End User Service Management

The Key to Optimizing the End User Computing Experience

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Executive Summary

There is a new discipline emerging in the realm of IT service management called "end user service management," or EUSM. This discipline involves measuring the performance of applications and other computing resources from the perspective of the people who use those resources – the individual end users.

EUSM is distinct from, yet complementary to, desktop management (DM). DM views the device as the center of the universe. If the device is configured properly, and the device performs as expected, then life is good. End user service management puts the person at the center of the universe. If the device and the applications serve the person's needs as he wants and expects them to, then life is good.

New EUSM tools now coming to market enable the capture of the unique information that measures computing from the end user's perspective. Desktop management tools also feed data into the analysis engine that yields the insight into precisely what is happening in a complex computing environment. With this insight, an IT organization can tame the performance issues that often plague end user computing, and begin to take a proactive approach to improving worker productivity.

In recent years, many organizations have undertaken the task of closely tying the operations and performance of information technology (IT) systems to business imperatives. Known as "IT service management," or ITSM, this activity is the discipline for managing enterprise IT systems centered on the internal customer's perspective of IT's contribution to the business. Rather than simply managing infrastructure "events" such as a server outage, the IT department monitors and manages what truly matters most to the business. The goal of ITSM is to enhance the maturity of IT service delivery, further align IT with overall corporate goals, and prioritize and justify investments in IT.

Many ITSM initiatives focus on the core IT resources that are central to enterprise business processes. Typically these resources are used by many people, or by key employees doing mission-critical work, and the availability and performance levels of the resources directly affect strategic business operations. Corporate executives praise the ITSM efforts underway at their organizations. This discipline has helped numerous organizations realize additional value from their investments in IT.

Bringing the end user experience into the equation

For all of the attention focused on managing large-scale information systems from a business perspective, there is one area of corporate computing that has largely been left out of the IT service management equation: the individual "end user." Until very recently, few organizations paid significant attention to the business performance level of the computers and applications *from an individual user's perspective.* The irony here is that organizations of all sorts are trying to find ways to boost worker productivity, but they are failing to analyze how productivity can be enhanced by improving the end user computing experience.

A new IT discipline has emerged to address this shortcoming: end user service management, or EUSM. Aided by tools that analyze resource performance at the individual user level, EUSM looks at how the end user computing experience can be improved. Call this "the hourglass experience," if you like, in honor of the time wasted while a worker watches the Windows hourglass churn on his screen, waiting for an application to perform its tasks.

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EUSM looks at how the end user computing experience can be improved.

In truth, EUSM in the IT space has existed for several years. However, its focus was on Web monitoring services, and understanding the issues of a user's experience on a specific website, such as an e-commerce site. Now the tools exist to monitor and manage an end user's total computing experience, from booting his PC to interacting with business applications and using network resources such as printers and virtual private networks (VPNs). And like ITSM, EUSM seeks to understand computing performance *from the user's perspective*, not merely from a technology perspective.

EUSM is very much in line with the Service Support ITIL discipline that is focused on the user of IT services. Considering that the users are a key entry point to most business processes, ITIL provides guidelines that help companies to ensure that users have access to the appropriate IT services to support the business functions. The emerging EUSM tools contribute new performance data to the service desk so that this organization can be more proactive in heading off or resolving end user computing problems, and in making effective business decisions.

There are three primary business drivers that are leading companies to adopt end user service management:

1. CFOs/managing directors want proof that financial investments in IT are providing maximum value.

2. Line of business executives want to increase worker productivity. According to Forrester Research: "One good measure of success is end user satisfaction, which translates directly into user productivity."[1]
3. CIOs/IT executives want to be proactive in meeting their users' needs. As one CIO that has implemented EUSM puts it: "IT is not the problem. IT is able to resolve the problem before users complain."

Large companies spend an enormous amount of money on end user applications. Managing end user performance can help the organizations derive the full value from their investments.

