

# IT METRICS STRATEGIES

Helping Management Measure Software and Processes and their Business Value



## Metrics, Mainframes, E-Business, and You

by Michael Mah

Over the past year, Cutter Consortium has conducted research surveys on mainframe computing, e-business, and outsourcing. The mainframe computing survey asked questions such as: What roles do large mainframes play in mission-critical applications? What will be their role in the future? How will companies maintain staffing for mainframe support? What other platforms will play a key role? In this analysis, more than 35 large, worldwide IT organizations were queried to gauge the future of their mainframe architectures.

Next came the question of e-business architectures, which tend toward distributed computing environments. The rotation of IT from mainframe processing to e-business distributed computing gives us an understanding of the driving forces behind trends in computing architectures. Cutter's metrics research then turned to this area to understand what directions companies are moving in and at what rate.

Finally, questions emerged about how these architectures would be supported. Inhouse? Outsourced? How will they be managed, and what are

*Continued on page 2.*

## Case Study: The Story of a CMM<sup>1</sup> Project — A Process Improvement Production, Part 1

by James Perry, James Heires, and Carol Wickey

### Cast of Characters

#### *The Company*

The company at center stage is a sizable manufacturing organization and is the largest employer in the area. It employs approximately 16,000 people worldwide and develops products for commercial, military, and government markets. Two of the company's product development business units have recently been assessed according to the Capability Maturity Model (CMM) for Software at Level 3.

#### *Information Technology*

The company employs several hundred IT professionals who deliver applications development: configuration control services and help desk, hardware, database, and network support. These IT functions are closely associated with the software development activities in

<sup>1</sup>Copyright 2001 by Carnegie Mellon University. The Software Engineering Institute is a federally funded research and development center sponsored by the US Department of Defense and operated by Carnegie Mellon University. Web site: [www.sei.cmu.edu/cmm/cmm.html](http://www.sei.cmu.edu/cmm/cmm.html).

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## executive summary

In this issue of *ITMS*, I'm pleased to share the results of the latest Cutter Consortium research on computing platform trends, e-business, and outsourcing.

We present metrics findings on these trends with respect to snapshots taken over a two-year period from 50 major international organizations within the *Fortune* 1000. The findings provide profiles that illustrate the interrelationship of computing trends with the management, people, and infrastructure issues of today's business revolution (or "e-volution"). Where applicable, I've offered my perspective on the research results. These ideas might spark some reflection on how you choose to tackle these issues in your organization, with the metrics and trends hopefully providing you with a valuable frame of reference.

The second article is a remarkable case study from a trio of respected authors, James Perry, James Heires, and Carol Wickey, describing one company's experience on its Capability Maturity Model-based process improvement initiative.

The authors discuss the goals, challenges, and execution of a process improvement initiative, complete with behind-the-scenes descriptions of what went on for all of the stakeholders: management, development, and end users. The authors reveal the organizational and process dynamics of a business adapting itself to provide world-class customer satisfaction at the lowest cost. But just *saying* that you're doing things better is not enough. *Proving* that you are with metrics is what management ultimately wants. For this, the company conducted a productivity benchmark, gauging cost performance of projects against an industry database that provided the vital comparisons, thereby legitimizing the company's work efforts.

All in all, these two articles illustrate how metrics can tell a story. Using measures intelligently will help you understand patterns both inside and outside your organization.

Michael Mah, Editor

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**CONSORTIUM**

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the predominant metrics that people use to manage outsourcing suppliers?

The answers to these three areas of research tell an interesting story that we believe



Figure 1 — Are major applications running on IBM mainframe computers?

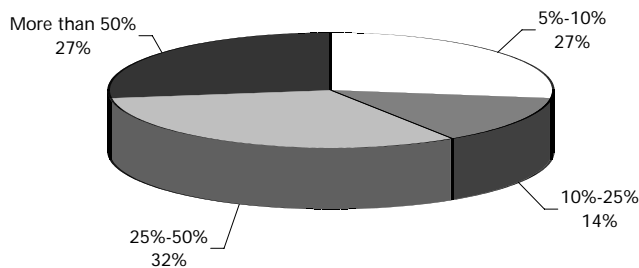


Figure 2 — Percentage of mission-critical applications on mainframes.

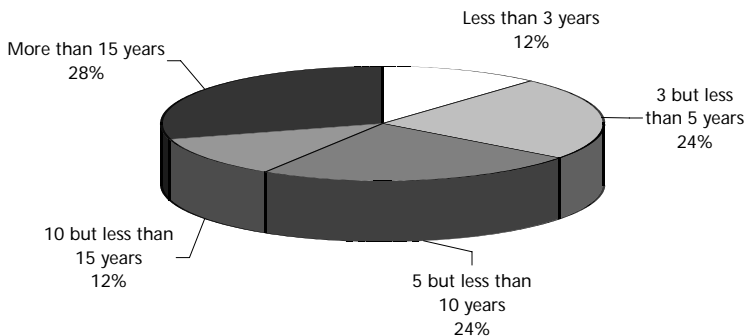


Figure 3 — Perceived long-term viability of mainframe market.

will help you assess your own IT directions and trends.

### Current and Future Mainframe Plans

Interestingly, a slim majority — 51% — of organizations reported that major applications currently run on mainframe platforms (see Figure 1). When you look at the percentage of mission-critical applications residing on mainframes, shown in Figure 2, 27% of the respondents reported that half or more of their applications reside on the mainframe, with an additional 32% of the respondents saying that one-quarter to one-half of their mission-critical applications are on the mainframe. Other architectures seem to be filling a major part of hosting mission-critical applications.

