

The Mainframe Conundrum: Escalating Workloads, Shrinking Staff

NOVEMBER 2008

TheInfoPro, Inc.

This Research Brief was commissioned by CA to TheInfoPro, Inc. It delivers findings on 270 web-based and live in-depth interviews with Fortune 2000-class enterprises in five geographically worldwide markets. The study was conducted in September and October 2008.

CA's Mainframe Study

Study Description:

CA commissioned TheInfoPro (TIP) to conduct a study with user enterprises to assist CA in understanding the status of mainframe use, current trends and future plans for mainframe installations. Specific areas of focus were the issues around training, an aging workforce, migration, usability and new adoption.

Study Approach:

- TIP effected completion of 270 survey interviews through a web-based multiple-choice questionnaire and one-on-one interviews.
- The total sample encompassed five geographic markets: U.S./North America, Europe, Australia, Japan and Brazil, with questions translated to Japanese and Portuguese for speakers of those languages.
- Additionally, TIP spoke directly with organizations in North America to gain qualitative and anecdotal comments as background for insight and support of study conclusions.

Study Timeframe:

September/October 2008

Executive Summary

CA commissioned TheInfoPro (TIP) to conduct a study with user enterprises that would assist CA in understanding the status of the mainframe platform, both tactically and strategically, to address potentially critical issues, which include the following:

- The depletion of a technically competent workforce due to retirement
- Migration of processing away from or to the mainframe for new application processing
- Perceptions of users on the characteristics and usability of today's mainframe systems
- What actions users would favor in addressing the potential depletion of mainframe support staff

The primary key questions and key findings from the study include the following:

QUESTION: Is losing mainframe support staff to retirement a critical issue?

KEY FINDING: Seventy-two (72%) of respondents said their organizations have mainframe staff members already eligible for retirement.

QUESTION: Will mainframe use and spending grow and exacerbate or shrink and alleviate a potential staff retirement issue?

KEY FINDING: Study results show that organizations using mainframe systems are expected to increase their spending over the next two (2) years.

QUESTION: Does an increase in mainframe-related spending mean just more of existing processing, or are there additional applications and re-hosting planned?

KEY FINDING: Mainframe shops plan to continue using the mainframe as a primary software solution platform.

QUESTION: What happened to the waning of mainframe use? Are users saying that mainframe spending has really been increasing right along?

KEY FINDING: Plans for mainframe system and staff spending show an uptrend for the next two years, but that has not been the case in the most recent past, which has been a period of cost management and less growth.

QUESTION: To address a hypothetical issue of losing mainframe staff to retirement, what actions do users think will be helpful and how practical do they regard those actions to be?

KEY FINDING: In addressing loss of trained mainframe staff, users ranked three types of actions highest: hiring and training new people; decreasing the number of solution vendor suppliers; and acquiring tools and solutions that would make the platform easier to use and support. Respondents rated actions for which they had less direct control as less Practical than Helpful, perhaps a comment about their confidence in getting help for any actions they might take.

QUESTION: In what areas are mainframe shops already seeing a skills shortage?

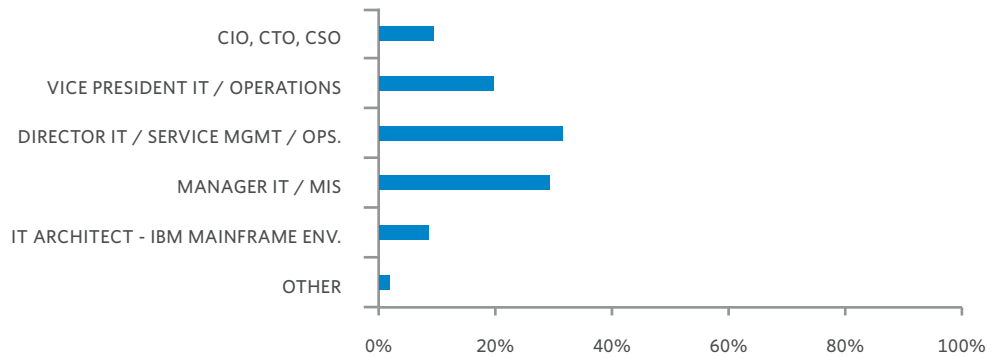
KEY FINDING: The most critical tasks affected by a shortage of skilled mainframe staff are similar to other IT platform requirements, with Security most frequently mentioned. Since the IT tools differ between mainframe and other platforms, skills cannot be easily leveraged across platforms.