The next frontier for IT to provide value to the organization

Jean-Pierre Garbani, vice president, Forrester Research, analyzes the IT management software market. According to his report "The IT End User Experience Monitoring Software Market" from June 2007, "The integration of the end user experience into the performance management solutions from large IT management software vendors means IT operations groups are now closer to widely adopting it, and the business market is warming up to having more information than just availability and response time. We see the two markets converging on the use of common technologies that produce results adapted to specific functions. This should lead to a hefty growth rate in the next few years."[2]

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Jean-Pierre Garbani
Forrester Research

In his report Garbani describes tools he calls "passive-agent desktop-based products." He writes: "These are a potentially very interesting family of solutions, as the technology makes them independent of the network protocol used. The salient feature of these products is that they also provide a wealth of information about user behavior and desktop configuration."

Why do organizations care about user behavior and desktop configuration? Basically, this information provides clues to the bigger picture. Today, enterprises are very dependent on information technology. The technology itself isn't important, but the business value it delivers is. Business service management (BSM) and ITIL lead people to understanding the value of IT to the business. Now companies are beginning to monitor the end user experience to further understand the value of IT on a more granular level.

By taking information from as many points as possible, the organization can begin to understand the environment of complex IT applications that have a lot of moving parts. There is significant downtime triggered by an end user calling the help desk to complain about application performance. All the things we put around an application create complexity. When you debug a problem, you need to know the sequence of events that happened. The user might not know, but a tool can tell you all about it.

Capturing, measuring and correlating "a wealth of information"

Just what is that wealth of information, and how is it being measured? The new breed of EUSM tools go beyond the collection of configuration data points that desktop management tools collect. Rather, EUSM tools commonly capture the utilization, availability, usage and response time of applications (including enterprise, PC and Web applications) and PC and network resources. These are the parameters that help define the end user computing experience.

The systems-centric view is rather black and white. By contrast, the user-centric view of performance comes in shades of gray.

For example, in the category of application utilization and availability, the tool would track all of the applications an end user launches on or via his PC. This includes the running time and usage time, as well as the resource usage (e.g., CPU cycles) of each application. The tool would track the availability of applications, including errors or crashes the user encounters, and what was happening at the time of the error or disruption. Application response time is another critical measurement (i.e., the "hourglass experience").

These performance data points can al be measured objectively in terms of CPU utilization, bandwidth usage, the length of time it takes for the system to open an application or conduct a task, and so on. A software agent on the desktop collects the performance data and passes it off to a central database where it is merged with configuration data and other tools.

The real power of an EUSM tool is its ability to correlate performance and configuration data to business processes. This allows you to see actual performance and usage information in order to visualize trends and understand where you need to place your IT investment priorities to improve quality of service.

End user service management differs from desktop management

You may be familiar with desktop management (DM) tools such as LANDesk Management Suite and Altiris Client Management Suite. DM products primarily are aimed at automating systems and security tasks in order to manage, update and protect your desktops and mobile devices. This is done via a single console that collects data and sends commands to servers and client PCs.

There are several differences between DM and EUSM in terms of how they function and what they can do for an organization. A key differentiator is the point of view: systems-centric (i.e., what the technology needs) versus user-centric (i.e., what the worker needs and wants).

For example, DM tools can be very effective in controlling your desktop and mobile configurations with up-to-date patches and drivers, which in turn help to maintain "good performance" of the client devices. In this case, however, performance is seen from a systems-centric rather than a user-centric point of view. The systems-centric view is rather black and white; either something is within technical specifications, or it isn't. The latest security patch is installed, or it isn't.

By contrast, the user-centric view of performance comes in shades of gray; a device or application may be within technical specifications, but the response time is off, so in the user's eyes, performance has degraded. Consider what happens if that new security patch is installed, but it conflicts with another application and run-time errors occur, giving the user a bad experience. To a desktop management system, the security patch is installed as required, so the situation is good. To an end user management system, the worker can't do his job because of the application error caused by the patch, so the situation requires attention.

Other high-level differences include the following:

A desktop management tool…	An end user systems management tool…
Uses an active agent on the desktop to continuously monitor conditions and configurations. The agent sends its data to a central console database, where policies dictate actions and trigger alerts.	Typically uses a passive agent on the desktop to gather performance and usage information. The agent periodically sends its data to a data warehouse, which also accepts data from the DM console, business applications and other sources to build a "business intelligence"-type of knowledgebase for analysis.

