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Executive Dashboards: Putting a Face
on Business Service Management

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Executive Summary

IT and business are becoming increasingly interdependent. Today, many, if not most, business processes involve business services delivered by IT. As a result, close alignment of IT with the business is essential to the success of most organizations. That requires IT managers to run IT as a business, and make decisions based primarily on business impact.

The benefits of close alignment of IT and the business are significant, and include:
> *Greater business agility.* IT can adapt the IT infrastructure quickly to meet changes in the business environment.

> *Higher quality IT business service delivery.* IT focuses on delivering the business services the organization needs — at the required service levels.

> *Lower costs.* IT can prioritize its activities according to business impact to optimize efficiency.

The alignment of IT with the business requires close collaboration and communication — not only among groups within IT, but also between IT and line of business managers. Key to this collaboration and communication is IT's ability to deliver timely information to managers and executives — both within and outside IT — regarding the alignment between IT resources and the managers' particular areas of responsibility. This information must be presented in a form that is easy to understand and that provides meaningful metrics to the receiving managers. That means delivering information that is appropriate to the manager's functional organization, role in that organization, and management level. Managing IT from this business perspective is an approach known as Business Service Management (BSM).

Because of their ease of use, universality, and flexibility, executive dashboards provide a desirable medium for delivering timely information. This paper:
> Examines the differences in managers' needs for IT-related information

> Describes how dashboards can be used to present meaningful information to IT managers with respect to the alignment of IT with the business of the organization

> Discusses how IT can evolve IT-related dashboards to extend their use to business managers

The Right Information to the Right Manager

Delivering the right information to the right manager presents a challenge, considering the widely diverse information needs of the various managers in an organization. Managers in different functional organizations need information specifically targeted to their functions. Even managers in the same functional organization need different information depending on their levels and roles in that organization.

Information requirements differ in multiple dimensions, including:

> *Metrics.* Managers have different key performance indicators (KPIs). For example, an IT operations manager may need operational metrics (availability, performance) on the servers in the data center, whereas an IT service desk manager may need metrics on incident and problem management processes (percentage of incidents resolved within target times; average time to resolve incidents; number of incidents resolved by known errors; average number of open problems).

> *Field of view.* Typically, the higher the management level, the wider the field of view required. Senior managers require broader views because their roles span multiple processes. For example, a vice president of operations may be interested in all the IT processes involved in the delivery of IT services.

> *Detail.* Typically, the higher the management level, the less granular the information required. Higher-level managers need summary views, and they need to be able to obtain those views with varying degrees of detail.

One of the major issues to be addressed in delivering IT-related information to both IT and business managers is to connect the worlds of IT and business. Most IT managers have grown up in a technology world in which they have focused on the components of the IT infrastructure, such as servers, clients, applications, databases, and network equipment. Historically, they have had little understanding of the relationships among the IT infrastructure components and the business processes they support. Business managers, on the other hand, see things from a business-process perspective and see IT as a provider of business services that support those processes. Typically, they have little understanding of the relationships between business processes and the components of the IT infrastructure that support them.

For an organization to manage IT from a business perspective, it is essential to bridge the gap between IT managers and business managers. This requires an information delivery and presentation solution that can deliver information to both IT and business managers in an effective format that uses metrics they can understand. The solution must also provide managers with an understanding of the relationships between business processes and the IT infrastructure.

Executive dashboards meet this important information delivery requirement. These dashboards give IT managers insight into the impact of IT infrastructure events on the business. In addition, they give business managers insight into the impact of business events on the IT infrastructure. This mutual understanding is essential for an organization to achieve its business objectives.

It is important at this point to distinguish between executive dashboards and single process-centric dashboards. Process-centric dashboards typically display low-level, highly granular data on operational systems, and are intended primarily for IT administrators or single process-centric managers. An example of a process-centric dashboard is a system monitoring dashboard that displays detailed data on servers, such as server performance, memory bottlenecks, CPU utilization over time, number of transactions, and server latency.

