Lotus® software

Capitalize on the value of active dashboards to improve business flexibility and decision making.

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Executive summary

Known in the 1980s and 1990s as executive information systems, dashboards have been around for a long time. When they were first introduced, dashboards provided users with information culled from numerous disparate systems and presented it in one location. Although useful, the data were static and often became outdated quickly.

Today, businesses are realizing that many dashboards still have limitations such as static data and an inability to react to and update information in a timely manner. It can be difficult for businesses to find and consolidate information from disparate sources within their organizations and to enable dashboards to provide value beyond the executive level.

Yet even with the current limitations of many dashboards, few doubt their effectiveness, as they can help businesses integrate multiple data sources to facilitate improved decision making and eliminate time-consuming, manual work, boosting efficiency and productivity. This executive brief will share how the next generation of dashboards—active dashboards built on a service-oriented architecture (SOA)—provides an optimal environment to help businesses improve corporate performance and gain a competitive advantage.

Dashboard trends and challenges

Businesses are showing a renewed interest in dashboards. According to a study that surveyed 113 IT executives from large companies, "… 90 percent of the companies using dashboards in their organization had over 200 users. And, this number is expected to grow over the next 18 months. In fact, over 50 percent of the respondents plan to add 500 or more users in this time period."[1] Companies are looking to dashboards not only to help improve decision making company wide, but also to reduce costs associated with time-consuming, manual, information-gathering methods.

The trouble is, many of today's existing dashboards are nothing more than electronic versions of static reports. All too often, these static dashboards display outdated information pulled from historical sources or data warehouses. And when static dashboards don't provide users with consolidated access to the most current information, a company's ability to improve decision making and business performance is limited. To access and act on the latest information, users must resort to time- and labor-intensive methods, such as consulting spreadsheets and disparate databases.

In addition to the issues presented by static dashboards, companies face other obstacles in deploying successful dashboard solutions, including a lack of technical resources and skills. After all, specific knowledge and skill sets are required to build, integrate and maintain dashboards. Many companies don't have enough resources or the right skill sets to deploy the dashboards and personalize them according to the roles and preferences of each user. As a result, companies may be forced to default to a one-size-fits-all dashboard environment, where everyone sees the same information. This can overwhelm users and make it more difficult for them to obtain the data they need to do their jobs effectively.

Realizing value from dashboard initiatives can also be challenging for companies. Organizations that build their dashboards on a proprietary architecture and platform can face complexities in integrating data from external systems. Problems may also arise when organizations try to alter their dashboards as key performance indicators (KPIs) and the businesses evolve. To ensure integration with existing systems and new data sources, as well as to adapt as their businesses change, companies are starting to build their dashboards on an open technology platform.

Importance of active versus static dashboards

For dashboards to have a positive impact on a business, companies should make them active—so the dashboard can empower the business to measure things its users can actually affect. In other words, dashboards should allow users to view the information they need to make effective business decisions and to take appropriate action. According to Hurwitz & Associates, "In order to be action-oriented, dashboards need to: link historical business information with real-time operational data; alert stakeholders when metrics and indicators are out of tolerance; [and] provide connectivity to messaging systems and business processes."[2] Through active dashboards, businesses can implement an action plan and assign ownership for each KPI, should that KPI fall out of its target range. An active dashboard also facilitates collaboration, for example, by enabling users to initiate a chat session, view participants' online or offline status and send e-mail.

Portals

Because portals are modular, they offer an ideal foundation on which to build active dashboards. The Hurwitz & Associates dashboard study showed that "… over 80 percent of dashboard users have deployed their dashboards using a portal framework."[3] Portal capabilities can include collaborative team rooms in which to discuss problems and capabilities to link the dashboard to business processes. For example, if a manufacturing shop floor supervisor receives an alert that a machine is down, he or she can submit a work order directly through the dashboard to get that machine back up and running as quickly as possible. Through portals, users can kick off and interact with business processes, and they can even drill down into underlying applications to edit and update data that reside in a company's back-end systems. For instance, a vice president of sales could use his or her dashboard to update line items in a pie chart, ensuring the data are current. Using portals for dashboards also allows users to view KPIs and access related applications that either provide more detail or enable users to act on the information they have.

