build predictive models that forecast future performance and improve decision making capabilities. Predictive models allow users to gauge the success of business process adjustments and establish best practices in areas such as customer analytics and marketing campaign optimization. SAS and SPSS remain the clear leaders in the data mining and customer analytics sector. However, similarly to the rest of the BI space, there is competition from the database vendors, the application suite vendors and the best-of-breed pure-plays (see Figure 1.9). While SAS and SPSS dominate in the market for sophisticated, high-end predictive analytics platforms that are geared for the power user, many of the smaller vendors, including Angoss, Portrait, Unica and ThinkAnalytics have adopted specialized go-to-market strategies that are being geared towards the business user – a trend that we expect will allow these vendors to steal market share in the industry as predictive analytics becomes ubiquitous at the operational level. The challenge for these vendors to gain customer wallet share is to generate the benefits of statistical methods within the framework of an operational business process system to which business users are accustomed. We expect to see an acceleration of M&A activity in this sector going forward as it represents an opportunity for differentiation for the larger BI and database vendors.

Figure 1.9 – The Data Mining and Predictive Analytics Landscape

Source: BCF

We have also heard from many rules engine and BPM players that they are exploring M&A opportunities in the predictive analytics sector. The logic is that data mining and predictive analytics tools can be leveraged as a feed to such systems to allow customers to adjust business processes on the fly based on the results of predictive models. This is of particular interest for process automation vendors that focus on CRM-oriented solutions in areas such as financial services, retail and telecom.
Figure 1.10 lays out our general observations of some of the BI market leaders:

**Figure 1.10 – The Competitive Landscape for Business Intelligence**

| **iServer v8** | ➢ Open source reporting leader  
|               | ➢ Performancesoft deal added CPM functionality  
|               | ➢ Tight Excel integration  
|               | ➢ Limited OLAP and self-service functionality |

| **BO XI** | ➢ Global market leader in terms of scale  
|           | ➢ Strongest in query and reporting and OLAP  
|           | ➢ Best-of-breed platform for most BI tools  
|           | ➢ Recent acquisitions have added CPM/visualization |

| **Cognos 8** | ➢ Fully integrated BI and CPM platform  
|              | ➢ SOA enabled suite  
|              | ➢ Highly robust CPM functionality  
|              | ➢ Recent sales execution issues; limited global presence |

| **System 9** | ➢ Market leader in CPM functionality and OLAP  
|              | ➢ Weak ETL functionality  
|              | ➢ Robust modeling and rule capabilities  
|              | ➢ Reputation for high price points |

| **WebFOCUS 7** | ➢ Highly scalable platform with robust integration  
|               | ➢ Strong development platform  
|               | ➢ Trailing in OLAP and analytics  
|               | ➢ Limited indirect sales presence |

| **SQL Server 2005** | ➢ *Office* ubiquity expected to drive BI growth  
|                     | ➢ ProClarity acquisition adds CPM functionality  
|                     | ➢ Strong OLAP functionality  
|                     | ➢ Immature offering targeted at SMB market |

| **MicroStrategy 8** | ➢ Integrated reporting and analysis offering  
|                     | ➢ Highly scalable and tightly integrated with *Office*  
|                     | ➢ Data integration capabilities need improvement  
|                     | ➢ Inflexible licensing policy |

| **Oracle BI 10.1.2** | ➢ Integrated reporting and analytics with 10g  
|                      | ➢ Strong in security and scalability  
|                      | ➢ Robust data warehousing and data mining capabilities  
|                      | ➢ Lacks mindshare in BI and its product strategy is unclear |

| **NetWeaver 2004** | ➢ Geared towards operational BI and process automation  
|                   | ➢ OEMs Crystal reporting tool  
|                   | ➢ Customer confusion around NetWeaver  
|                   | ➢ Limited CPM functionality and weak integration |

| **SAS9 v9.1.3** | ➢ One of the largest vendors in terms of revenue  
|                 | ➢ Most comprehensive BI platform (strongest in mining)  
|                 | ➢ Unclear marketing strategy (strong partnerships)  
|                 | ➢ Focused on power users and statisticians |

**Other Leaders:**

- Actuate
- BusinessObjects
- Cognos
- Hyperion
- Information Builders
- Microsoft
- MicroStrategy
- Oracle
- SAP
- SAS
- AppIox
- Panorama
- QlikTech
- Temtec
- Cartesis
- CorVu
- Clarity Systems
- OutlookSoft
- Lawson
Microsoft – A Real Threat?

