

OPINION

Best Practices: Service & Support

Industry experts share their experiences on how software vendors can optimize their operations.

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Warning: Your Development Team Isn't Working on Development

Yochi Slonim

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According to a recent Gartner Benchmarking Report, 40% of the activities conducted by application development teams, on average, are associated with support of the application.

Any executive in charge of application development should be concerned by that figure. And every executive in a software business should be alarmed. It means that 40% of the time, your development team is not working on the next release, the next module, the next product -- the one that will keep your maintenance revenues flowing, drive new sales, and maintain your competitive lead.

In its 2004 Benchmark Study, the Service and Support Professional's Association (SSPA) reported that the percent of support cases closed at first contact continues to decline, while the length of time a case is open continues to increase. Alarming again. Escalation to a broader resolution team leads to skyrocketing personnel costs. Longer problem resolution times cause customer satisfaction issues and the possibility of delayed or lost revenues.

These distressing facts are not all that surprising. While the software development process (presumably accounting for the other 60% of a developer's time) has undergone multiple paradigm shifts in the past few decades, the software support process continues to rely on the same manual, labor intensive, iterative approach.

Supporting applications means solving application problems. And while systems are able to manage the "trouble ticket process" and have been in place for many years, very little

advance has been made in technology to handle the heart of the issue - figuring out the root cause of the application's problem.

As any software veteran knows, the challenge is that the symptoms of a software problem rarely reflect the root cause. Finding the glitch is not an easy task when you don't know where to start looking. A single business transaction may kick off a sequence of complex processes, each of which, may involve events that happen on up to a dozen potential servers. The root cause of the problem could be a software error, a hardware fault, a configuration issue, or even an end-user's mistake. A recent survey, conducted by Dynamic Markets, found that 75% of the application problem resolution cycle time is attributed to determining the root cause of the problem.

Pinpointing the root cause of application problems can be especially difficult when problems are happening at remote customer sites. Support teams typically go through a lengthy and costly process that includes endless conference calls, iterative attempts to gather information, costly trips to the customer site, and multiple attempts to recreate the customer's environment and the problem scenario. And although Gartner research also tells us that application faults are responsible for only 40% of all unplanned downtime, any veteran of software support knows that the vendor is guilty until proven innocent.

Clearly, a change in the application support paradigm is long over due. A growing number of innovative software vendors are leveraging low-impact application recording technologies as a mechanism to remotely record the information needed for problem resolution. These software technologies look inside a running application to collect the technical information needed by support specialists. The most sophisticated application recording technologies can capture not only the user's actions preceding a failure, but also the system configuration, events, application performance parameters, and even the related code execution flow and can synchronize this information on a single timeline for the support team. The most advanced application support systems usually provide the support team with powerful automated analysis to dramatically accelerate root cause determination.

With automated application support technologies, the most costly and cumbersome steps of the current problem resolution process are dramatically reduced or eliminated. The process of gathering information from end users and system administrators at the customer site drops significantly since the capture of all necessary information is automated. Time spent in attempts to replicate the problem is eliminated, since the actual problem history has already been captured. (According to the Dynamic Markets report, this problem replication step is repeated seven times, on average, in the resolution process!) Since the problem history can simply be replayed, the problem resolution team, aided by dedicated root cause analysis product interfaces, can proceed directly to delivery of the fix.

The use of remote application recording technology has been proven to reduce problem resolution cycle times by 70-80% with labor savings of nearly 60%. The innovative software vendors who are transforming their support processes with application support and problem resolution technologies are experiencing some dramatic results:

1. An ERP software vendor's payables application kept mysteriously crashing on startup -- but only at one customer site, for one unlucky group of users, and only on two of six seemingly identical servers. After investing over a month and \$50,000 in a multi-engineer analysis, the support team still had not discovered a cause or cure. After deploying remote application support technology, the team was able to solve the problem in less than two hours. Analysis of the problem history logs pinpointed the root cause: access rights to the required Windows

registry key, due to an inadvertent and undetected change.

2. A leading hospital management organization faced recurring, intermittent processing delays in a Web-based application. The application supplier, facing some stiff service level penalties, deployed a 15-person crisis team who spent some 3,000 hours - \$300,000 in fully loaded costs - without solving the problem. When the company turned to application support technology, the first insights came in just a few hours. By isolating the root cause to specific components in the application server tier, the vendor was able to return most crisis team members to their normal responsibilities. Within the next several days, the remaining engineers pinpointed the problem to threading issues with their COM object, and ultimately solved it. Had this company deployed such technology from the beginning, they could have reduced their investment in engineering hours from 3,000 to less than 100 - saving over \$290,000 in this one incident alone.

The characteristics that make today's enterprise applications so powerful and productive when all goes well, make them nearly inscrutable when things go wrong. The time has come for a paradigm shift in how we support these complex applications - a technology approach that can accelerate the problem resolution process dramatically and reduce the number of escalated issues, so that the development team can actually stay focused on development and product innovation.

Yochi Slonim is CEO of [Identify Software](#).

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