A desktop management tool…	An end user systems management tool…
Reacts to the "black or white" data that it collects from each client device by kicking off scripts based on technical policies.	Provides *client service intelligence* (business intelligence for the end user environment) by enabling insight to the relationships between events and performance measurements.
Includes implementation tools that can address a configuration issue. For example, installing a critical operating system patch on all devices.	Includes decision support tools that help managers determine actions to take based on users' business conditions and needs. For example, understanding the "before" and "after" states of a software upgrade to determine if the upgrade improved efficiency or productivity.
Creates an inventory based on application executables on a given PC.	Determines the actual application usage to help you understand who is really using the software.
Creates/uses a configuration management database (CMDB), which records the configuration of the significant hardware and software components of the IT environment.	Creates/uses a performance management database (PMDB), which records the measurement of how well those significant hardware and software components perform in relation to predetermined goals.

To be sure, there is some overlap in what DM and EUSM tools do. For instance, both types of products can conduct a hardware and software inventory of the client devices to determine precisely what is installed in an organization, and how it is configured. For the most part, however, DM and EUSM tools are very complementary. Where desktop management leaves off, end user service management takes over, and together they provide the capabilities and insight to control and cut operational costs, improve an organization's security and compliance posture, enhance end user productivity and support the business processes.

Gather information for *business decisions*, not just configuration decisions

There are myriad ways that DM and EUSM tools complement each other. Take, for example, the decision-making and planning process when an organization considers updating an enterprise software application (e.g., Oracle, SAP) or the desktop PC operating system. Before a company rolls out Oracle Financials on hundreds of users' PCs, it would be best to know if that roll out might "break" anything that is currently working well. That exact scenario is playing out all across the corporate world today as CIOs mull over the Microsoft Windows Vista migration decision.

Migrating hundreds or thousands of desktop and mobile PCs to the new Windows Vista operating system is not a trivial decision and should be studied from many angles. While there are benefits to the migration, such as improved desktop security, there can be hidden drawbacks that a DM product is unable to reveal. Only by studying the impact of a migration from the end users' standpoint can a CIO really understand the effects of a migration.

A DM tool can survey every workstation and return information on how they are configured: type of CPU, speed of the processor, amount of memory, amount of disk space, and so on. Given that Vista has minimum configuration requirements, these data points are vital to the decision-making process. A report can show which devices have an adequate configuration to run Windows Vista, and which devices require a hardware upgrade in order to properly support Vista's needs. However, what's missing from this analysis is how each worker uses his PC.

An EUSM tool can analyze not only the workstation configurations, but what applications each worker uses on them, including when and how. For example, an employee in the Sales group might use email, a CRM application, and an ERP application concurrently. Together, these applications require a specific amount of memory and CPU utilization that the DM tool doesn't take into account. If this employee's workstation were migrated to Windows Vista Business edition, the employee might experience a drop in how well his applications perform – i.e., an actual loss of productivity. Only a tool that analyzes the workstation from the user perspective can reveal this and present a risk assessment of making the migration.

The correlation of Windows data, hardware data and application data is required to provide true "client service" intelligence to understand how the Vista migration – or any enterprise application, for that matter — is likely to impact worker productivity. For the first time, CIOs can get a much more accurate estimate on the cost and the expected return on investment of a technology decision before committing to it.

The reporting tools and capabilities of EUSM products are a critical feature for the decision-making process. Typically, you can generate reports that yield insight to the high level performance of a group, department or enterprise. Drill-down capabilities can show details all the way down to a specific user's level. You can view trends over time, and slice and dice your data for multiple views of what's happening in your organization. It's these reports that help you find "the needle in the haystack" as well as spot the "sore thumb" performance problems.

More examples and benefits of end user service management

> ***"This information allows me to change the relationship I have with my internal customers. I can be proactive and solve their problems before they even know a problem exists.***
>
> ***CIO, Large Consulting Firm***

Once you intimately understand how employees use their PCs, it's easy to see more opportunities to enhance your business decision-making and improve end user computing. The CIO of a large consulting firm put it this way: "This information allows me to change the relationship I have with my internal customers. I can be proactive and solve their problems before they even know a problem exists."