Executive dashboards, on the other hand, aggregate and consolidate atomic data into higher-level information on particular business services, such as online order entry. The dashboards convert the consolidated data into actionable information that enables senior management to make more informed decisions. The dashboards also correlate the consolidated information across IT processes, such as incident, problem, change, and service level management. Correlation is important for senior managers whose responsibilities span multiple processes.

Begin with Dashboards for IT Managers

Implementing an executive dashboard system is best done incrementally. This paper presents an evolutionary approach to executive dashboard implementation that begins with the deployment of dashboards to IT managers; then adds a business services-based perspective to those dashboards; and finally, extends dashboards to business managers. This section describes the first step; that is, to roll out the solution to IT managers.

Collect and consolidate the data

Applications and tools that automatically gather and maintain a wealth of detailed data on IT systems and processes are currently available. The data they collect are typically scattered across multiple applications and data stores:

> IT service management applications maintain data on incident, problem, change, release, configuration, and service level management processes.

> IT asset management applications maintain IT asset data, including configurations, owners, locations, physical and logical topologies, cost, and associated contracts (such as lease, support, and maintenance).

> IT systems management applications maintain IT infrastructure operational data, such as performance, availability, and workload data.

> Capacity management applications maintain data on the consumption of available capacity of IT infrastructure components.

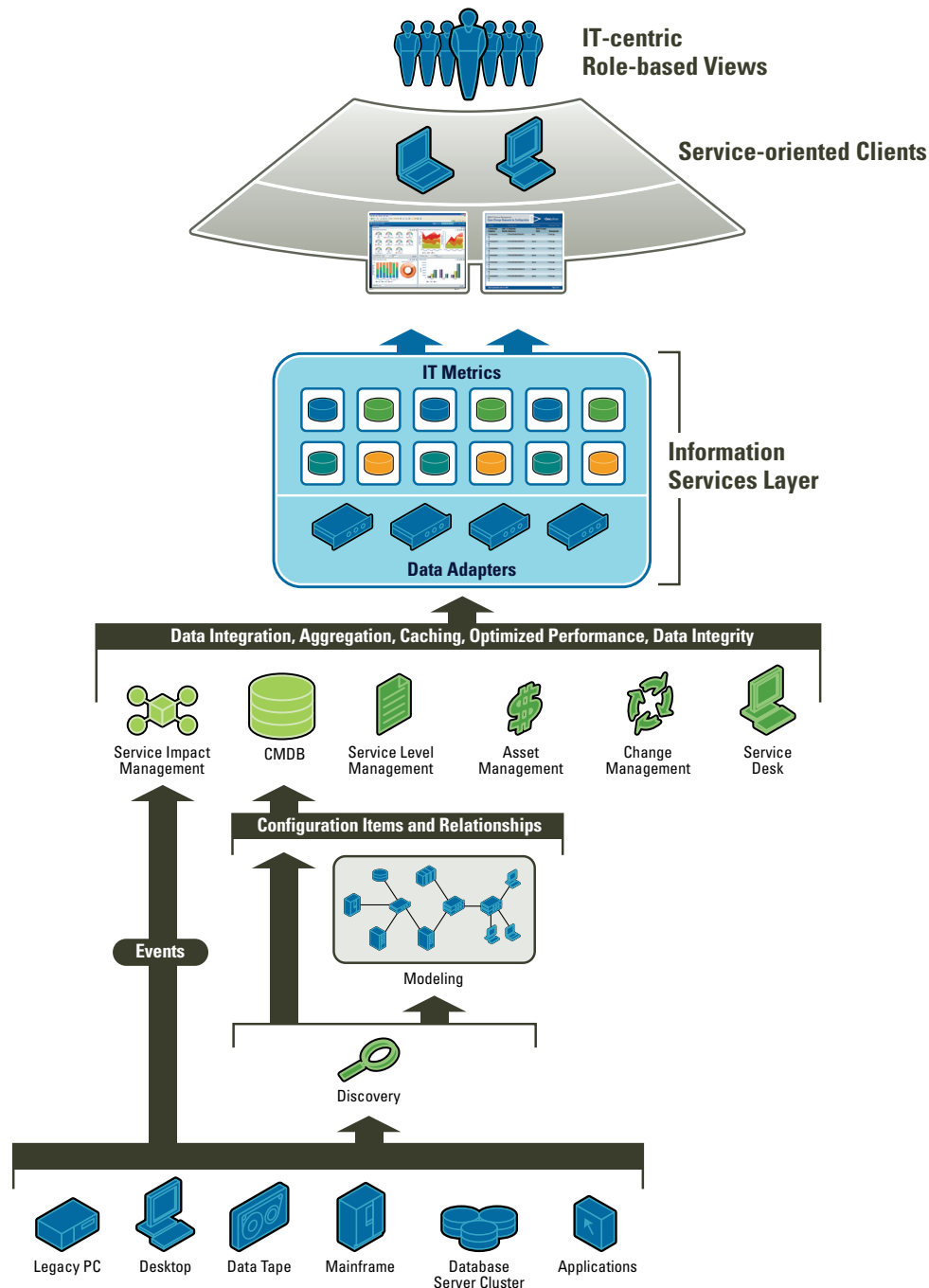> Transaction management applications maintain transaction performance and availability data.