Figure 3 reveals that 88% see the mainframe market being viable for more than 3 years, with 40% seeing the market as viable for 10 or more years. For many, mainframes are not going away any time soon. In addition, 86% think the major constraint on supporting mainframe architecture is the lack of availability of knowledgeable programmers (more so than availability of hardware and software vendor support). This is evident in Figure 4.

Where will companies seek to obtain these staff skills? The answer seems to be from outsourcers (see Figure 5). A full 77% of the organizations surveyed will look to contract out their mainframe personnel needs (compared to 32% who plan to fill the need with new hires). Another interesting result: 14% reported that they'd look to retirees to fill their skill needs.

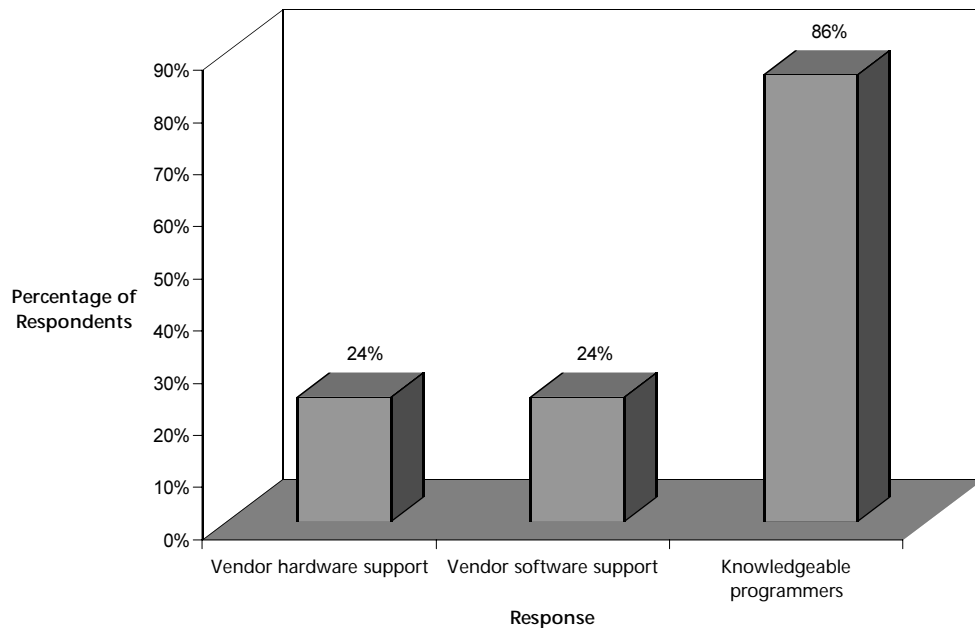
Figure 6 (on page 4) shows that 76% of respondents have less than 5% (an amazingly small percentage) of Web-based applications currently running on mainframes.

What is interesting is that for the remaining applications, 61% have a long-term plan to

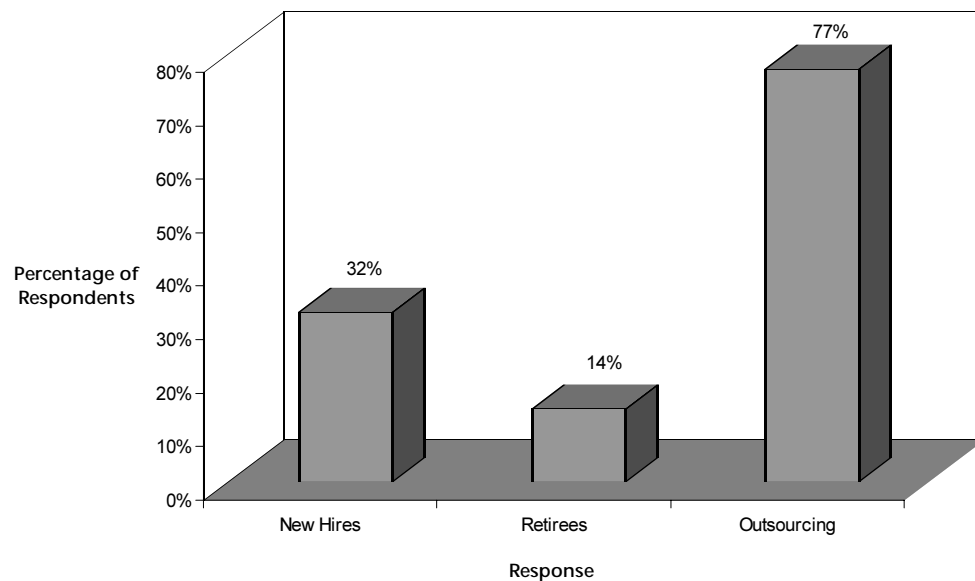
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**Figure 4 — Perceived obstacles to supporting mainframes.**  
 (Respondents able to choose more than one category.)



**Figure 5 — Sources of skilled mainframe personnel.**  
 (Respondents able to choose more than one category.)

migrate their mainframe applications to other platforms (see Figure 7). Of these other platforms, 95% will be about evenly split between Unix and Windows, as shown in Figure 8. Distributed computing is here to stay and will emerge dominant in the long run.

***E-Business Computing Trends***

The next series of charts shows two sets of data from Cutter’s research over the past year, demonstrating the changing role of e-business and Internet computing from one year to the next (2000 versus 1999); 50 companies took part in this study.

























