



May 2004

Business Transparency for Distributed Organizations

~ ~ ~

Linking Sites and Applications to Run Businesses Better

~ ~ ~

Do I Integrate Applications or Seek Integrated Applications?

A META Group White Paper

“No organization is isolated within four walls. Executives, managers, and planners are required to have a consistent, transparent view of all business performance indicators and results across distributed organizations. This demands that they do a much better job of extracting information and exercising controls. Business transparency should enable a 360°, three-dimensional view of organizational performance. This may sound utopian, but we do this now. We hire a lot of good people to track performance using spreadsheets. We just do it late, inaccurately, and at great cost. But changes in the software we buy to run our businesses will help solve these problems more easily and inexpensively.”



Contents

Business Transparency — A 360°, 3D View of a Distributed Organization.....	2
<i>Who Should Read This and Why</i>	3
The Need for Business Transparency	3
<i>Business Performance Management</i>	4
<i>Enabling BPM: The Road Map to Business Transparency.....</i>	5
Value Derived From BPM and Business Transparency	6
<i>IT Operating Efficiencies</i>	7
<i>Better Information for Decisions</i>	7
<i>Business Process Efficiencies.....</i>	8
<i>A Cascading Value Effect.....</i>	9
Approaches: Application Integration vs. Integrated Applications.....	10
<i>Enabling Business Transparency.....</i>	10
<i>Drivers Effecting Change.....</i>	10
<i>Business Transparency Through Application Integration.....</i>	11
Application Integration Methods.....	11
Benefits of an Application Integration Approach	12
Tradeoffs of an Application Integration Approach	13
<i>Business Transparency Through Integrated Applications.....</i>	13
Integrated Applications.....	13
Benefits From an Integrated Application Approach	14
Tradeoffs of an Integrated Application Approach.....	15
<i>The Convergence of Architectures</i>	15
Making the Correct Choice.....	17
<i>BPM: Principles to Drive Strategy</i>	17
<i>Market Findings: Application Integration vs. Integrated Applications.....</i>	17
A General Rule of Thumb	18
Bottom Line	19
APPENDIX.....	20
<i>Noting Key Differences Between Product- and Service-Driven Organizations.....</i>	20
Challenges Facing Product-Driven Organizations	20
Challenges Facing Service-Driven Organizations	21
Why It Is Important to Make These Distinctions.....	22
<i>The Future of Applications and Integration: Process-Oriented Systems</i>	22

Business Transparency — A 360°, 3D View of a Distributed Organization

Today, most organizations must take steps to ensure compliance with regulatory and reporting requirements in addition to responding to the traditional challenges of competition, globalization, and shifting customer demands. Management must be continuously and confidently assured that business process execution from across distributed operations complies with reporting requirements and delivers strong improvements to bottom-line performance. This means they must do a much better job of transparently exploiting information from large and small globally distributed systems to enable better control within specific business performance management objectives.

However, no single organization is isolated within four walls. The information needed to execute reliable business processes consistently and to report on their performance is often distributed across diverse organizations, lines of business, groups, departments, geographies, and partnerships. For example, product-driven organizations such as manufacturers, distributors, wholesalers, and retailers must work with, link to, and run factories, distribution centers, warehouses, channel partners, and retail outlets. Similarly, service-driven organizations in banking, insurance, healthcare, education, transportation, and government must work with, link to and run branches, agencies, retail outlets, depots, hospitals, clinics, and schools, most of which maintain their own unique business processes, data, and IT systems. In addition, there is the challenge of acquiring information from external customers and suppliers to whom access is limited or virtually impossible.

Nevertheless, executives, managers, and planners are required to have a consistent, transparent view of all business performance indicators and results across these distributed organizations. This demands that they do a much better job of extracting information, externalizing processes, and exercising controls. Business transparency, therefore, should enable a 360°, three-dimensional view of organizational performance. This may sound catchy and utopian, but as managers we already do this. We consolidate books, roll up financials, aggregate demand, collaborate to forecast, and exploit economies of scale across a distributed organization. We hire a lot of good people to do these tasks using spreadsheets. We just do them late, inaccurately, and at great cost.

Changes in the software systems we buy to run our businesses will help solve these problems more easily and inexpensively. The evolution of integrated software suites and application integration tools is maturing to simplify how we extract distributed information and manage end-to-end business processes. While

not yet perfect, these improvements require us to take a fresh look at our IT and business strategies. Enabling business transparency for distributed organizations, therefore, can start with the following question:

Do I or integrate applications from several vendors or seek integrated applications from one vendor?

Who Should Read This and Why

This white paper will help guide executives, managers, and planners who are charged with greater responsibility to comply with business performance objectives and regulatory requirements.

Business transparency across the operations of a distributed organization requires strategy that links disparate applications to better support external process execution and management, internal controls, accurate and reliable data transformation and exchange, and consistent reporting and intelligence methods. The goal is to ensure consensus across the organization to consistently achieve business objectives and comply with contractual and regulatory obligations.