Figure 1. Consolidating IT data and transforming it into information

The most crucial steps of a dashboard solution are aggregating and correlating the collected data from the multiple, disparate sources. For example, after collecting the service impact, performance, incident, and change data from disparate sources, the solution must correlate any common data points into a cohesive unit.

Transform the data into actionable information

In addition to consolidating the data, the dashboard must transform the consolidated data into metrics that are meaningful and actionable for the receiving IT managers. (See Figure 1.)

It's crucial that dashboards display information using metrics that are appropriate and meaningful to the receiving IT manager. They must also be actionable. This presents one of the major challenges in implementing dashboards; that is, establishing the right key performance indicators (KPIs). IT must determine what to measure, how to measure it, and how to clearly communicate it.[1]

The solution should display the resulting information holistically, combining multiple IT processes into a single, composite view. By presenting actionable information in a composite view that spans multiple IT processes, the dashboard system permits IT managers to manage IT processes in an integrated fashion — across IT disciplines and across operational silos. For example, a service desk manager can leverage information on change processes to better handle service desk calls. And a change implementation manager can use information on resource usage to schedule change activities during mini-mum usage periods, resulting in minimal disruption to the business. This integration of IT processes is in line with the principles of the IT Infrastructure Library (ITIL®).

Relate IT to business services

Service impact modeling solutions that provide IT with insight into the relationships between the IT infrastructure and the business are also currently available. The dashboard should be capable of leveraging this mapping information. For example, when showing a summary of the availability of various systems, the dashboard should be capable of displaying availability either by physical system or by business service.

By understanding the relationships between the IT infrastructure and business services, and by monitoring process-centric and cross-functional KPIs that affect the business, IT managers can more closely align IT with the business. The benefits are significant. By following a BSM-focused approach, IT can prioritize actions based on business impact. In addition, by knowing the impact of business changes on the IT environment, IT can more quickly adapt the IT infrastructure to changing business conditions.