What are some characteristics of the enterprises interviewed for the study?

Based on CA's objectives for the study, TIP used web-based and live interviews with 270 IT professionals to gather and analyze information about the current and future status of IBM mainframe systems within participating enterprises. The screening process was such that the questioning was with organizations in which the mainframe was currently an active part of the enterprise's overall processing profile. But participants were not screened as to whether the mainframe was being enhanced, diminished, or phased out, or by any aspect of the mainframe's strategic importance.

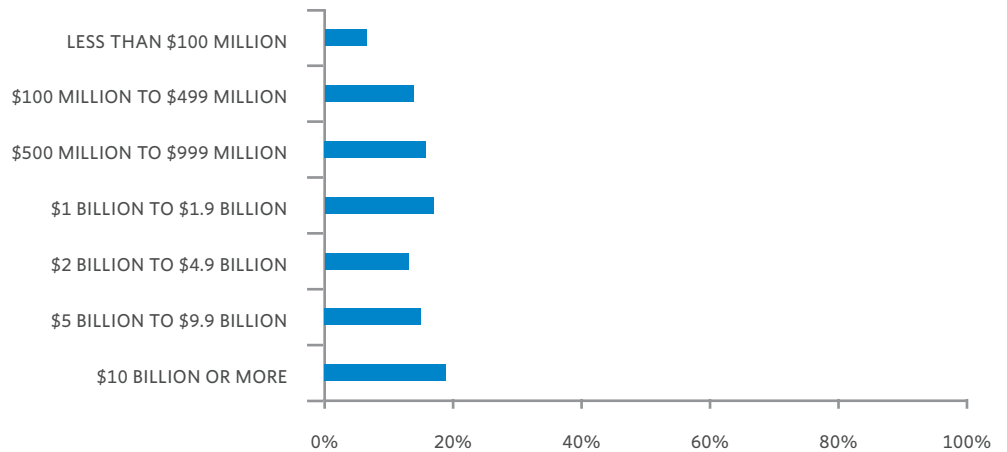
The screening produced a sample of mainframe-involved people with characteristics such as the following: Only those with direct management or technical involvement with varying aspects of IT, including the mainframe were included; the focus was on enterprises with revenues of \$500 million and above with some exceptions in the non-U.S./North America geographies; it also focused on organizations with at least 250 employees; industries were not screened, which resulted in a wide range of business and industry types with 14 specific industries identified within the sample.

CHART 1: TITLES OF STUDY INTERVIEWEES



"We don't have people already eligible for retirement, but a lot of us in mainframe are in our 50s."

CHART 2: REVENUE SIZES OF PARTICIPATING ENTERPRISES

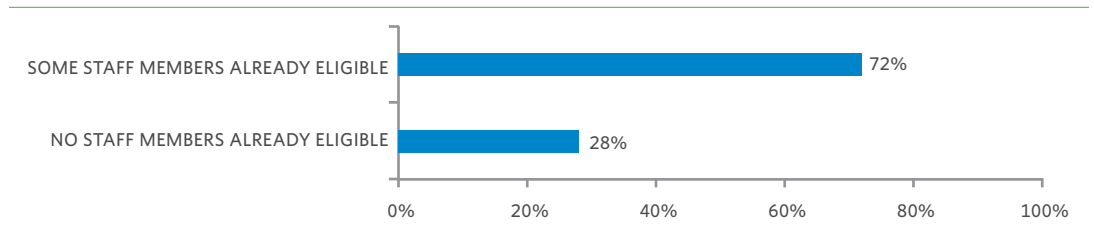


Key Questions and Findings

QUESTION: Is losing mainframe support staff to retirement a critical issue?