Therefore, IT strategy at a fundamental level requires executives, managers, and planners to evaluate the state of their systems as well as the value and risks tied to either:

- Integrating applications from diverse vendors
- Seeking integrated applications from a single vendor

Most organizations run heterogeneous IT environments, and application integration has been and will continue to be required. However, long-range planning can enable organizations to realistically consider a common platform from a single vendor.

This white paper will discuss the value, advantages, and disadvantages of each approach, helping business and IT executives from corporate HQ to the smallest subsidiary prepare long-term and short-term IT strategy to satisfy their business and compliance objectives.

The Need for Business Transparency

Beyond making money and staying out of jail are several other fundamental reasons for improving business transparency across distributed organizations. They include competition, globalization, mergers/acquisitions, issues created by

greater reliance on outsourcing, and other dynamic challenges stemming from government regulations such as Sarbanes-Oxley, HIPAA, and Basel II.

These issues will influence IT strategy. But the core critical issue that must drive IT strategy is how best to orchestrate a distributed global enterprise. Before we can determine whether to integrate applications or seek integrated applications, we must first develop rules that help us formulate a strategy for running a distributed organization. Here we must ask this question:

What guiding principles should be structured and used to create and adapt best practices that assure the IT investments we make to these ends are indeed realized?

We believe that the ramifications and implications of compliance, consolidated operations, pan-enterprise managerial controls, and process efficiencies required of distributed organizations can best be orchestrated through the emerging discipline of business performance management.

Business Performance Management

Business performance management (BPM) is a business strategy, managerial discipline, and IT framework that consistently and reliably tracks key performance indicators (KPIs) from across a distributed organization to ensure compliance with business objectives, contractual obligations, and regulatory requirements. Many organizations have successfully used BPM to consolidate and manage financial data, but greater benefits can be realized when it is used to track business process KPIs relative to supply chain processes (e.g., source-to-settle) and demand chain processes (e.g., order-to-cash). In these environments, BPM helps identify, create, and sustain competitive advantage when the knowledge gained from BPM is fed back to enable continuous process improvement.

Historically, performance management within most distributed organizations has been pursued as a manual collaborative effort between finance and lines of business for a variety of management functions (e.g., reporting, planning, budgeting, forecasting, financial reporting/consolidations, scorecards/dashboards, financial modeling, closed-loop processes that support metrics planning and reporting). Unfortunately, the line managers have usually been disconnected from any automated systems used to track performance. Although many organizations have improved transactional processing through ERP, customer relationship management (CRM), and supply chain management (SCM) implementations, actionable financial and operational information management often lags transactional excellence, with organizations focusing on tactical solutions rather than overall enterprise business strategies. Too many management efforts are



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

suboptimal, due to lack of access to real-time information when and where required, particularly from sources outside the organization.

The goal of business transparency must be one of consistent predictability in KPI forecasts and results, closing the gap that often exists between corporate planning and control systems and the systems used at the point of responsibility. Finance should never be the sole BPM-focused enabler; rather, it should be responsible for an accurate view of results, with line management responsible for performance against business plans and KPIs. BPM alleviates these problems by extending control systems and analytic tools across the distributed organization and by making planning, financial, and other information relevant and available to line managers to better execute the process responsibilities within prescribed KPI thresholds.

Here, effective BPM strategy enables distributed organizations to adopt a more participative approach to performance management. It breeds management and operational consensus by tightly linking line managers to business planning processes and giving them the information and analytical tools to track their results. Further, BPM can support collaboration beyond the internal organization to external suppliers and customers, enabling performance compliance using business-to-business integration technologies for access to information, metrics, and forecasts that transcend organizational boundaries.

Enabling BPM: The Road Map to Business Transparency

BPM strategy must first define all the relevant KPIs required to run, transform, and/or grow a business against stated objectives from across the distributed organization. Each KPI must be prioritized according to its value and importance. The data required of the KPI must be defined and mapped to its source. BPM analytics are then executed using a common system of record that either consolidates or integrates multiple point analytical applications.

A common BPM system of record is often based on, but not limited to, financial analytical applications or one of several analytical tools focused on particular data (e.g., customer activity) and/or business processes (e.g., order-to-cash cycles). This approach represents an effective first step, but over time it can be difficult for analysts, managers, and planners to build consensus across distributed groups, departments, geographies, and systems.

At this point, it becomes viable to consider integrated data capture and analytic suites to provide a closed-loop life-cycle approach that includes metrics, reporting, and planning. We believe many organizations will choose to consolidate disparate



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

platforms as part of IT portfolio management, favoring integrated application suites to support BPM analytics.

In a recent study of 459 organizations published by META Group, 85% of respondents indicated they expected to have BPM projects underway by 1Q05. When they do, distributed organizations will find that these projects expose their weaknesses in information availability, quality, aggregation, consensus building, and reporting. BPM will also expose weaknesses and complexity of IT systems integration that hampers consistent and accurate tracking of KPIs across distributed systems.

This is good news. BPM helps planners by killing two birds with one stone. It identifies the KPIs and their relevant data constructs required for business transparency, and provides a prioritized road map by exposing the processes and systems that require integration to enable business transparency.

