White Paper

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MISSION EVERYTHING'S CRITICAL

The expanding mission critical needs in Asia Pacific

INTRODUCTION

This Springboard Research white paper provides an analysis of the changes to mission critical computing in Asia Pacific to inform Asian organizations on the perceptions, activities and best practices of their peers in the region. The analysis provided is based on a survey of 1,091 IT decision-makers in Asia (Australia, China, India, Indonesia, Japan, Korea, Malaysia, Singapore, Thailand and Taiwan) actively involved in mission critical IT decision-making at organizations with more than 500 employees from October to December, 2010.

EXECUTIVE SUMMARY

Key findings from Springboard Research's survey of 1,091 Asian IT buyers are:

- Mission critical computing is expanding from historical definitions to a far broader spectrum of workloads and applications. As an example, collaborative applications rated third on a list of user-classified mission critical applications.

- Thirty-eight percent of survey respondents have grown their mission critical infrastructures during the past three years. The primary drivers for change are the need to keep up with increasing workloads and upgrade their platforms (scalability), better efficiency, cost reduction pressures due to the global financial crisis (GFC) and an expanding array of applications deemed mission critical.

- Virtualization and cloud computing are playing an important role in the mission critical reviews taking place among Asian organizations. Virtualization in particular topped a list of solution investments among respondents over the past two years and in the coming 12 months, with 26 percent of respondents expecting to invest in the coming year adding to the 40 percent that already have.

- As Asian organizations plan their future mission critical, 40 percent indicated they plan to "scale-up" to larger and more powerful data centers, 31 percent are planning to "scale-out" to a greater number of servers working in tandem and 29 percent were unable to classify between the two approaches.

- The mission critical platforms (particularly operating systems and processors) planned by respondents in the coming three years reflect the expanding mission critical landscape in the region. Of the 60 percent of customers that have plans for their future mission critical platforms, Intel Itanium running UNIX and Xeon processors are preferred. In addition, Windows and Linux topped the list of planned mission critical operating systems.

WHAT IS MISSION CRITICAL COMPUTING?

For such a commonly used IT industry term, mission critical computing is a surprisingly difficult label to clearly define and classify. For many IT strategists, definitions of mission critical computing are often rooted in the realities of IT from past decades. Put simply, mission critical computing refers to any application, workload or system that is deemed essential to the core function of the organization.

Where traditional mission critical definitions are challenged is when one evaluates what makes the mission critical "cut". Stated differently, where is the line that demarcates what is mission critical and what is not? How does an organization determine degrees of mission criticality and how to align resources accordingly?

Traditional measures of mission criticality evaluate costs or risks associated with system downtime. One of the most commonly cited examples of highly mission critical applications is a stock market exchange that processes millions of dollars of transactions every second, where downtime will quickly accumulate losses equal to millions or billions of dollars. In this instance, mission criticality is a function of the greatest amount of money lost in the least amount of time. From a risk perspective, workloads like life support systems or the applications that operate nuclear power reactors are deemed most mission critical or even fault tolerant due to the disaster that will ensue if the system fails.

For these highly mission critical applications, organizations have historically bought and maintained their most expensive systems, tightly managed them in their data center, and protected them with disaster recovery solutions. For most IT buyers, this is the paradigm envisioned when the term mission critical computing is used; however, does this
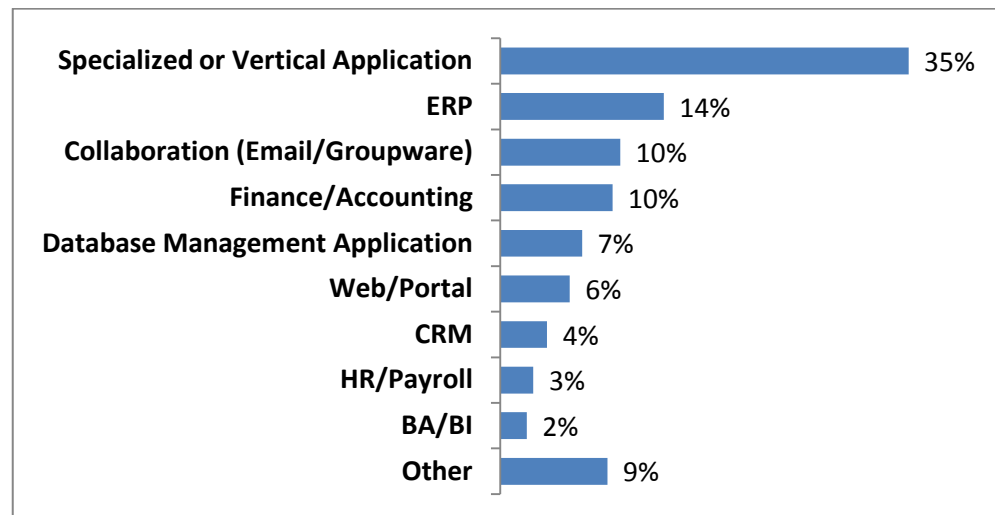
reference suit the realities of 2011 and represent the most productive allocation of resources for Asian organizations?