More ways to benefit from end user service management	
Reduce calls to the help desk	Head off problems before users know they exist. According to Forrester Research, 74 percent of problems are reported by end users rather than being automatically detected by existing infrastructure management tools. EUSM lowers this statistic and reduces help desk calls and costs.
Understand true asset usage and ranking	Understand what IT assets are used the most, and for what purposes. This can present opportunities to reallocate, replace or retire resources to better meet current usage needs.
Monitor web applications	Understand what web applications your employees use, and for what purpose. Capture performance metrics for web-based applications such as Salesforce.com.
Conduct trend analysis	Using information collected and collated over time, get an understanding of the trends for IT usage in your organization. This helps to plan resource allocations and develop accurate budgets.
Conduct "before" and "after" impact analysis	Get a deep understanding of how changes in your IT infrastructure or desktop configurations affect end user computing performance. Learn how adding a new enterprise application will affect resources before you commit to the application.

The imperative for end user service management in your organization

End user service management is the next evolutionary step for enterprise computing. If your organization isn't incorporating this into your systems management scheme now, you soon will be. Business unit executives are already pressuring the IT department to provide better service and more closely align technology investments with business processes. CFOs want assurance that the company's investment in IT is resulting in an optimum return. A 2006 PricewaterhouseCoopers survey of more than 100 CFOs and managing directors at U.S.-based multinational businesses revealed the following:

- Only 36 percent of respondents are very confident that their technology spending is resulting in an optimum return.
- Executives estimated that between 9.6 percent and 32 percent of their technology spending is wasted or not very effective.
- Half of the respondents measure IT effectiveness according to business-value metrics, such as ROI and ratio of IT to revenues. Three-quarters of respondents use operational metrics, such as the help desk function.

The second half of the last bullet point above is most troubling. As cited earlier, 74 percent of the problems reported to the help desk are called in by end users. Workers call the help desk when there is a disruption to their work processes. *These* are the metrics that CFOs use to measure the effectiveness of IT! This is decidedly *not* the impression the CIO wants to leave with the CFO.

Conclusion

The discipline of end user service management is a logical and necessary requirement for today's complex end user computing environment. With business processes spread across the platforms of the PC, the data center servers and the Web, there is no other way to collect and detect the information that reveals what's really happening under the hood of enterprise applications. Without this knowledge, the secret to improving end user productivity will remain a mystery.

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[1] Jean-Pierre Garbani, "Finally, Software Designed For User," interview by J. Bonasia, *Investor's Business Daily*, May 17, 2007

[2] Jean-Pierre Garbani with Thomas Mendel, Ph.D., Forrester Research, "The IT End User Experience Monitoring Software Market," June 8, 2007

About Essential Solutions

Essential Solutions Corporation (www.essential-iws.com) specializes in helping decision makers evaluate, select, implement, and improve information solutions. Founded by hands-on practitioner Brian Musthaler and IT industry analyst Linda Musthaler, the firm offers a well-rounded perspective on how organizations can leverage information technology for competitive advantage and business success. The principals have extensive experience in the areas of enterprise and SMB applications, information systems operations, security and compliance. They write the weekly Technology Executive newsletter published by Network World magazine, offering their insights on a variety of network-related technologies, products and services.

About Serden

Serden (www.serden.com) is the pioneer and technology leader in the field of End-User based performance and quality of service measurement. InterAct ES™ is a solution that measures the User-Centric quality of service and provides realistic and timely information. InterAct ES™ is Client Service Intelligence. Serden is based in France, Spain, United States and Canada. The company's customers include National Grange Mutual, EDS, Rolls-Royce, PWC, Montreal Airport, Standard Life, i-BP Banques Populaires, Apec, AGPM, Saretec, MMA, Credit Mutuel-CIC, EDF, Unedic who already trust InterAct ES™ to measure their operational quality of service and enhance their IT management through the tool's decision-making functions.