So, are we now prepared to answer our primary question? *Do I integrate applications from several vendors or seek integrated applications from one vendor?*

We have already partially addressed the question. BPM analytics should start by exploiting point solutions for specific business problems and evolve toward integrated application suites to better manage planning and execution life cycles for distributed business processes and systems. This helps build informational and analytical consensus while enabling consistent participation across the organization by all relevant stakeholders from the corporate planning office down to the line managers.

But what about the rest of my business systems? Performance and process analytics are one thing, but what about my execution systems? Do I integrate applications or seek integrated applications?

Before answering that, it is important understand why we should do this by considering the tangible real-world benefits that can be derived from BPM and business transparency.

Value Derived From BPM and Business Transparency

Business performance management improves the ability of executives, managers, and planners to accurately and consistently view information, performance, and results from across disparate operating groups and applications. It helps them to make better decisions and effectively execute business processes across their distributed organization as if it were operating as a single integrated unit. Indeed,

in the META Group BPM study referenced above, more than 73% of the executive respondents cited improvements to decision-making processes as the key driver for their BPM initiatives.

A transparent view of business across a distributed organization benefits product- and service-driven organizations alike (see Appendix for notable distinctions between product- and service-driven organizations). While business value can be derived in many ways, we note that most organizations realize specific IT operating efficiencies, better information for decisions, and more efficient business process execution and accountability, each explained in more detail below.

IT Operating Efficiencies

Common data: Enables a common view of customers and suppliers by creating a common set of data definitions, database schemas, and consistent translation and mapping capabilities. This improves the timeliness and quality of the key performance indicators tracked by the analytics and reporting tools prescribed by business performance management strategy. Also, it helps to track data as part of transaction execution and resolution management processes.

Architecture and infrastructure: Business transparency demands discipline in maintaining standards for data structure, systems design, process design, application selection, tools/utilities, and runtime environments. Decentralized organizations sometimes have difficulty maintaining these standards. Using business transparency and business performance management to drive IT investments will help organizations conform to standards.

IT operations resource utilization: Common data definitions and systems standards minimize the IT resources required for data cleansing, translation, and application integration, freeing time to focus on BPM implementation and process execution across distributed systems. Business transparency, when enabled by either application integration or integrated applications from a single vendor, helps define specific IT resource skill sets, thereby improving budget predictability. When implemented through integrated applications, it can reduce required full-time equivalent (FTE) staff by up to 50% in many cases, or enable redeployment of staff to address continuous process improvement.

Better Information for Decisions

Improved accuracy from consensus: Many applications have their own embedded analytics; indeed, most groups in distributed organizations have their own analytics and business intelligence tools. Perhaps accurate for their purpose,



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

they may not accurately provide a pan-organization consensus (e.g., regional vs. national sales results). A business transparency initiative defines the analytic processes and techniques as well as the common tools used to track key performance indicators and business objectives across the IT ecosystem of distributed organizations. It may also define a common repository for all analytics, or by KPI categories (e.g., supplier performance), thus enabling accurate roll-up to gain consensus from across these systems.

Risk assessment, management, and mitigation: When supported with rules-based workflow and event management and notification technology, various KPIs can be tracked continuously to alert stakeholders when threshold conditions are exceeded. This can greatly decrease the time to discover process exceptions and anomalies reducing any negative financial, quality, or customer care issues that may result. Business transparency can also be enabled through common contract management processes and tools, mitigating risk by highlighting conditions of exposure (e.g., contract expiration) or non-compliance of the contracted parties to stakeholders.

Reconciling to systems of record: Perhaps the greatest value derived is a consolidated view of operational and financial performance. Business transparency usually prescribes a common system of record, consolidating such functions as revenue recognition, financial reporting, demand forecasting, and production planning, and provides a more accurate representation of overall organizational performance. Many of the reports tracking these processes are now mandated for most organizations as a result of the Sarbanes-Oxley Act.

Business Process Efficiencies

Process definition and structure: Business transparency forces organizations to standardize business process definitions and functions to enable accurate KPI tracking. Here, when processes are modeled to understand the economic implications to an organization, process alternatives can be explored to lower costs and improve efficiencies among the tasks, time frames, and resources used to execute the process — improving KPI predictability. Of course, hundreds of business processes can be affected; however, the processes likely to benefit most from modeling and economic analysis are those with the greatest span (i.e., or that touch many groups) across the organization. These include order-to-cash (or the demand chain) and source-to-settle (the supply chain) processes.

Improved process execution: Consistent definition and economic modeling of demand and supply chain process execution enables transparent businesses to identify bottlenecks and quickly assign resources to minimize their impact on the organization (e.g., financially, customer satisfaction, quality, brand reputation).



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

Here, awareness of the specific causes of problems such as unavailable stock, delayed shipment to customers, delays in supplier deliveries, and shortages of materials can help to design and execute appropriate resolution management processes that quickly get process execution back within required KPI thresholds.