The Expanding Mission Critical Landscape

According to our survey of more than 1000 Asian IT buyers, the borders of mission critical computing are growing to encompass a much broader array of applications. When asked which applications they considered mission critical at their organization, only 35 percent selected a specialized or vertical application that fits the historical mission critical definition.

Survey results clearly indicate that most Asian organizations have broadened their mission critical boundaries. For example, information technology is now such a critical part of enterprise communication that collaboration rated third among mission critical applications. Similarly, many regional businesses are dependent on the Internet to sell to customers and work with partners that a healthy amount of respondents identified the Web or a portal as a mission critical application. In addition, Asian organizations continue to protect their traditional mission critical applications such as ERP, Finance, HR/Payroll, and others that comprise 75 percent of workloads. (Figure 1)

### Figure 1: Mission Critical Applications at Asian Organizations

Application	Percentage
Specialized or Vertical Application	35%
ERP	14%
Collaboration (Email/Groupware)	10%
Finance/Accounting	10%
Database Management Application	7%
Web/Portal	6%
CRM	4%
HR/Payroll	3%
BA/BI	2%
Other	9%

Q: Which applications do you consider mission critical at your organization? (N=1,091)
Source: Springboard Research, February 2011

REVIEWING MISSION CRITICAL INFRASTRUCTURE

According to survey results, 38 percent of respondents indicated that they made a change to their mission critical infrastructure during the past three years. Survey results showed a spike in the amount of changes made in 2009 when the global financial crisis (GFC) was forcing organizations to review all costs and operations. In fact, the greatest likelihood of change was present in countries like Japan where the GFC had the greatest impact in the region and was generally lower in countries where economic growth was more robust such as India, Indonesia and China. (Figure 2)

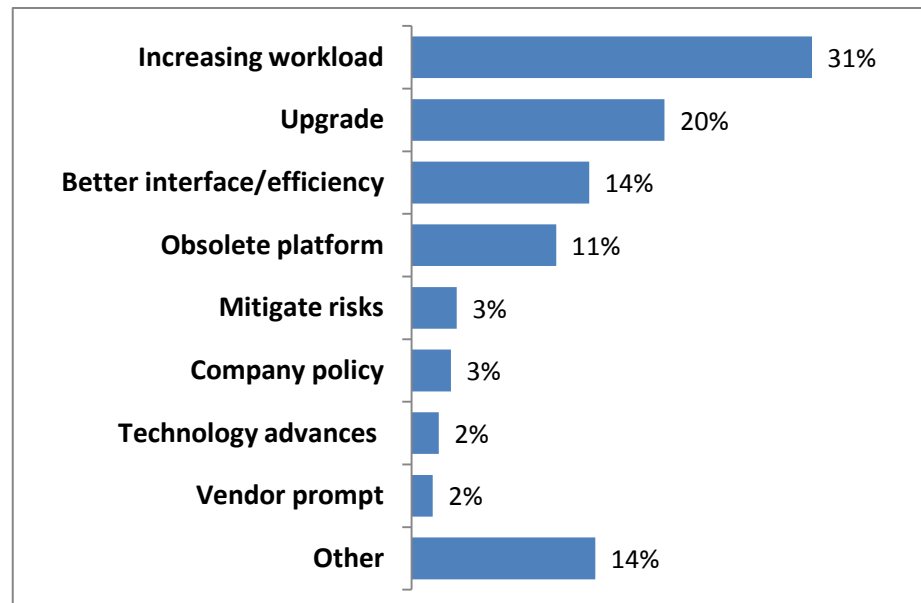## Figure 2: Change to Mission Critical Infrastructure from 2008 to 2010
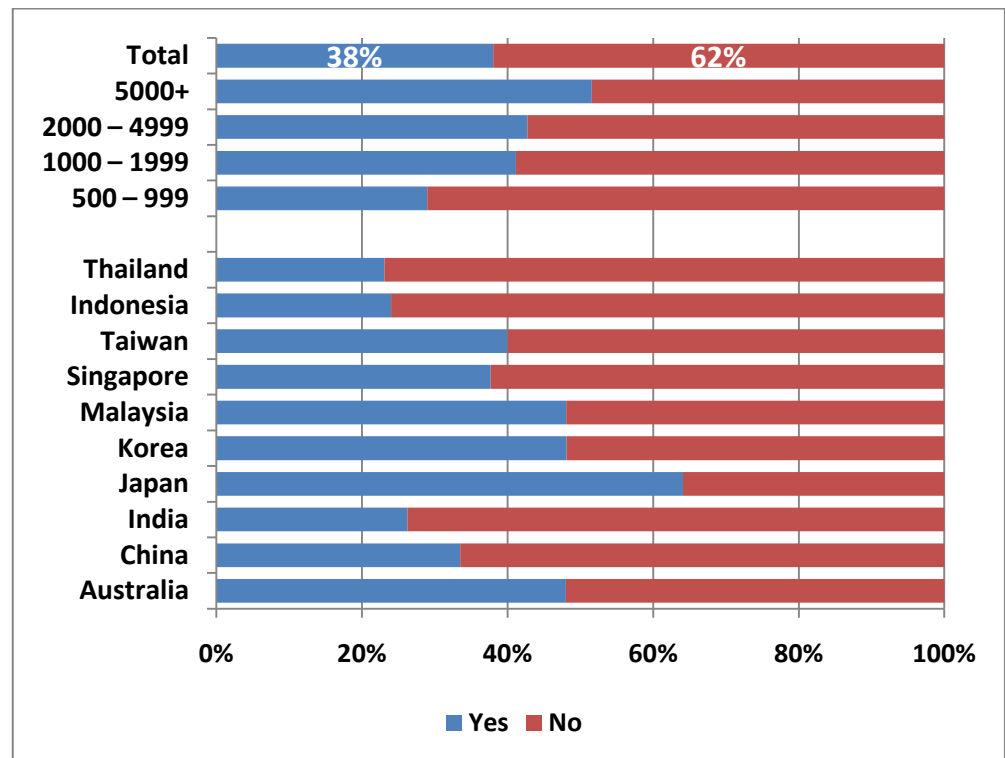
Q: Has your organization added or replaced a server provider, OS or processor within your mission-critical environment over the past three years? When? (N=1,091)
Source: Springboard Research, February 2011