KEY FINDING: Seventy-two (72%) of respondents said their organizations have mainframe staff members already eligible for retirement.

CHART 3: MAINFRAME STAFF RETIREMENT ELIGIBILITY

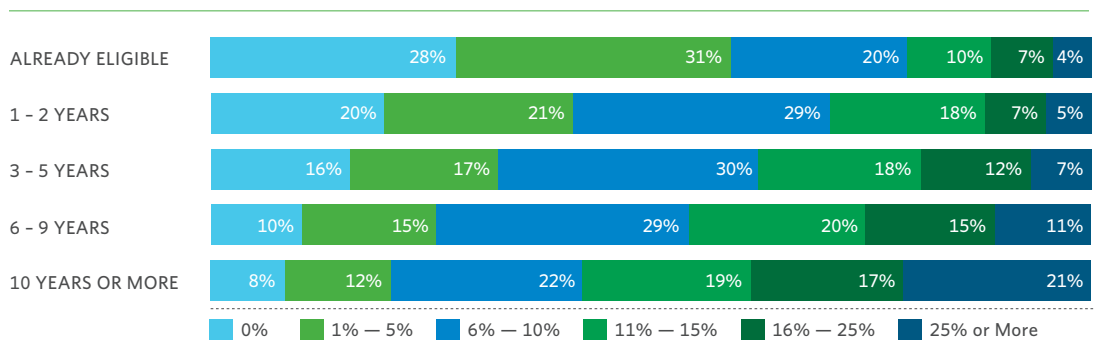


“We’ve been pretty stagnant and not had to look for people. In five years or so, we probably will have a problem.”

From study data, we know that a high percentage of enterprises have mainframe staff that are already eligible for retirement (Charts 3 and 4). Additionally, from live interviews, we know that the potentially looming issue of staff loss to retirement is likely to be most acute when considering the mainframe system programming technical support staff.

Eighty percent (80%) of respondents said some portion of their mainframe staff is zero to two years from retirement. Given the apparently high number of staff members staying on the job after retirement eligibility, it may be appropriate to say that the good news is that enterprises don’t have to assume that staff members reaching retirement eligibility will necessarily leave their jobs. So, the problem will be looming rather than definable.

CHART 4: NUMBER OF YEARS BEFORE ELIGIBLE



“I have a very strong backup [person]. I have made it clear that I was leaving now. There have been a lot of management changes, and they may not understand how critical this is. We’ve tried to move things to other platforms over the last 10-15 years, and it doesn’t work.”

QUESTION: Will mainframe use and spending grow and exacerbate or shrink and alleviate a potential staff retirement issue?

KEY FINDING: Study results show that organizations using mainframe systems expected to fairly aggressively increase their spending over the next two years.

We must note that the most rapid part of deterioration in worldwide financial markets had not occurred when the study data was being gathered. Consequently, we can only speculate as to what specific and numeric impact recent financial conditions will have on future mainframe plans and spending. However, as a measure of intent, strategy and attitude, we regard the results seen here as still very useful.

“We’ll spend 10% to 20% more two years from now due to normal growth and for new apps for sure that will come on. It never stops and can impact 10 for a single app. We’ll be adding some staff.”