Financial controls and process management: Improving risk management, reconciliation with systems of record, and process execution helps organizations directly manage cash flow. Payables and receivable that are tied to specific obligations or events can be tracked and controlled. For example, days sales outstanding (DSO) can be reduced when irrefutable proof of delivery is documented. In the case of payables, payment can be withheld after reconciliation and continuous auditing processes prove non-compliance of supply partner obligations. Business transparency enables organizations to do a much better job of managing cash and payables to ensure business and contractual compliance from all internal stakeholders and external parties involved.

A Cascading Value Effect

Each realized value builds on another. As demonstrated above, business transparency can make IT operations more efficient when it enables IT resources to more easily acquire and normalize distributed data. This helps to improve the quality and timeliness of decisions. Timely and accurate data and improved decision quality can also improve an organization's analysis of business process execution by enabling it to better understand the economic implications of process alternatives. Here, costs, time, and resources consumed by processes can be better modeled, analyzed, and modified to react to changes in business climate. Changes and improvements in process execution will influence the results of key performance indicators giving organizations more accurate awareness of how they are performing against business performance management objectives and compliance requirements, as well as how they are managing cash flow.

A little data consistency and availability goes a long way. Therefore, business and IT strategy should be structured to follow the path to value derived from business transparency.

So to realize this value, should I integrate applications or seek integrated applications?

Approaches: Application Integration vs. Integrated Applications

Enabling Business Transparency

Business transparency is enabled when distributed systems can access and use one another's data. This requires that the structure and quality of data is the same, or at least normalized, for use by each system. Historical and current IT strategy to support data integration has been to "hardwire" application components that make up a process via APIs, to employ enterprise application integration technology, or to use whatever data structures and definitions that were used by application suites. Often, these methods have proven to be costly, inflexible, and immature.

The emergence of Web services standards (e.g., XML, SOAP, WSDL, UDDI) has shown promise in improving integration efficiencies. However, IT organizations have been slow to adopt these technologies for the same reasons. Software vendors, on the other hand, are using these standards as part of next-generation architecture and software versions. Over time, this will fuel demand from IT organizations to understand the broader applications of these underlying technologies to support business transparency — accelerating its adoption as a strategic business initiative. Until then, competition among vendors will be driving much of the change in integration methods and strategy.

Drivers Effecting Change

Business transparency, to a large degree, will be a favorable result stemming from the increased competition among large and midmarket software vendors. Their strategies and investments are currently driving improvements in technology, solutions, and services for small and midsized businesses (SMBs — organizations fewer than 1,000 employees and/or smaller groups/subsidiaries within large distributed organizations). Larger vendors are increasing research and development investments, developing technology and products specifically for SMBs. Historically, announcements of similar SMB investments by large vendors have been little more than marketing events and slight changes in product packaging and pricing designed to bolster revenues in a sluggish economy, only to be pulled back as economic conditions improved. But this is no longer the case. Microsoft's expansion into the application business with its acquisitions to create Microsoft Business Solutions, coupled with the need for larger enterprises to create business transparency across their distributed organizations, will fuel further commitment and investment. All large vendors, including SAP, PeopleSoft, IBM, and Oracle, and most small midmarket software vendors are committed to

developing software and solutions designed for midmarket businesses and smaller subsidiary operations.

To appeal to this market, software vendors will continue to distinguish themselves by partnering to specialize in vertical markets, improve the usability/ergonomic interaction of software interfaces, diminish installation time, accelerate data conversion and systems integration efficiencies, and improve application flexibility in response to changes in businesses and business processes. Competitive differentiation will also emphasize specific business advantages that limit the time and expense of training, accelerate time to business value through rapid integration, and generally enable organizations to rapidly sense and respond to change (e.g., customer opportunity, market dynamics, process changes).

These trends make it possible for planners to realistically consider a single software vendor to enable business transparency across the ERP, SCM, and CRM systems of their distributed organization, from the headquarters down to the remote branch office.

Business Transparency Through Application Integration

Nearly all software installed to date has been application-oriented, or designed and developed to support features and functions, not necessarily business processes or results. Different software vendors have varying strengths and weaknesses, causing businesses to acquire best-of-breed solutions. Heterogeneous applications have proliferated, creating issues related to accuracy, timeliness, and management control when they need to exchange data or interact with one another — spawning the market for application integration technologies.

Application Integration Methods

The most common technology methods for application integration include the following:

Analytical integration: Usually associated with extract, transform, load, and manage (ETLM) tools and data warehousing; is designed to integrate operationally focused systems with analytical systems. Activities take place at the data level and convert normalized operational data into multidimensional structures for analysis. This is a typical method to enable business performance management strategy (as noted earlier). However, this method does little to support business process transparency and execution across systems.

Message brokering: Is most commonly associated with the term enterprise application integration (EAI) and used to propagate business events and processes between unlike systems. This method is frequently implemented based

on a messaging infrastructure. It is the most generalized method, because it can perform some of the functions associated with the other integration methods.

The complexity and cost associated with EAI integration is considerable, resource intensive, and difficult to adapt to dynamic business process requirements or market opportunities. However, business benefits have enabled efficiencies in cross-system business processes execution, for example, enabling document matching to support procure-to-pay business process and analytics. Unfortunately, upon conclusion of EAI projects, many organizations realize they must seek simpler methods, particularly when pursuing external integration.