Despite the noise that Microsoft has been making in BI over the past few years, we believe the company is still a couple years away from becoming a formidable threat in enterprise BI opportunities. We are impressed with the added BI functionality to SQL Server 2005 and we believe that the acquisition of CPM vendor ProClarity makes the company more competitive as an end-to-end BI platform, but stealing customer mindshare from the instantiated BI suite leaders will not happen overnight. Nonetheless, competitive dynamics will drive consolidation in the “Big Four” and Microsoft’s $35 billion war chest will make it one of the most viable suitors. Few would argue that an acquisition of any of these BI vendors would make Microsoft the clear winner in BI given the ubiquity of Office, its presence in the database market, its recent momentum in the SMB ERP space and the integration capabilities of BizTalk.

Microsoft’s BI platform now includes reporting, multi-dimensional OLAP, ETL capabilities and with the acquisition of ProClarity, advanced analysis, CPM and visualization functionality. We believe that Microsoft will have success in BI with customers whose back-end infrastructures are homogeneously Microsoft. This encompasses organizations that have standardized their platforms with SQL Server as the database, Sharepoint as the ECM tool, Windows as the operating system and BizTalk for EAI and workflow functionality. Such a platform is characteristic of a good portion of the SMB market, whose resource constraints typically won’t justify the purchase of a best-of-breed BI platform. Microsoft will continue to steal market share in this space based on cost and minimal support requirements.

We also view Duet (f/k/a Project Mendocino), a joint development initiative between Microsoft and SAP that enables information workers to access (and send) data from (to) ERP applications within Office applications, as a growth catalyst for Microsoft in BI. The key to driving BI standardization is making the tools accessible to information workers. As the productivity tool for the masses, Office is the ideal vehicle to accomplish such a task. Microsoft’s ability to execute on this strategy and push business information into the hands of decision-makers at both operational and strategic levels will dictate its ability to become a leader in the enterprise game.

Consolidation Trends

Consolidation has taken place across all areas of BI but the most prevalent area of activity has been in the CPM space, as shown in Figure 1.11. It is clear that commoditization in traditional BI tools and a fiercely competitive environment is forcing the leading vendors to explore M&A opportunities that will add product functionality in more value-added, customer facing application genres, such as financial analytics and CPM. The marquee transaction in the CPM space was Business Objects’ acquisition of SRC Software in July 2005. Business Objects, after claiming for years that it would not compete against Cognos and Hyperion in the CPM space and that it would focus on traditional BI tools, paid 3.6x revenue for SRC upon recognition that CPM will drive growth and cross-selling opportunities in the marketplace. We believe that this was a direct response to Cognos’ acquisitions of Frango and Adaytum in 2004. Business Objects also improved its front end data visualization capabilities with the $40 million acquisition of Infommersion and paid $70 million for mail automation solution vendor FirstLogic.
Another significant deal in the CPM space was Actuate’s $30 million acquisition of Performancesoft. We believe that this acquisition was critical for Actuate to help shed its reputation as a reporting vendor in the market. Microsoft also dipped its toes in the CPM waters with the acquisition of long-time CPM partner ProClarity. We have heard that ProClarity will remain at arms length for the time being while Microsoft focuses on tying together its own disparate product sets into a cohesive BI platform as a part of SQL Server. Extensity (formerly Geac) also made a bold move in the CPM space paying approximately $420 million for financial management vendor Systems Union in late April. This acquisition is Geac’s second in the CPM space since 2003 when the company paid $50 million for Comshare.

There has also been M&A activity in the more traditional areas of BI and BI infrastructure tools. In BI, these deals include SAP’s acquisition of Norwegian BI vendor Ilytix, Microsoft’s acquisition of Active Views and IBM’s takeout of Alphablox. In the data integration space, Informatica paid $55 million (3.4x revenue) for data profiling vendor Similarity Systems.

Outside of IBM’s acquisition of Ascential last year, there have not been any significant transactions in the space since 2003 when the “Big 3” all made moves (Business Objects-Crystal, Hyperion-Brio, Cognos-Adaytum). The majority of the transactions have been technology “tuck-in” deals focused on product enhancement as opposed to market or vertical expansion. Despite the sheer size of the market opportunity in BI, we believe that a takeout of one of the larger players is inevitable given the competitive nature of the industry. We believe that it will be one of the Tier 2 vendors (i.e. MicroStrategy, Information Builders, Actuate, Informatica, Embarcadero or SPSS) that falls first as one of the generalist vendors attempts to buy market share and, more importantly, customer mindshare. Given that Microsoft acquired ProClarity already, and Microsoft’s tendency to acquire smaller companies that are easily digestible, we do not view it as the most likely consolidator in the near term. Using history as a precedent, we believe that SAP will continue to develop its BI suite organically as a part of its Enterprise Services Architecture initiative. We believe that Oracle will likely remain focused on
integration of its ERP suites before making a big splash into BI. That leaves IBM, BEA and Computer Associates as the most likely consolidators in the industry, in our opinion. We would also not rule out the acquisition of Cognos by IBM. IBM Global Services generates substantial revenue providing implementation and integration services around Cognos’ suite. Moreover, Cognos is now embedding WebSphere and DB2 in its ReportNet content store. Given its lack of presence in the ERP market, IBM will likely continue to focus its efforts on building its BI practice – and Cognos would be a logical acquisition candidate. We have also heard rumors that the BI vendors are actively exploring acquisition opportunities in the BPM space. BEA’s acquisition of Fuego attracted the attention of many of the BI and middleware software vendors. With few best-of-breed BPM vendors remaining (Lombardi, Savvion, Metastorm, Pegasystems and Ultimus) and a largely untapped BPM market, we expect one or two of these vendors to go in 2006 to a leading BI player or a middleware stack provider such as webMethods, IBM, Oracle, SAP or Sun-SeeBeyond.