Present the right information to the right manager

As Figure 2 illustrates, different IT managers have different information needs depending on their roles and management levels. To meet the varied information requirements of IT managers, the dashboard system has to strike a balance between flexibility and ease of use.
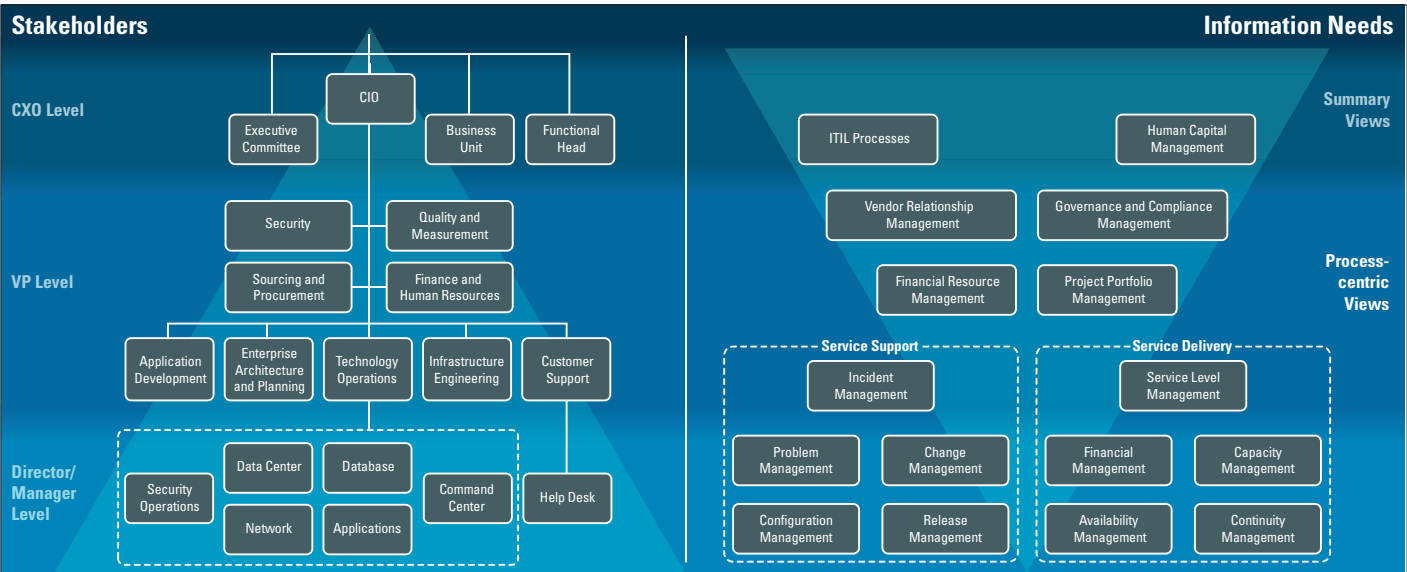

Figure 2. Different information for different IT managers

With respect to flexibility, a manager must be able to easily create a personalized dashboard that presents views most appropriate to his or her role and level of management. That means the dashboard must include the right field of view, metrics, and level of detail.

With respect to ease of use, out-of-the-box dashboard templates provide preconfigured views, giving managers a head start in creating personalized dashboards. There are different approaches to creating templates, including those based on:

> *IT maturity models,* such as those published by Gartner and Forrester.
> *ITIL Service Support and Service Delivery management disciplines applied to process-centric roles,* such as incident and problem management, change management, service level management, capacity management, and availability management. For example, dashboard templates with

change management-centric metrics could be created for a change manager.

> *Specific organizational IT management levels.* For example, holistic templates for a vice president can be created to include views of multiple IT disciplines, such as incident, problem, change, and service level management.
> *Strategic, tactical, and operational views.* Organizations are typically structured around three key levels — strategic, tactical, and operational — with each level having different views and expectations of IT processes. So, dashboard templates could be created for strategic, tactical, and operational managers.