Component integration: Is used to integrate application components of the same vendor or is designed to use the same component framework. It enables programmatic integration but demands skilled effort. This is typically used to integrate components in an application suite, but does little to support the execution and management of transactions and processes across systems.

Business-to-business integration (B2Bi): Is less application integration and more data interchange between external supply partners and customers using value-added network (VAN) services and Internet EDI (AS1, AS2). It enables distributed organizations to speed the time and lower the cost of data exchange.

Benefits of an Application Integration Approach

Investment protection: Application integration affords organizations continued use of many of their existing applications. Prior investments often meet specific business needs where best-of-breed solutions and vendors are not easily or inexpensively replaced. In addition, political factors sometimes dictate the software and systems used. By exploiting the methods referenced above, the processes, logic, and data supported by these applications can be maintained, used, and made available for use by other applications — the hallmark of business transparency.

Flexibility: Many distributed organizations have processes unique to their industry, market, or business operation. Application integration enables support for custom process design and execution across varied and unlike applications that support these unique business processes.

Adaptability: As business or business processes change, an application integration approach can assist with the design and enablement of new business processes — particularly as required by changing competitive, product, and government regulatory environments, or as the result of a merger or acquisition.



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

An application integration approach yields early business value and return on investment when planners pursue targeted initiatives with specific objectives. Examples include cost reduction for paper-based data exchange processes with suppliers or process execution efficiencies through integrated supply chain planning, demand planning, and product design/development functions.

Tradeoffs of an Application Integration Approach

Yet another technology: Application integration often means the acquisition of new tools, technology, and/or services, bringing added expenses from software licenses, maintenance, training, and possibly subscription services. These investments must be weighed against the expected/required business value to the integration efforts and/or the value to the distributed organization of the cross-system processes supported.

Availability of expertise: Application integration technology requires experienced professionals. Not just technologists, but “business technologists” — those that understand how best to implement integration in accordance with business performance management objectives. This expertise is rare, or requires considerable investment on the part of the distributed organization for training, introducing a learning curve that extends time to value and ROI. Most organizations choose to outsource this expertise, but this does not ensure the quality of the resource.

Loss of management control: Sometimes, as data, information, or processes change state from one system to the next, tracking and control of the data, transaction, or process execution are lost. In environments where event management, control, and resolution management to handle exceptions is critical, there must be extra effort made on the part of the integration team to understand and accommodate for the implications of such transitions.

Business Transparency Through Integrated Applications Integrated Applications

As discussed earlier in “Drivers Effecting Change,” many larger software vendors have made considerable investments over the past two years in defining strategy and developing products and services for SMBs and smaller groups/subsidiaries of larger organizations. Driven to gain market share, part of their respective strategies is to improve on the economics of software implementation and ongoing use. To that end, many vendors have made considerable investments to lower the total cost of ownership and simplify the deployment and use of their underlying development and integration technology. Additionally, to access new markets, vendors have stepped up their efforts to partner with value-added resellers (VARs) that possess unique vertical market expertise. Many vendors have expanded

existing partnership programs, encouraging VAR commitment through greater discounts and access to professional and technical resources.

More importantly, they are working closely with VARs to develop fast-track implementation services using preconfigured software and business process integration templates. In many cases, these fast-track services are extended to enable preconfigured systems integration between the larger organization's systems of record (e.g., headquarters ERP system) and the ERP systems of smaller groups, subsidiaries, and/or partners. This helps to improve the economics of solution deployment, appealing to midmarket organizations that seek predictable/controllable costs, limited deployment efforts, and rapid completion (usually within 30-60 days). Fast-track methods are sometimes fixed priced, calling out a specific and limited scope of work for software implementation to control costs.

The greatest change that will influence integrated applications, however, is in the underlying development environment of software vendors. All major software vendors are currently engaged in improving the development and integration architecture upon which their solutions are built. Their strategy to win market share is to enable easier and faster installation, implementation, and management processes by changing the fundamental economics, utility, and total cost of ownership of their integrated application suites. For most vendors, this is not limited to the application components of a unique product line, but spans product lines. Here, vendors are preconfiguring the application integration capabilities using the methods described above to integrate larger application suites (or corporate systems of record for ERP, SCM, and CRM) with those designed for smaller groups, departments, and/or midmarket business partners. The result is improved business transparency across the distributed organization.

Benefits From an Integrated Application Approach

Single point of contact: Having as broad a solution suite as possible from a single vendor avoids the considerable expense of integration tools and the expertise required to use them. This does not suggest that experienced professionals from the software vendor or value-added reseller will not be required. Rather, more focused expertise on specific technology can save time and resources during implementation and subsequent process changes as required. Recent research concludes that best-practice implementations from a single vendor can help organizations decrease the effort needed to conduct mission-critical project tasks (e.g., configuration, documentation, testing, training), on average reducing overall project risk by as much as 70%.