Another benefit of deploying dashboards on top of a portal is the built-in support for creating tailored views that are relevant to the preferences and responsibilities of the person using the dashboard. "The more relevant the dashboard is to the users, the more they will utilize it to measure their performance. This speaks to creating dashboards by department and/or having the dashboard contents change based on the user profile. While corporate data is of interest to people throughout the company, most users need to be able to focus on local measures that they can directly impact, which in turn will feed back into the corporate KPIs."[4]

Figure 1. Sales dashboards aggregate role-specific information on prospects, competitors and opportunities that is relevant to an individual's assigned responsibilities within an organization.

Industry-standard portals provide the most scalable, robust foundation for active dashboards. Single, personalized interfaces that integrate people, processes, applications and information, portals can help employees, vendors, partners and customers gain easy access to information. Portals can help employees gain access to data crucial to performing their particular jobs, thereby improving overall productivity, increasing customer satisfaction and enhancing business responsiveness. Using portals for dashboard solutions can provide significant business benefits:

- *Cost savings. Utilizing capabilities built into portals, such as single sign-on, personalization and the ability to interface with multiple back-end databases and systems, helps reduce development and maintenance costs.*
- *Operational efficiency improvements. Giving dashboard users access to applications that enable them to act on information, such as the ability to see who is responsible for a specific KPI and click on his or her name to initiate an online chat or send an e-mail, helps increase efficiency.*
- *Enhanced user satisfaction. Rather than another disconnected application that users must learn and access manually, the dashboard becomes an actual application on the portal.*

Composite applications

The optimal foundation for dashboards is an SOA. An SOA is a standards-based, modular, technical architecture that takes everyday business applications, such as customer relationship management systems or inventory tracking, and breaks them down into individual business functions and processes, called services. An SOA lets companies build, deploy and integrate these services independent of applications and the computing platforms on which they run. Because these services are loosely coupled—not hardwired into the infrastructure—they can be easily changed, moved, consolidated or eliminated as business needs change. This is an important element in enabling businesses to be flexible to respond to business changes and alter applications as needs dictate.

Dashboards that are built on top of an SOA and run within a portal are really just a subset of software called composite applications. Composite applications are new applications that are built by leveraging data from two or more existing applications. Dashboards, in fact, typically "pull data from at least six to ten different data sources" and can "… link together the right parts of applications in the right way to initiate a new business practice without having to start from scratch."[5] Taking advantage of the capabilities of composite applications enables companies to make their business processes more flexible and adaptable. By building dashboards on an SOA, businesses can:

- *Create an online environment with a flexible set of componentized capabilities.*
- *Integrate customized portals and business applications with ease.*
- *Reuse services in different environments and create different user interfaces multiple times, without starting from scratch.*
- *Reuse existing assets to protect investments.*

Reap the benefits of active dashboards
Active dashboards provide real-time information that improves management decision making by enabling more rapid responses to changes in KPIs. Dashboards provide direct access to appropriate information, giving employees, managers and executives the data and confidence they need to make informed decisions that are better aligned with corporate goals.
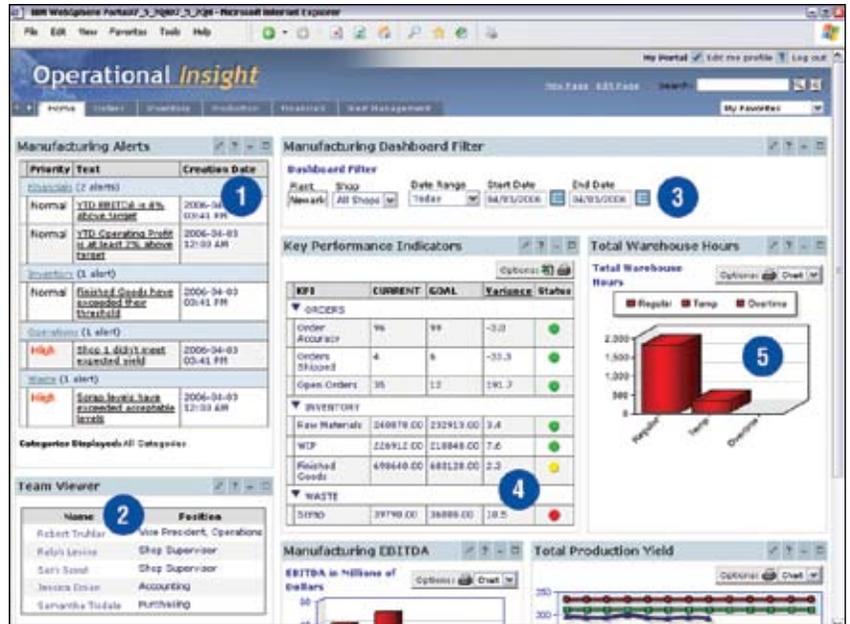
Figure 2. A role-based operations dashboard