CHART 5: MAINFRAME SPENDING GROWTH TWO YEARS FROM NOW VS. TODAY

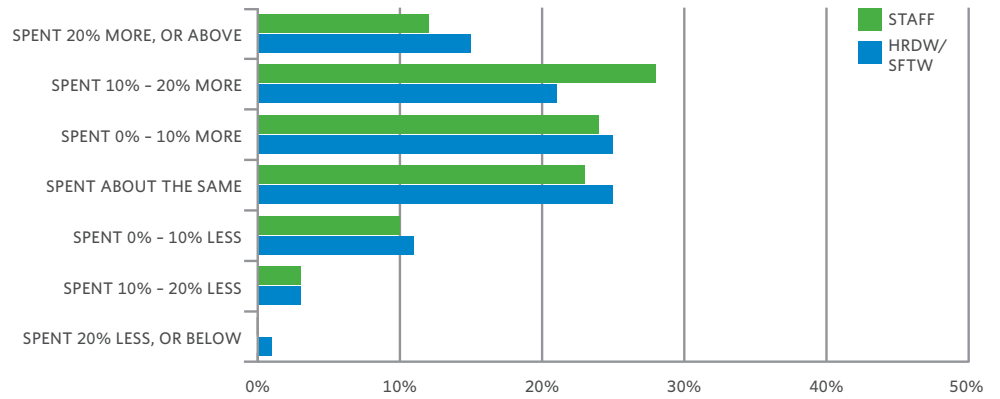
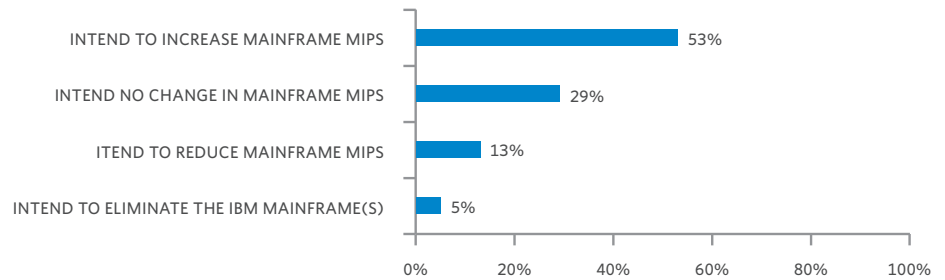


CHART 6: MIPS CHANGES IN TWO YEARS



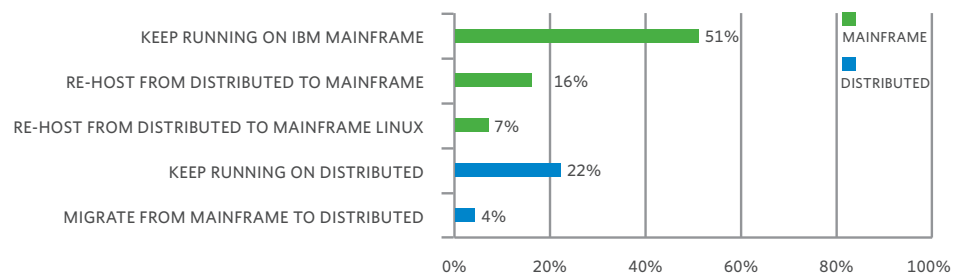
QUESTION: Does an increase in mainframe-related spending mean just more of existing processing or are there additional applications and re-hosting planned?

KEY FINDING: Mainframe shops planned to continue using the mainframe as a primary software solution platform with significant re-hosting to the primary OS or to mainframe Linux.

“We plan to increase the number of MIPS on our IBM mainframe CPs by 10% to 20%, because there are some new apps that probably will go to the mainframe. Plus, we’ll look at a third site for storage.”

Participants in the study were asked to react to a question that listed 20 different enterprise software solutions, some systems-related and some business applications. They provided information about the primary platform on which the solution would run. The macro level of displayed results is based on averaging the responses and is shown in Chart 7, while detailed results are given in Chart 8.