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

Consistent process flow and execution: When done effectively, preconfigured data constructs and processes across different applications suites from the same vendor can improve managerial control across these systems. Messaging structures, businesses rules, workflow, process management, and event tacking, as transactions and/or processes are executed across systems, should be part of the preconfigured implementation templates and integration methods. This creates business transparency by enabling managerial control of process execution as transaction and data change state across components of the application suite(s).

Resource availability and expertise: The programs offered by software vendors designed to support value-added reseller partnerships are being backed by considerable investment and resources. Competition is causing each vendor to put its best foot forward to attract and expand relationships with qualified, competent VARs. VARs are beginning to exploit these resources. While these programs, and their deployment, are still new, we believe they will afford adequate resource availability to support a business transparency strategy for most distributed organizations.

Tradeoffs of an Integrated Application Approach

Implications to flexibility and adaptability: Midmarket organizations and smaller groups within large organizations with stable businesses and business models that are amenable to preconfigured systems and business processes can benefit from fast-track methods. However, more dynamic businesses — where flexibility and adaptability are likely — must note the implications of business change on long-term total cost of ownership and the complexity of ongoing integration, maintenance, and support. Costs to reconfigure applications and customize business processes can sometimes vary beyond the resources and budgets of most small and midmarket organizations.

Possible limits to competitive differentiation: Some would argue that if all organizations used all the same technology then there would be little to distinguish competitors from one another. Indeed, business processes would likely be similar, but execution and the quality of product and services should vary. Executing business transparency better than competitors will continue to be a distinction. Without such focus, distributed organizations run a risk in markets where product and service quality is similar.

The Convergence of Architectures

Application integration methods and markets are at a crossroads. The restructuring of value-added network service providers, the emerging growth of Internet-EDI software and service providers, and the implications of Web services technology are causing all vendors (i.e., VANs, Internet EDI service providers,



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

enterprise application integration and software vendors) to redesign their architectures, platforms, and strategies, causing market and technology convergence.

Convergence creates uncertainty, making it difficult for planners in distributed organizations to create policies and strategies for integration. This has prompted some to limit or delay investments. This complexity will persist for several years. Indeed, there will always be uncertainty as markets shift and innovation creates new capabilities.

For example, the fundamental architectural principles embodied in J2EE, .Net, and Open Source and the emergence of new marketing messages that claim to best support them (e.g., services-oriented architectures, enterprise service bus, composite applications, et al.) will likely vex many planners. In addition, unique approaches, applications, and variants of Web services standards (e.g., XML, SOAP, WSDL, UDDI) will introduce complexity to integration planning and decision criteria. But wait, there's more. The evolution from application-oriented systems to process-oriented systems (see Appendix) and the execution of various software vendors and how they position and exploit architectures and standards will likely prompt political debates among internal factions that have preferences based on familiarity and prior experience. None of this is new.

Therefore, we do not believe it is necessary or wise to wait for market stability before planning a strategy for business transparency. Rather, we advise organizations to pursue incremental efficiencies enabled by currently available integration technologies, services, and capabilities built into software.

The strategies of software and tool vendors and the technologies they use are now maturing to better enable distributed organizations to realize business transparency by sharing data and integrating processes across disparate systems. However, more risk-averse organizations may choose to partner with a larger vendor with a proven long-term record of financial stability and growth to help minimize concerns regarding vendor viability.

Making the Correct Choice

BPM: Principles to Drive Strategy

As suggested above, business performance management (BPM) should be the driver behind the strategy to enable business transparency across a distributed organization. The key performance indicators (KPIs) tracked by BPM systems must be consistent, traceable, accurate, and predictable — regardless of the system of origin or the data that makes up the KPI. KPIs specific to running, growing, and/or transforming a business must be defined and prioritized. Next, the KPIs must be decomposed to understand where in the distributed organization's IT infrastructure the data relevant to the KPIs resides. This begins the pursuit of enabling business transparency and deciding whether to integrate applications from several vendors or use integrated applications from a single vendor.

Market Findings: Application Integration vs. Integrated Applications

Our research indicates that the challenge presented by disparate heterogeneous IT systems is causing many distributed organizations to simplify their efforts. In general, we are finding that when deciding whether to integrate applications or use integrated applications many organizations are opting to:

Consolidate vendors: Organizations are frequently considering an integrated solution and an end-state architecture that relies on fewer vendors. A best-of-breed approach that chooses point solutions may require extensive integration and have a higher total cost of ownership over time. More organizations are choosing to exploit the integration inherent in a single vendor or single suite solution.

Replace legacy systems: Organizations are also pursuing BPM strategy by replacing legacy planning processes, scorecarding, or reporting, and choosing products that are integrated from a single vendor.

Leverage common data/metadata: The heart of business transparency is to seek one version of the truth. Success is improved by ensuring that common data and metadata are shared across applications to guarantee consistency. When disparate solutions are used, organizations that can afford to pursue a common data warehouse or data mart to leverage common corporate consolidation and data mapping tables. Newer enterprise information integration (EII) tools and techniques (see Appendix) are emerging to offer lower-cost and more flexible means to create, access, and use common data.