The manager can simply select the preconfigured views he or she requires, and assemble them into a personalized dashboard as shown in Figure 3. The manager can then tailor the preconfigured views to address specific requirements.
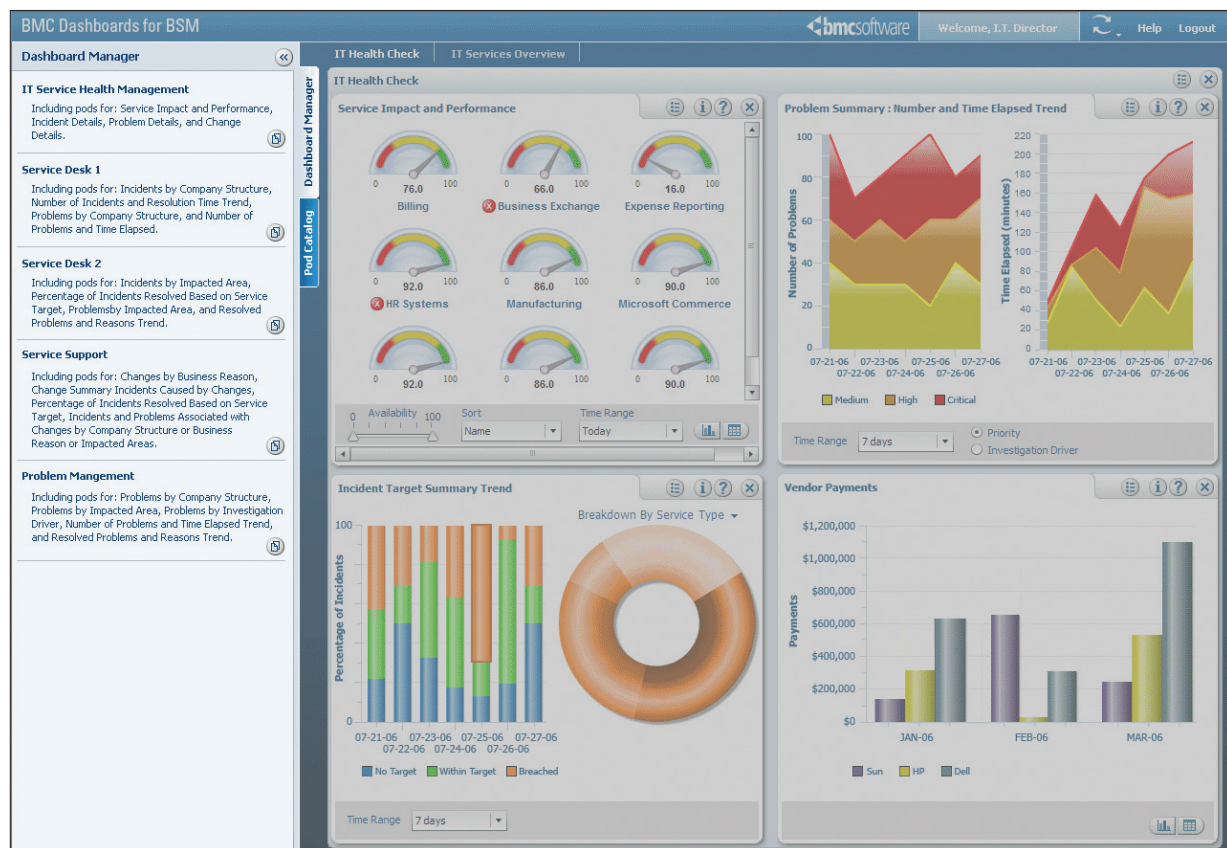

Figure 3. Selecting from preconfigured templates for service support, IT service health, service desk, and more

In addition, the manager should be able to drill down into a particular view for more detailed information. (See Figure 4.)

Figure 4. Drill down for more detail

Extend IT-related Dashboards to Business Managers

To deliver true value to IT and business managers, a dashboard solution must present metrics based on business processes, as well as on business services. For example, a bank manager sees an online consumer loan application process as a collection of business services, such as an online application entry service, a credit check service, an automatic approval routing service, and an automatic deposit service. As a result, to extend dashboards to business managers, it is necessary to include business process information in dashboard views.

Add business process information

Methodologies and solutions that can both manually and automatically capture business process information and maintain it in a configuration management database (CMDB) are now available. Automatic discovery solutions discover business process information from business process management systems. They add the discovered business processes to the CMDB as configuration items (CIs), along with descriptions of the activities that make up the processes. They discover information on all business processes, including processes that involve IT services, manual processes, and processes provided by outside sources, such as business partners. Solutions are also available that permit IT to map the discovered business processes to the IT business services that support the processes.