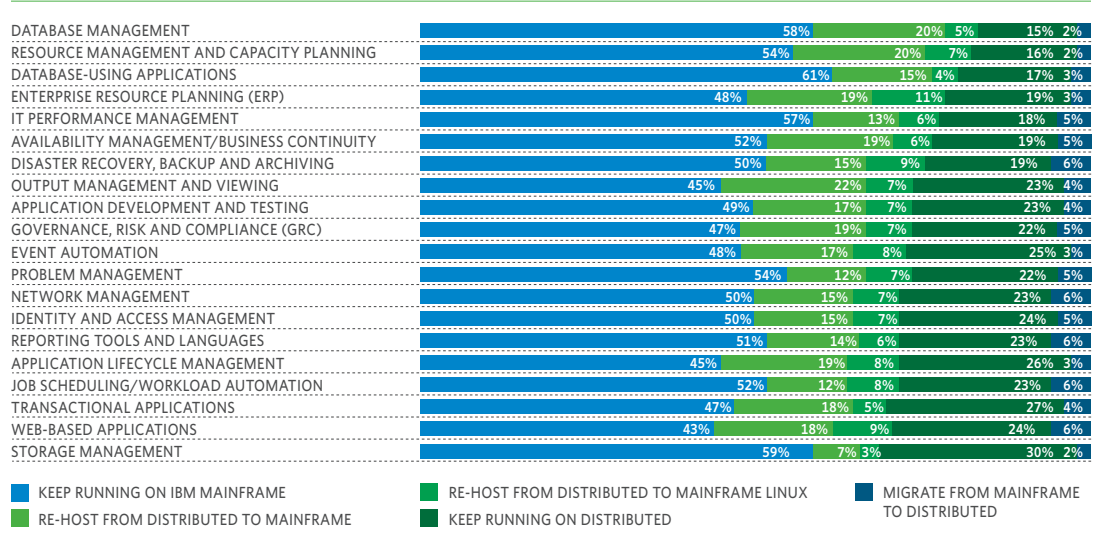
CHART 7: MAINFRAME SOFTWARE SOLUTIONS HOSTING — AVERAGES



“There are certain apps that must run on mainframe, and there might be more brought onto the mainframe.”

The detailed results (Chart 8) are sorted based on the sum of the three mainframe-focused responses (keep running, re-host to mainframe, and re-host to mainframe Linux). By scanning the list, one can identify which solutions now run primarily on the mainframe vs. which will be migrated to the mainframe. Of course, some solutions are running on mainframe and distributed systems, and in that case the mainframe is shown.

CHART 8: MAINFRAME SOFTWARE SOLUTIONS HOSTING — DETAILS



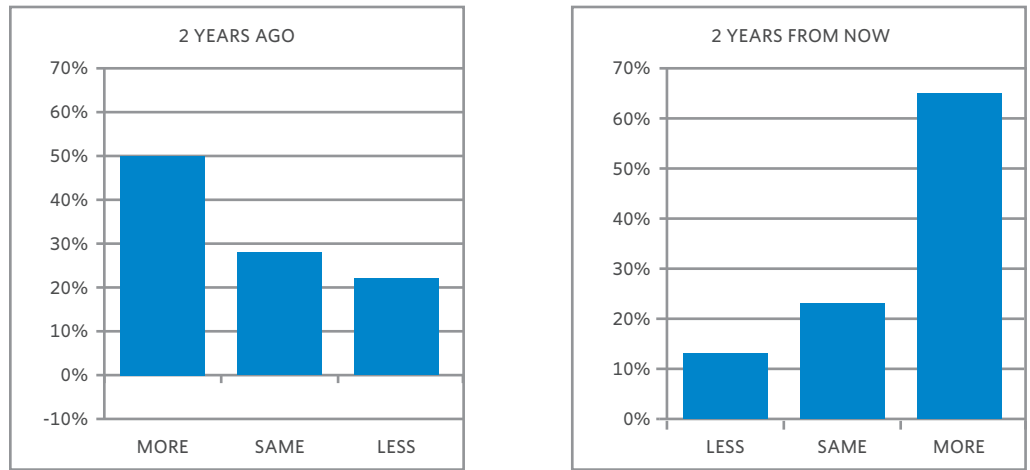
“We’re slowly phasing out certain apps and systems and can’t seem to go to zero. For example, we’ve been doing one app on the mainframe for years [thinking it was going away] and now all of a sudden there’s a revival of interest in that data/information product.”

QUESTION: What happened to the waning of mainframe use? Are users saying that mainframe spending has really been increasing right along?