However, these findings are not true in all cases. Other organizations that seek unique and sustained competitive advantage often exploit application integration methods.

A General Rule of Thumb

To help planners best decide how to enable business transparency across a distributed organization — through either integrating applications from several vendors or seeking integrated applications from a single vendor — we have found a general rule of thumb to be helpful.

The decision may weigh more favorably toward application integration when the organization is:

- Threatened by declining margins and market share and require unique processes or qualities to expand into new markets or seek unique distinction
- Highly competitive, either a market leader or predator, always seeking continuous process improvement
- A risk taker, willing to invest and not afraid to fail, to learn
- In a dynamic market with rapid product life cycles and must innovate to compete or survive
- Not resource constrained but has available and trained IT resources and business technologists with strong skills to pragmatically apply technology to solve business problems by exploiting application integration methods and technologies
- Consistent cross-functional organization practices that will proactively support data and process sharing without political fallout
- And... there is demonstrable and measurable value improvement, and/or return on investment that exceeds to cost of integrating applications

The decision may weigh more favorably toward integrated applications when the organization is:

- In a less dynamic market, with stable market share and products, and emphasizes margin attainment and growth through cost controls and process efficiencies
- Risk averse, seeking to simplify IT relationships and minimize the use for new or emerging technologies
- Already in possession of common systems of record (e.g., ERP, SCM, CRM) and data structures, and seeks transparency across these systems
- IT resource constrained or lacking expertise as business technologists or expertise to exploit integration methods and tools
- A siloed organization with little proactive collaboration that would otherwise assist application integration initiatives



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

Of course, there will be circumstances (and it can be argued) where the reasons for each approach can be interchanged (e.g., risk-averse organizations seek application integration to ensure investment protection). Nevertheless, we believe these general rules of thumb apply in the majority of cases.

In the final analysis, the decision to integrate applications from several vendors or use integrated applications from a single vendor will be a function of the market landscape in which the organization competes, its commitment to business performance management, the skills available, the degree of collaboration in the organization, and the risk tolerance of the executives, managers, and planners involved.

Bottom Line

Business transparency across disparate systems, sites, and partners will be a mandate for most distributed organizations, large and small. The usual drivers — customer demand, competition, and globalization — will require that business performance management become a strategic imperative for business and IT professionals. But issues of compliance as required by government regulations, both nationally and globally, will fuel the investment and resources required to fulfill their obligations. Traditional approaches, technologies, and tools to integrate the various disparate applications are improving in capabilities and becoming less costly. So too are integrated application suites. Vendors are exploiting emerging architectures and technology standards to lower the time and cost, and improve the efficiencies, of enabling transparent integration across their product lines for large, midsized, and small organizations. Business transparency can, therefore, be enabled either way, and it is likely that most organizations will use a combination of both approaches. Therefore, seeking solutions from vendors with strong integrated applications based on flexible development and integration architectures may afford the benefits of both. Beyond total cost of ownership, executives, managers, and planners must assess their requirements against their available resources and tolerance for risk to determine the best strategy to enable business transparency for distributed organizations.

Carl Lehmann is a vice president with Enterprise Application Strategies, a META Group advisory service. Special thanks to John Van Decker, vice president with Enterprise Application Strategies for his contributions. For additional information on this topic or other META Group offerings, contact info@metagroup.com.

APPENDIX

Noting Key Differences Between Product- and Service-Driven Organizations

Enabling a transparent view of the key performance indicators associated with a distributed business process is largely a function of the technology used to execute the business process. Tracking a purchase order for a manufacturer, for example, is least costly and most effective when the process is limited to using transactional systems and structured data for query, while fulfilling a claims process for an insurance adjuster may also require the use of unstructured data (e.g., digital images) and collaboration tools (e.g., e-mail) to fulfill the information requirements of the claims process.

Therefore, business performance management strategy and business transparency must consider the nuances of different business processes and some of the critical IT investments already in place (e.g., ERP systems and e-mail in the case above) to support them. While it is not practical within the scope of this white paper to address all types of business processes, it is appropriate to make distinctions between the processes of product-driven organizations and service-driven organizations. Both require business transparency but some of the critical IT infrastructures of each are based on different architectural principles (e.g., transactional vs. collaborative).

Of course, there are many common business requirements to both types of organizations, such as the need to track financial performance, sales, costs, customers, orders, manage resources, etc. Both will require reliable IT architecture, infrastructure, and operational practices to support their businesses. But there are fundamental differences in some critical business processes that affect the way each use their respective infrastructure, thus influencing the pursuit of integrated applications versus application integration.

Fundamentally, the business processes behind product-driven organizations have an added requirement to track materials, while the business processes of service-driven organizations have a greater need to continuously assess and manage risk (e.g., banking, insurance, brokerage, healthcare, government).