With the availability of business process information in the CMDB, it becomes possible to map the relationships of IT infrastructure components to business services to business processes. This provides a wealth of new data from which to create business process-oriented dashboards that combine IT-related data with business process data.

By leveraging business process information, dashboards can correlate IT service delivery with business processes. For example, a dashboard can present the overall performance and availability of an entire online consumer loan application process. The dashboard ties together all the IT business services that support the business process, and displays service support and service delivery metrics in the context of those services. This view of IT service delivery greatly extends the usefulness of dashboards. Not only does it permit the extension of dashboards to business managers, but it also promotes business services-based thinking on the part of IT managers.

Create the right metrics

As with dashboards for IT managers, the major challenge in creating dashboards for business managers is to establish the right metrics. Business managers have their own key business indicators (KBIs) that they need to measure and monitor in managing the portion of the business for which they're responsible. It is essential to tie these business metrics to how effectively IT is supporting the business. Tying business metrics to IT-related metrics requires close collaboration between IT and business managers.

For example, for a sales executive, the end of each quarter is a critical period for closing business deals that are in the pipeline. It is crucial that IT business services that support sales (such as order fulfillment) meet agreed-upon service levels during that period. Consequently, the dashboards should permit the sales executive to monitor his or her KBIs, and to understand how they are being affected by IT business service delivery. That requires that the dashboards correlate the sales manager's KBIs with metrics that indicate the efficiency and effectiveness of IT in supporting the relevant business services.
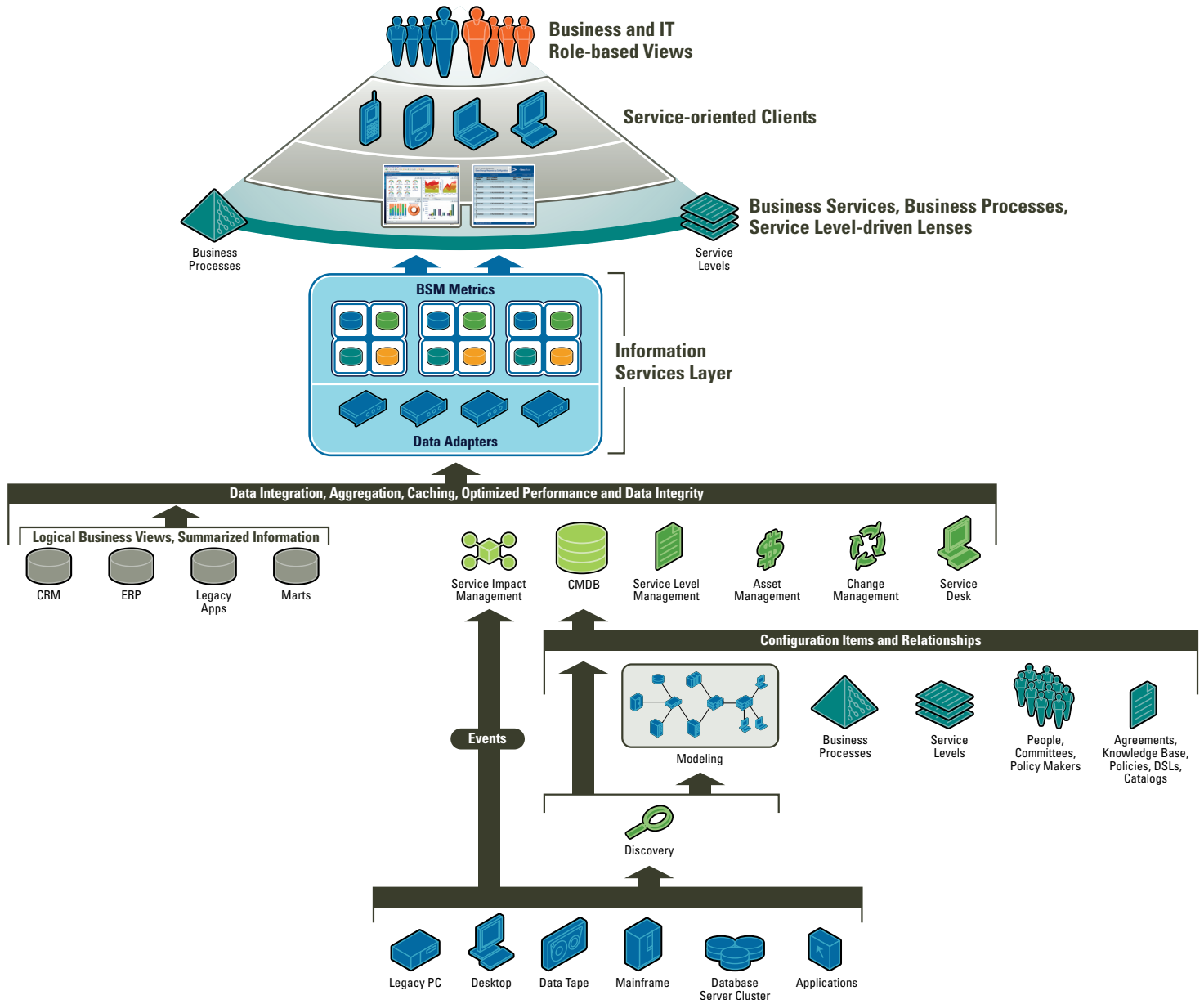

