



Five Steps to Better BI System Management

Understanding your BI system
to resolve issues and adapt to
change

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Introduction

Meeting service commitments to the business and anticipating and responding to changing business requirements – all within tight budget constraints – are fundamental IT tasks.

As noted in the business book, *The Performance Manager*¹, IT also has a strategic role to play which means going beyond the fundamentals. IT can be to your company what high-tech firms have been to the economy – a catalyst for change and an engine driving rapid growth. Why? Technology and information have become so important to how companies operate that even small changes can dramatically affect your ability to manage the performance of the business. *“IT can be the pathfinder that helps the company discover a new way to drive value and maximize return on investment and return on assets.”*

However, if IT is spending all of its time and resources ensuring service commitments, it is impossible to initiate and support more strategic opportunities. In this way, any means to cut the time and effort to administer and maintain enterprise applications becomes a strategic gain.

IT publications such as CIO magazine often compare IT’s job and the managing of enterprise applications to conducting an orchestra. There are multiple moving parts – databases, servers, networks – that must all work together to provide a positive user experience. Working in concert, the application can become a critical part of the business. Out of tune, it can become an immediate distraction, a critical failure, or worse, something deemed untrustworthy by users. If this happens, IT has lost user buy-in and likely, some of its ROI.

IBM Cognos 8 business intelligence (BI) software provides capabilities for IT professionals to manage their BI systems proactively to prevent problems before they occur.

These system administration capabilities let IT address the five important considerations necessary to surpassing commitments to the business while respecting budgetary and other resource constraints:

Knowing the BI system

1. Understand usage patterns
2. Understand the BI system environment
3. Understand the business expectations

Resolving and preventing issues

4. Determine what thresholds to address
5. Track and evolve over time.

1: Understand usage patterns

Understanding usage patterns is important for both troubleshooting immediate system issues as well as performance-tuning activities over the lifecycle, across the many components of the business intelligence system.

There is no one simple approach to understanding usage patterns. They are unique to the cycle of how the organization gathers information, reviews it, and distributes it. For example, managing a centrally located user community that distributes pre-generated reports over email is different than managing a group of users who are always on the road and want to access all information with a mobile device.

Some patterns are more obvious and better defined – quarter-end and year-end typically generate extra system activity for most departments. Others vary depending on the industry or the culture of how the organization communicates.

Understanding usage patterns means knowing the number of users that access a system at any given period of time, where these users are located, how much time they spend using the solution and how they use the solution.

To gain a better understanding of usage patterns, certain metrics provide a good indication of how well the BI solution is adapting to how people use it. While no one metric will provide a complete picture of the system, these metric examples are a starting place for tracking usage patterns:

Number of unique logons. This metric provides the number of users actively logging onto the system. While this does not tell you how the business is using the system, it definitely indicates how many people choose to use the system.

Number of processed requests. This metric provides the number of requests received at a specific point in time. Looking at processed requests alone provides a sense of magnitude in terms of system usage. What are the peak periods versus slower periods? How much are BI applications being used? This is useful for determining optimal times to schedule batch reporting.

Number of queued requests. This metric provides the number of requests waiting to be processed at a given point in time. A high number of queued requests may indicate a high volume of system activity at a particular point in time, or an issue that needs to be addressed. With a more consistent and deeper understanding of usage patterns, a BI system administrator can determine whether this is regular activity or an anomaly that needs explanation and potential action.

Longest time in queue. This metric provided the longest time that a request has been in the queue. As it increases, it indicates more system activity. This is a useful metric to monitor for changes on a regular basis. If queue times increase over a short period, there may be an issue that requires further investigation.

2: Understand the BI system environment

IBM Cognos 8 Business Intelligence is built on a modern services-oriented architecture (SOA) platform. This flexible platform offers many deployment options, based on the preferred IT infrastructure and enterprise architecture strategy. As the organization extends the BI system, it should monitor the initial deployment strategy to ensure it still fits the current deployment landscape.

For example, you may have initially deployed BI in a centralized server environment with certain affinities in place to handle usage patterns for the initial deployment. You may have decided to dedicate a particular server to running reports that are processing intensive or you may have allocated a local server for a geographic location without adequate network access. As the solution expands, the assumptions driving the initial architecture infrastructure may change. You may need to revisit them to ensure optimal solution performance.

To better understand the overall health of the BI system environment, IT should consider the following metrics:

Successful requests/minute. This metric provides the number of requests handled within the last minute. It gives an indication of concurrency, providing a sense of how much the system is actually being stressed in a given time period. This metric is also useful for determining an optimal timeline for scheduling reports. With longer-term trending, it tells what time of day users are most likely to make requests of the system.