Challenges Facing Product-Driven Organizations

The supply chain model of product-driven organizations, at its highest level, is designed around the need to track information, financial, and material flow. It is embodied in a series of processes that buy direct materials (sourcing, procurement, inventory management), add value by making products (production

scheduling, shop-floor control), move finished goods (distribution centers, logistics, transportation), and sell to customers (wholesale, retail). Service and support of the product completes the process cycle. The distributed product-driven organization thus requires its integration strategy to track financial, information, and material flows with suppliers, factories, distribution centers, transportation carriers, etc. The greatest challenge is accurately tracking materials and information about materials. This is the critical requirement driving its integration strategy.

Challenges Facing Service-Driven Organizations

Service-driven organizations, on the other hand, do not have the burden of tracking direct materials. Indeed, some service-driven organizations have the need to track capital assets (e.g., leasing, transportation) as do product-driven organizations. But the greater need behind the business processes of service-driven organizations is to consistently evaluate business opportunities for exposure, and effectively manage and mitigate risk.

Deregulation and globalization in many of these markets, such as diversified financials, transportation, and energy, have created the opportunity and need to partner with complementary services partners. Banks, for example, have partnered with brokerages and insurance companies to offer a full suite of diversified financial services. On the other hand, energy organizations must redesign their business processes, and thus integration strategies, to support various partners responsible for marketing/sales, distribution, and the creation of energy.

The “buy, make, move, and sell” supply chain process model of product-driven organizations does not necessarily address the added requirements of service-driven organizations to continually assess opportunities and manage risk across distributed partner relationships.

So the equivalent “supply chain” business process for distributed service-driven organizations and partnerships should support processes for: *alignment* (businesses objectives, resources, rules of engagement, risk tolerances, and services creation), *collaboration* (controls to record new customers, service existing customers, accelerate fulfillment, and enable continuous risk/opportunity analysis across partnership), *transact* (externalize access to heterogeneous transactional systems required to verify, authorize, and provide services), and *subscribe* (a unique customer relationship management approach that continuously refreshes the service provider’s value proposition helping to ensure repeat business).

Why It Is Important to Make These Distinctions

It is important to note these differences when answering our primary question, because many (not all) integrated application suites have focused on product-driven markets and do a very good job of supporting end-to-end supply chain processes. But deregulation and convergence of services industries is relatively new and integrated applications suites are less defined in, for example, diversified financial and energy markets. This forces service-driven organizations to integrate applications as businesses and market opportunity require.

This is not to say that integrated application suites are not available to service-driven organizations. The IT markets have been aggressively responding to new opportunities driven by such events as HIPAA requirements, the growth of subscription-based business models, e-government services, consolidated banking/insurance/brokerage services, etc. But, because these business models are relatively new, as compared to ERP and supply chain management integration, the integration and quality of business process design are sometimes less well-defined.

Here too, the IT vendor community is responding by creating partnerships with systems integrators and consultancies that have intimate industry knowledge. They then can adapt solutions specific to the business needs of customers by exploiting the next-generation architecture now being pursued by software vendors that develop integrated applications and tools vendor that help integrate applications.

The Future of Applications and Integration: Process-Oriented Systems

A new body of knowledge is emerging that will change many business and IT strategies. Process-oriented systems are those that enable enterprise business performance management strategy by simultaneously supporting the planning, execution, reporting, and change management functions of business processes against metrics-driven business objectives (i.e., key performances indicators). They are designed to execute and optimize the business results derived from a process, for example, supplier compliance to business and contractual obligations, not just to execute the process. Here, priority is placed on addressing the information, decision support, and management needs of all the stakeholders (individuals and organizations — internal external as required) of a process rather than the execution of synchronous or asynchronous tasks. Rules-based workflow, APIs, and EAI have been the method for the latter. Process-oriented systems will emerge to address the former.



Business Transparency for Distributed Organizations: Linking Sites and Systems to Run Businesses Better

To date, there are three precedents in the market that signal this emerging trend. Industry-driven process standardization as demonstrated by the ebXML, CPFR, and RosettaNet initiatives; midtier integrated ERP-SCM-CRM suites as demonstrated by SAP Business One, NetSuite, and Microsoft's future Project Green; and the convergence of architectures noted in the body of this white paper to enable new approaches to enterprise information integration (EII).

EII is a set of methods and tools to dynamically access distributed non-conforming data from multiple heterogeneous repositories and assimilate them in real time (i.e., within a prescribed time frame, not millisecond responses) for input to application logic, report writers, business intelligence/analytic tools, or other user interfaces. Its primary purpose is to assemble, normalize, and use data to track imperative trends, monitor events, resolve anomalies, and/or support the execution of KPIs as part of a BPM effort.

Organizations should consider process-oriented systems as a long-term design point, or "to-be" systems model. The underlying strategy, theory, and methods that support process-oriented systems are sound (metrics-driven BPM and change management), and the systems, platforms, and technologies to enable them are available and maturing.



About META Group

Return On IntelligenceSM

META Group is a leading provider of information technology research, advisory services, and strategic consulting. Delivering objective and actionable guidance, META Group's experienced analysts and consultants are trusted advisors to IT and business executives around the world. Our unique collaborative models and dedicated customer service help clients be more efficient, effective, and timely in their use of IT to achieve their business goals. Visit metagroup.com for more details on our high-value approach.