Valuation Environment

As evidenced in Figure 1.12, there have been 24 announced transactions in the BI space since the beginning of 2005. The median Total Enterprise Value (“TEV” or “Firm Value”) to / Last Twelve Months (“LTM”) revenue multiple for transactions with disclosed deal statistics has been in the range of 3.0x. Larger vendors are paying premiums for companies whose technologies fill a critical gap in their product suites and satisfy customer check boxes. CPM deals have also been getting done at premiums with the key transactions being Business Objects’ acquisition of SRC at 3.6x revenue and Actuate’s takeout of PerformanceSoft at approximately 3.0x revenue.

Figure 1.12 – Precedent M&A Transactions in Business Intelligence

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<th>Acquirer</th>
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<td>Medisense SA</td>
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<td>Business Objects</td>
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<td>Oracle</td>
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<td>Avaike Corporation</td>
<td>Sybase, Inc.</td>
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<td>Ascendant Software Corp.</td>
<td>IBM Corp.</td>
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<td>01/27/2005</td>
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<td>Hyperion</td>
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<tr>
<td>01/12/2005</td>
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<td>Extens Systems</td>
<td>SAP</td>
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</table>

Sources: Hoover’s Online, Capital IQ, Company SEC Filings and BCF estimates
Note: The Hummingbird transaction is pending shareholder and regulatory approval.

Median: 3.0x
Mean: 2.5x
As shown in Figure 1.13, the industry’s publicly listed vendors are currently trading at a TEV/LTM revenue multiple of 1.9x LTM revenue and 11.3x LTM EBITDA. Valuations have corrected in the past couple of months from levels that approximated 2.5x revenue and 14.0x EBITDA through 2005 due to a bevy of earnings misses by industry bellwethers and several major product upgrades that have caused market confusion and delayed sales cycles. We view this as a temporary hiccup that should correct itself over the next couple of quarters as customers sort through industry “noise” and decide which platforms suit their respective requirements.

### Figure 1.13 – BI Public Market Valuations

<table>
<thead>
<tr>
<th>Company</th>
<th>TEV/LTM Revenue</th>
<th>TEV/LTM EBITDA</th>
<th>LTM EPS</th>
<th>LTM EBITDA</th>
<th>LTM Revenue</th>
<th>LTM EBIT</th>
<th>LTM EBIT/Margin</th>
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<tbody>
<tr>
<td>Business Objects SA</td>
<td>32.80</td>
<td>28.98</td>
<td>1.70</td>
<td>15.4</td>
<td>118.4</td>
<td>14.8</td>
<td>11.4</td>
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<td>19.9</td>
<td>162.2</td>
<td>2.3</td>
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<td>12.8</td>
<td>155.1</td>
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<td>94.16</td>
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<td>112.1</td>
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<td>10.5</td>
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</tr>
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<td>Hummingbird Ltd.</td>
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<td>12.3</td>
</tr>
<tr>
<td>Actuate Corp.</td>
<td>4.03</td>
<td>4.00</td>
<td>1.30</td>
<td>11.0</td>
<td>102.0</td>
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<tr>
<td>javelin Technologies Inc.</td>
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<td>110.9</td>
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<td>Attality Ltd.</td>
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<td>1.63</td>
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</tr>
</tbody>
</table>