KEY FINDING: Plans for mainframe system and staff spending show an uptrend for the next two years, but that has not been the case in the most recent past, which has been a period of cost management and less growth.

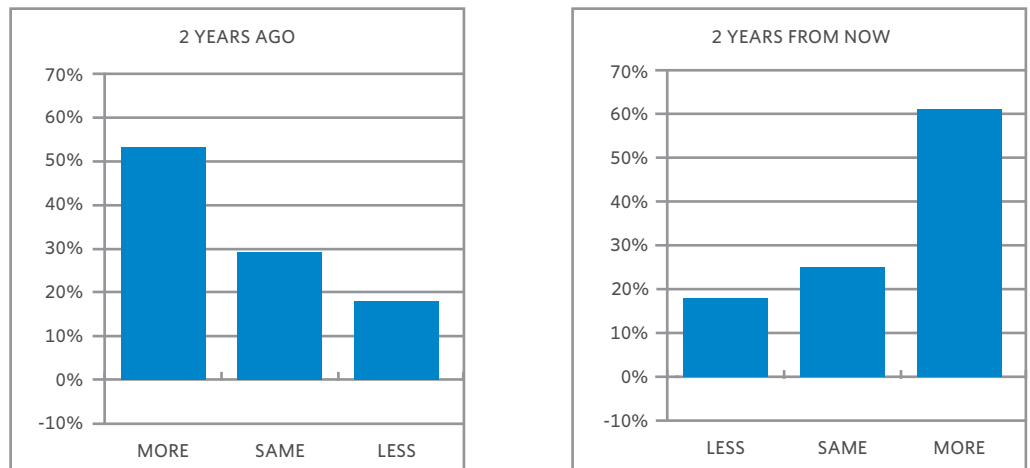
Actually, mainframe spending has not been on a steady uptrend at all according to users from all geographies. Charts 9 and 10 contrast the spending of two years ago for hardware/software, as well as staff, with the expectations that users had for two years from now. There is an interesting “trough” that emerges with this comparison. What comes through from the live interviews is a scenario of cost-cutting and productivity improvement during recent years and not a significant degree of production application offloading. While clearly there are mainframe shops that are cutting back, the more common finding from the study is that a majority of mainframe shops expect the system to remain an active and important part of their company’s processing profile. Comments regarding a strategic importance of the mainframe were commonly recorded.

CHART 9: HARDWARE & SOFTWARE SPENDING (% OF RESPONDENTS WHO SAID)



“We’re undermanned like most staffs. We’re not replacing numerically with attrition.”

CHART 10: MAINFRAME STAFF SPENDING (% OF RESPONDENTS WHO SAID)



“It’s my understanding that there have actually been some new developments and applications to the mainframe. That happens maybe because it’s available. I believe it’s loaded at 80% to 90%.”

QUESTION: To address a hypothetical issue of losing mainframe staff to retirement, what actions do users think will be helpful and how practical do they regard those actions to be?

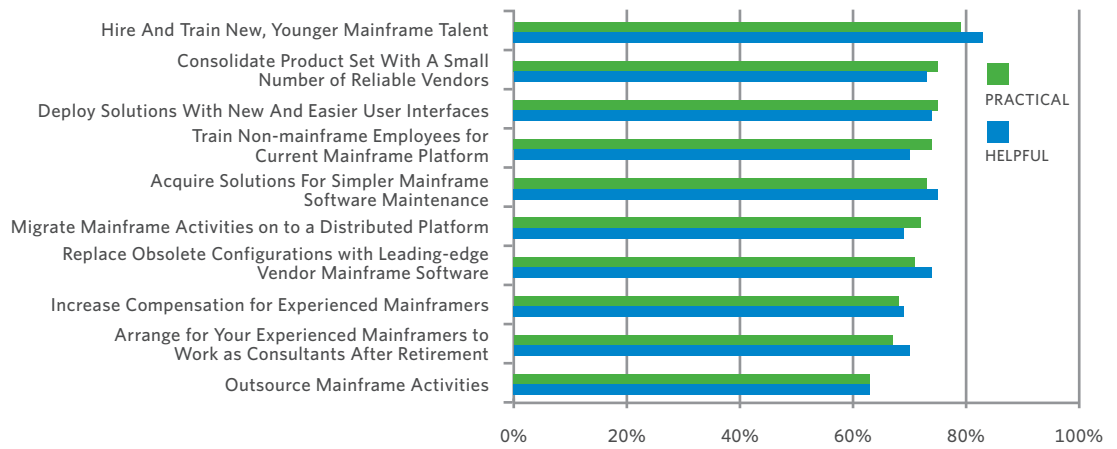
KEY FINDING: In addressing loss of trained mainframe staff, users ranked three types of actions highest: hiring and training new people; decreasing the number of solution vendor suppliers; and acquiring tools and solutions that would make the platform easier to use and support.