The GFC added pressure from the management teams of Asian organizations on their IT departments to review all areas to reduce cost and waste, including mission critical infrastructure. Interestingly, in 15 percent of the cases respondents indicated that their Boards were the initiator of mission critical infrastructure reviews, which highlights the extent of pressure to reduce costs as well as the growing profile of IT within Asian organizations.

Pressure from management to cut costs and the growing list of applications deemed mission critical are contributing to mission critical reviews, but another key change driver is the growing demands being placed on existing infrastructure. Respondents indicated that the top reason driving change was an increasing workload followed by the need to upgrade. As Asian economies grow several times faster than developed economies in the west, the demands on businesses and their IT infrastructure to keep up are considerable. When mission critical computing reviews take place, scalability is becoming an increasingly critical driver of change and evaluation criteria for the platforms ultimately selected. Springboard believes that as organizations modernize their mission critical infrastructure platforms, the ability for a platform to scale efficiently with the growth of the business should be a critical decision factor. (Figure 3)

Figure 3: Reasons for Change to Mission Critical Infrastructure

Reason	Percentage
Increasing workload	31%
Upgrade	20%
Better interface/efficiency	14%
Obsolete platform	11%
Mitigate risks	3%
Company policy	3%
Technology advances	2%
Vendor prompt	2%
Other	14%

Q: What was the primary reason for change to your mission critical environment? (N=416 or those that reported making a change within last three years)
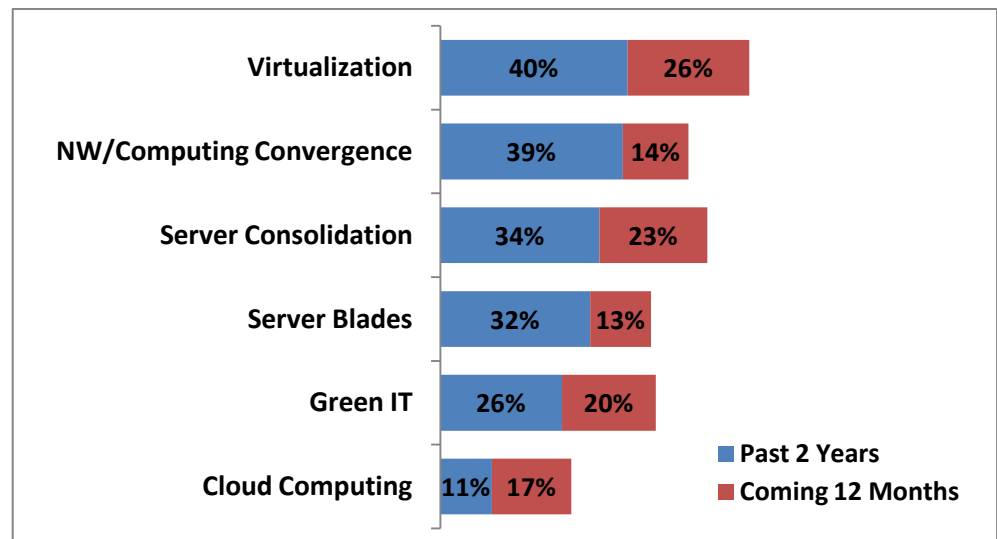Source: Springboard Research, February 2011