Figure 5. Adding business processes and service level-driven clients

Integrate IT-related dashboards into business intelligence

Business intelligence (BI) consists of two intersecting environments: data warehousing, and reporting and analysis. The reporting and analysis environment permits users to query, report, analyze, mine, and act on data maintained in the data warehousing environment.

Until the emergence of dashboards, it was difficult for power users to obtain meaningful BI reports, and it was difficult for casual users to get the information they needed from the BI system. Now, IT-related dashboards can be integrated into the BI system as performance dashboards. "Performance dashboards deliver on the promise of self-service data analysis by providing the right data to the right people at the right time to optimize decisions and accelerate results. In short, performance dashboards are the modern face of business intelligence."[2]

Conclusion

Dashboards vastly improve managers' visibility into the business by democratizing information both horizontally (across functional groups, silos, and roles) and vertically (through multiple levels of management). Dashboards that present IT-related information are especially important in that they help bridge the communications gap between IT and business managers. In so doing, dashboards facilitate BSM, the most effective approach for managing IT from the perspective of the business. This is critical in most industries because of the high and increasing dependence of business processes on IT.

Looking at the larger picture, IT-related dashboards provide a critical component of an overall business intelligence system. By presenting the right information to the right managers at the right time, IT-related dashboards can help organizations increase business agility and deliver higher quality IT business services, all while lowering IT costs. For more information on BMC® Dashboards for BSM, visit www.bmc.com/dashboards.

Endnotes

1   "Metrics for IT Service Management", Peter Brooks et al, Van Haren Publishing for itSMF-NL, April 2006

2   "Performance Dashboards: Measuring, Monitoring, and Managing Your Business", W. Eckerson, John Wiley & Sons (2006)

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About the Authors

Tom Bishop, Chief Technology Officer, BMC Software. Tom Bishop was named one of the top 25 CTOs by InfoWorld Magazine in 2004, and is a well-known industry innovator. He holds nine patents in fault-tolerant computing and in leading the development of industry standards, such as the Distributed Management Task Force (DMTF) and POSIX.

Ash Arora, Chief Architect, BMC Software. Ash Arora's charter at BMC is to develop innovative, BSM-focused products. Currently, he is spearheading work on BSM Dashboards, which offer a next-generation experience and access to BSM performance indicators. Before joining BMC, Ash co-founded Vincera Software, a Business Activity Monitoring (BAM) company. Prior to that business venture, he architected a pivotal large scale, business-critical solution called Display Book for the New York Stock Exchange (NYSE).

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