Number processed requests/dispatcher. The number of processed requests per dispatcher is a good indicator of load balance in the BI system. If one dispatcher is handling a heavier load, you need to understand why. Is this a deliberate configuration choice based on the usage patterns, or does it require further review?

Number of failed requests. This metric gives the number of requests that have not been processed at a given point in time. If this number suddenly increases, you may have an issue in the BI system environment that requires attention.

Percentage of failed requests. This metric provides the percentage of failed requests based on the total number of requests handled. This metric gives you trending information over longer periods of time to understand how the BI services are performing.

3: Understand the business expectations

While formal service level agreements (SLAs) provide a structured approach to communicate and set system expectations, IT needs to keep the communication channels open with business owners and ensure priorities align with organizational strategy.

Business expectations set the agenda for what metrics to track, the thresholds to set, and how to prioritize followup actions.

For example, a company's strategy may center on customer service with an objective to improve call center performance. Ensuring critical call center information is readily available on-demand will be at the top of the priority list. IT would want to monitor and ensure system uptime and report response times related to the call centers.

By contrast, if an organization is trying to reduce costs through process optimization, then weekly or monthly reports are critical to manage. These reports might not demand faster response times, but monitoring failure rates would be key to ensuring they are delivered in time to enable a streamlined process.

4: Determine what thresholds to address

Setting metrics and gathering data on usage patterns and technology environments, as well as understanding business expectations, are important to effective system management. Identifying thresholds for those metrics simplifies IT's task (and communication with business owners) by giving the context to determine when to take action. Thresholds make IT proactive. IT can flag issues before they affect end users, breach SLAs, and lead to support calls.

There may be hundreds of system metrics. Taking time to understand what metrics are vital for system management of your BI solution is essential before setting any thresholds. IT is no different than the users it supports. Too much information makes taking the right course of action as difficult to determine as having no information at all.

For example, if the longest time in queue starts increasing, it may require further investigation. If queue and wait times increase, users may wonder if there is a system issue. Having an agreed-upon threshold on this metric would identify the point when IT needs to take further action to understand what is happening. Users would know the threshold and also know their IT department is dealing with the issue.

5: Track and evolve over time

Once IT has identified key metrics and set thresholds, it can respond to current situations proactively to avoid business disruption. The next consideration for system management is making system metrics work for IT and the business over the long term.

Metrics provide IT and business users with insight into changing usage patterns and technology environments over time. With this information, IT can tune the BI solution and adapt metrics and thresholds to maintain, meet and improve service standards.

To accomplish this, IT needs business intelligence reporting on its system information. As described in *The Performance Manager*, IT must leverage dashboards, scorecards, reports, analysis and alerts to deliver the right information to drive improved decisions within the IT department. Better IT decisions can affect everyone across the organization.



By leveraging metrics available with IBM Cognos 8 Business Intelligence version 8.3, IT professionals can more easily manage the BI system.

Summary – Five steps to effective BI system management

In order to effectively manage their BI solution, IT managers need to understand their BI solution: usage patterns, BI system environment, and user expectations. It also means being able to resolve problems and take actions quickly to prevent issues from occurring. To do this, IT needs to monitor metrics, set thresholds, and analyze usage patterns and key aspects of the BI system environment. IT professionals can use this data to initiate conversations with their business partners – bridging technology and information requirements – to stay in touch with user expectations and service commitments.

IT has the facility to adapt to changes in usage and new business needs. This becomes the means to drive continuous improvement in the performance of your BI solution, and the roadmap to more effective performance management.

With IBM Cognos 8 Business Intelligence, BI administrators and IT professionals gain new facilities to manage the health of the BI system. Task-oriented system monitoring gives administrators a new, consolidated view of all system activity, from scheduled and interactive reports to servers and dispatchers. Proactive administration through detailed system metrics, and the ability to set thresholds that can be monitored, lets IT professionals identify and correct anomalies.

IBM Cognos 8 BI, delivers broad system management for IT to confidently deploy BI, proactively manage the system, and respond to new requirements while meeting on-time service commitments.

With these system management capabilities, IT can deliver on its fundamental tasks – meeting service level commitments, responding to changing business requirements, all within budgetary constraints – and have the capacity to drive strategic objectives. In this way, IT can realize its full potential as leaders and change agents within organizations.



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Endnotes

- 1 See www.ibm.com/cognos/performance-management.