Figure 2 shows how role-based operations dashboards can be tailored according to the roles and personal preferences of each user, enabling them to:

1. *See and respond to real-time alerts.*
2. *Collaborate with colleagues via e-mail or instant messaging.*
3. *Dynamically filter the data in the dashboard by criteria such as dates.*
4. *View the status of actual KPIs versus goals based on configurable thresholds.*
5. *Drill down to see additional details — without leaving the dashboard.*

Active dashboards and portals help propel an organization to greater performance with insight into critical performance metrics. However, metrics alone do not improve performance—taking action against the metrics, at the point when an issue is noted, is what drives performance improvement. Properly employed, active dashboards can help an organization:

- *Gain immediate access to and the ability to act on relevant, timely information.*
- *Improve productivity, enhance customer service and gain a competitive advantage.*
- *Make more proactive decisions through the ability to view data within the context of the business and across multiple applications.*

Leverage proven technology to generate business value

With its dashboard solutions—including IBM Lotus® ActiveInsight™ software and IBM WebSphere® Dashboard Framework software—IBM is helping companies meet their needs for active dashboards. Reflecting the importance of active dashboards, IBM dashboard solutions:

- *Integrate easily with the collaboration features of portals, giving businesses the ability to collaborate from within their dashboards.*
- *Enable organizations to couple analysis with action by providing the ability to kick off processes and workflows right from the dashboard.*
- *Can enable the appropriate, authorized users to perform data updates in various back-end systems through a clean and intuitive interface.*
- *Can help improve employee productivity by delivering tailored access to relevant information and alerts.*
- *Are built on an SOA, enabling businesses to easily swap in data from different applications and systems, providing flexibility and integration with a wide variety of data sources.*

IBM Lotus ActiveInsight software

IBM Lotus ActiveInsight software is a performance management solution that dynamically delivers real-time key performance metrics to users via role-based, actionable, intuitive dashboards and scorecards. It helps improve performance by reaching performance data wherever it resides and empowering users to collaborate and initiate actions to address issues at the point they arise.

IBM WebSphere Dashboard Framework software

IBM WebSphere Dashboard Framework software—also a component of Lotus ActiveInsight software—provides a set of reusable assets and dashboard-specific features to help companies quickly deploy highly tailored dashboards that consolidate data and processes from multiple back-end systems.

A trusted provider of effective dashboard solutions

IBM dashboard solutions leverage IBM software's native integration with portal standards and IBM's deep portal experience. Businesses gain the ability to easily integrate data from a wide variety of systems into one composite dashboard application. Through a profiling capability, companies can create adaptive, role-based dashboards. And automation capabilities help organizations deliver portal-based dashboards within short timeframes. By providing robust, action-oriented environments, IBM dashboard solutions allow executives, managers and employees to proactively monitor business performance, make more informed business decisions and quickly react to important issues and events—each of which can contribute to a competitive advantage.

For more information

To learn more about IBM Lotus ActiveInsight software, contact your IBM representative or visit:

ibm.com/lotus/activeinsight

To learn more about IBM WebSphere Dashboard Framework software, contact your IBM representative or visit:

ibm.com/websphere/dashboardframework

To learn more about portal products from IBM, contact your IBM representative or visit:

ibm.com/websphere/portal

1 Judith Hurwitz, Fern Halper and Marcia Kaufman, *Dashboards — Enabling Insight and Action,* Hurwitz & Associates, September 2005.

2 Ibid.

3 Ibid.

4 Craig Schiff, *Avoid EIS Syndrome: Make Your Dashboard Actionable,* The Data Warehousing Institute (TDWI), November 2005.

5 Judith Hurwitz, Fern Halper and Marcia Kaufman, *Dashboards — Enabling Insight and Action*, Hurwitz & Associates, September 2005.