### Figure 1.14 – BI Public Market Operating Statistics

<table>
<thead>
<tr>
<th>Operating Results</th>
<th>LTM</th>
<th>LTM Operating Results</th>
<th>LTM Margins</th>
<th>Revenue CAGR</th>
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</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>32.80</td>
<td>28.98</td>
<td>1.70</td>
<td>15.4</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>30.66</td>
<td>27.79</td>
<td>2.24</td>
<td>19.9</td>
</tr>
<tr>
<td>EBITDA</td>
<td>28.71</td>
<td>2.05</td>
<td>1.70</td>
<td>12.8</td>
</tr>
<tr>
<td>EBIT</td>
<td>96.38</td>
<td>94.16</td>
<td>1.03</td>
<td>12.5</td>
</tr>
<tr>
<td>EBIT/Margin</td>
<td>14.06</td>
<td>12.40</td>
<td>1.30</td>
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<tr>
<td>SPS Inc.</td>
<td>37.00</td>
<td>31.67</td>
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<td>Hummingbird Ltd.</td>
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<td>2.18</td>
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<td>Actuate Corp.</td>
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<td>1.63</td>
<td>1.63</td>
<td>1.30</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Notes: BI, Business Intelligence; EPS, Earnings Per Share; LTM, Latest Twelve Months; TEV, Total Enterprise Value; NM, Not Meaningful; FY1, Fiscal Year 1.
The Call to Action for BI Vendors

As technology convergence and pricing pressure force BI vendors up the stack into CPM and market encroachment from ERP vendors accelerates, new growth avenues are being created that are expected to drive market consolidation in BI over the next 18 months. The ability to broaden product offerings into high growth areas, the potential to cross-sell “legacy” BI tools and the price protection afforded by offering higher value solutions will ensure that the BI players continue to move into CPM. BI vendors are adopting SOA-based, platform strategies to drive upgrades within their installed customer bases and establish themselves as the vendor of choice for BI “standardization”. This will continue to impose barriers to entry for new market participants and will make it challenging for Tier 2 and Tier 3 BI “specialists” to survive in the long term. A key challenge will be to combat the efforts of the software generalists who have emerged as formidable competitors in the BI space. Although a good portion of their success in BI has been marketing hyperboles, SAP, Oracle, IBM and Microsoft have the ability to “bundle” CPM functionality into broader application suites and drive pricing down, a threat that will continue to delay sales cycles for the pure-plays. Over time, we believe that BI will become an embedded piece of infrastructure layers (databases and application servers) and application suites.

The challenge for the industry pure-plays will be to position themselves as the most attractive acquisition candidates as the industry evolves to a platform game. We believe that these platforms will develop over two consolidation waves. The first wave of consolidation is underway with the convergence of integration software technologies. Data integration tools have
converged with EAI platforms (IBM-Ascential); EAI has converged with BPM (Tibco-Staffware, BEA-Fuego, CommerceQuest-Metastorm); and BPM has converged with ECM (Captaris-Teamplate, Adobe-QLink, Verity-Dralasoft, Global 360-Identitech). As discussed throughout this report, BI to date has undergone intra-sector consolidation as BI vendors broaden data integration capabilities and CPM functionality through small technology deals. Over the next 18 months, we expect BI technologies to converge with these other integration software categories.

**BI and BPM – A Marriage in the Making?**

As BI becomes more directly tied to business processes, demand will surge for BAM solutions that view both static performance metrics and real-time process performance. As this trend accelerates, customer demand to close the “process lifecycle” using BAM tools and predictive analytics to automate repeatable processes will drive convergence between BI and BPM. We have heard speculation that the BI vendors have explored M&A opportunities in the sector already. BPM will provide the framework that will merge the disparate worlds of structured data handling (BI) and unstructured data handling (ECM). The advent of “text mining” is the first step in this progression.

Current BI lacks the ability to define, model and execute business processes, which has forced leading BI players to leverage OEM strategies to do so. These partnerships historically have resulted in “loosely coupled” product integrations and often fall victim to M&A rumors and customer reluctance to manage multiple vendors. OEM strategies are not optimal for the BI vendors since it forces them to increase price points when embedding BPM engines, which is less than ideal in a cut-throat environment. It impedes their ability to benefit from the high growth potential in BPM as they are forced to share revenue with their BPM counterparts. Another alternative would be to build BPM solutions organically. Given the maturity of the BPM market, market noise from the platform vendors and the fact that there are more than 75 BPM product suites to choose from in the marketplace, we view this as a highly unlikely scenario. BI platforms will become full cycle decision automation systems that include tools to design strategy, predict the future, monitor process activity, gauge key performance indicators and act accordingly.

**The Road Ahead**

By 2009, we assert that the once disparate worlds of BI, BPM, EAI and ECM will have been merged into SOA-enabled, end-to-end integration layers that automate business processes across the enterprise and handle all forms of data. For the time being, BI vendors will continue to climb the stack into front-end analytics to differentiate themselves. However, the provider that moves the most quickly to incorporate functionality from each of these genres of applications will position themselves as the most attractive acquisition candidate for the eventual takeout by one of the platform-oriented, “applistructure” players. The BI race has been a marathon for some time – but the winner will have the vision and the execution capabilities to sprint through the finish line over the next couple years.
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EMC² where information lives

The undersigned served as financial advisors to PROActivity

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