We asked respondents to rate a selection of possible actions they might take to correct for mainframe support staff loss and to judge how Helpful vs. how Practical those actions would be. Chart 11 shows the results with the actions sorted by how Practical each was judged.

Respondents judged as highest the action of hiring new, younger talent — but they also judged this action to be potentially less practical than it would be helpful. They rated decreasing the number of vendors they use to be more Practical than Helpful but relatively high in being useful. There were three actions that addressed making the mainframe environment easier to use, and each was rated high relative to overall usefulness in addressing support talent loss.

“I can probably find mainframe people if needed but it would cost a lot — so says HR. But right now, there are more IT people out there due to layoffs in industries.”

CHART 11: RATING OF ACTIONS FOR MAINFRAME STAFF SHORTAGE



The graphic shows results that combine ratings of “Very Helpful” and “Somewhat Helpful” and then “Very Practical” and “Somewhat Practical.”

QUESTION: What actions do users think will be helpful, and how practical do they regard those actions to be?

KEY FINDING: Respondents rated actions for which they had less direct control as less Practical than Helpful, perhaps a comment about their confidence in getting help for any actions they might take.

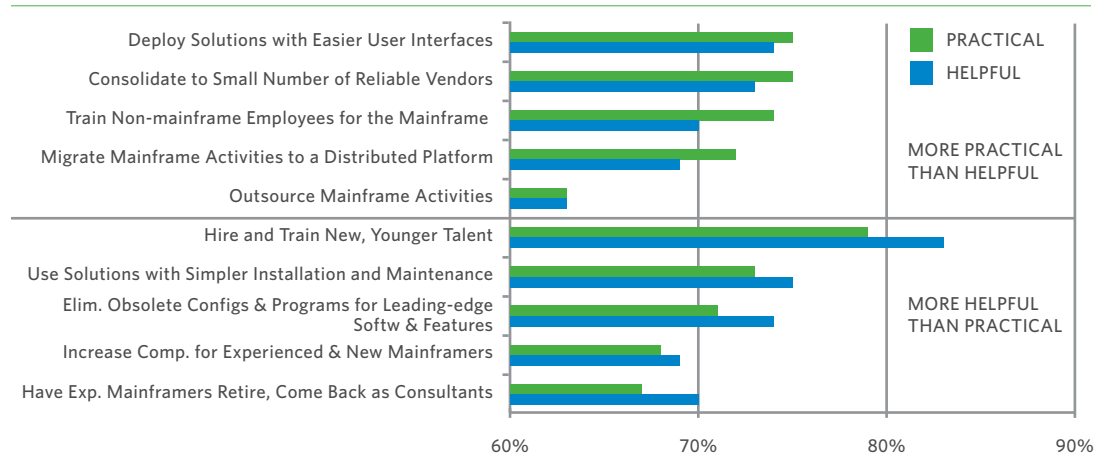
Chart 12 contains the same data as in Chart 11, but it is ordered so that the actions that were considered more Practical than Helpful and more Helpful than Practical can be better compared. Note that the horizontal scale is expanded to magnify the contrasts more clearly (this magnifies the degree of rating differences as well). Readers should not lose sight of the fact that all factors were rated above 60 percent for Practical and for Helpful.

“On the mainframe, we have five or six vendors now, and we’re OK with that. In fact, we have expanded the number of vendors because we use ‘best of breed,’ and we do that for our other environments, too.”

In addition to the factors mentioned for Chart 11 for this data, the data displayed in Chart 12 reveals that respondents are more optimistic (relatively high Practicality) about actions for which they have more control (e.g., system rather than application-level actions, internal staff rather than hiring younger people from outside, live with compensation on par with other groups rather than premium pay). An outsourcing option is the lowest-rated, something that some organizations have already tried, while asking mainframers to come back in a consulting role was considered Helpful but much lower on a Practical basis.

“Outsourcing the mainframe activities is not very practical — we tried it twice.”

CHART 12: RATING OF ACTIONS FOR MAINFRAME STAFF SHORTAGE



The graphic shows results that combine ratings of “Very Helpful” and “Somewhat Helpful” and then “Very Practical” and “Somewhat Practical.”

QUESTION: In what areas are mainframe shops already seeing a skills shortage?

KEY FINDING: The most critical tasks affected by a shortage of skilled mainframe staff are similar to other IT platform requirements, with Security most frequently mentioned. Since the IT tools differ between mainframe and other platforms, skills cannot be easily leveraged across platforms.

The most frequently mentioned technical skills shortages were in Security, Storage and Workload Management. Especially with Security and Storage, the basic knowledge and understanding of requirements are similar to needs on other platforms. But with the tools sets being different between platforms and the workloads of individuals typically being high, it is unlikely that a practical solution to the shortage in mainframe skills will be to leverage people across platforms.

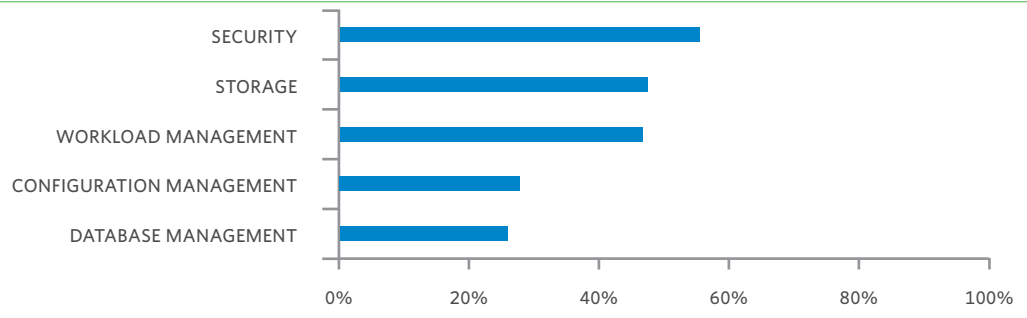
“[My burning issue is] C-level directors who are intent on phasing out IBM mainframes as a cost-cutting issue.”

Workload Management (mentioned by almost 50% of respondents) is more specific to mainframe than Security and Storage, and users are clear that they need more support people and/or better tools to handle Workload Management.

A continued shortage of skills and the added stress to staff members plus costs associated with attracting new talent to highly critical tasks could result in an enterprise exploring selective outsourcing strategies. For example, while Security might not be a comfortable choice for outsourcing, Storage Management and Workload Management could be outsourced, including the hardware system itself and the operation software.

“A local university has started a program for training mainframe people with help from IBM.”

CHART 13: CRITICAL TASKS NOT ADDRESSED DUE TO SKILLED-STAFF SHORTAGE



About the Author

TheInfoPro (TIP) is the only independent research network for the Information Technology (IT) industry. Created by alumni of Gartner, EMC, Giga, and Bell Labs TIP produces fundamental, objective, “grass roots” research for key IT sectors, including Information Security, Networking, Servers, Storage, and Sourcing.