The Role of Virtualization and Cloud Computing

Virtualization and cloud computing are playing a critical role in the changes taking place with mission critical infrastructures across the region. These enabling technologies present Asian organizations with a new set of capabilities and tools to make fundamental adjustments to their mission critical computing approach.

According to survey results, virtualization topped the list as the solution area that received the greatest investment over the past two years as well as the one expected to receive the greatest investment levels in the coming 12 months. (Figure 4)

Springboard Research believes that virtualization will challenge the historical mission critical computing model that has created silos of technologies to support different applications across the datacenter. Virtualization is most commonly leveraged in Asia to pool computing resources, processes and people to increase utilization rates and reduce capital wasted to simply keep running inefficient systems. We believe that as virtualization continues to grow as a foundational element in the computing infrastructures of Asian organizations, it will contribute to breaking down boundaries between computing silos, including legacy mission critical infrastructure and processes.

## Figure 4: Solution Investment Areas

Q: Has your organization invested in any of the following areas over the past two years; do you have any plans for next 12 months? (N=1,091)
Source: Springboard Research, February 2011

It is not surprising that cloud computing rates toward the bottom of the list considering its low maturity level. When looking toward the coming 12 months, cloud computing moves up the list as a hot solution area with 17 percent of respondents indicating plans to invest in it. Moreover, the lines between virtualization and cloud computing are blurry with many Asian organizations viewing virtualization as a first foundational step in their cloud computing investment plans, which artificially reduces the cloud responses provided.

Another trend among many Asian enterprises is the expansion from "scaling up" their mission critical computing infrastructures to also include "scaling out". Although a high proportion of survey respondents (29 percent) were unable to characterize their mission critical strategies in either grouping, those able to were evenly divided between a scale up (40 percent) or scale out (31 percent) mission critical computing strategy. Similar to the impact of virtualization, we believe the scale out model of mission critical computing will augment the historical mission critical computing model well into the future.

Figure 5: Scale-Up vs. Scale Out
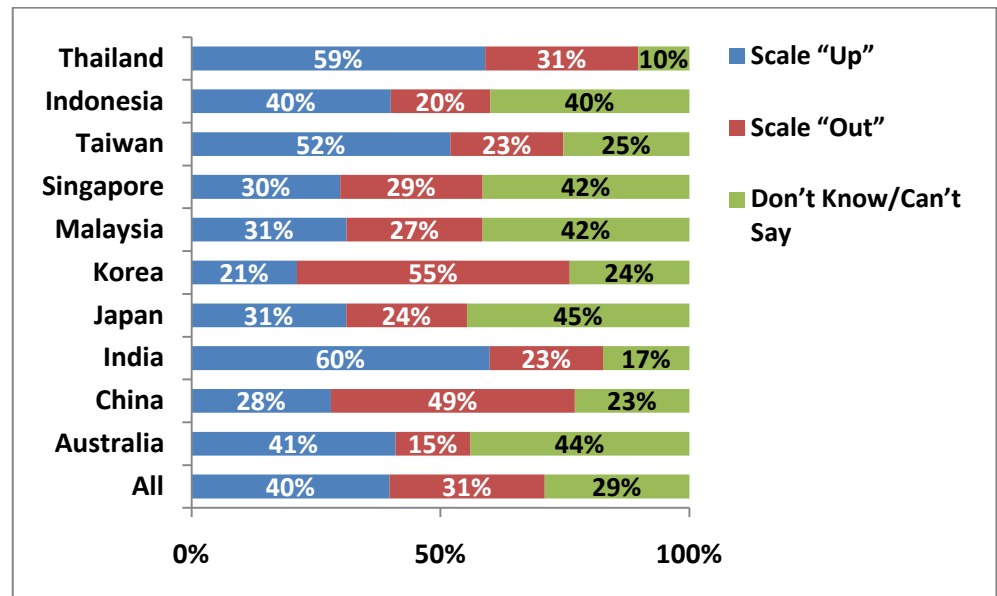
Q: With current data center trends, some organizations see their data centers scaling up to larger, more powerful consolidated systems (scaling up); some organizations are scaling their data centers "out" by adding a larger number of blades and appliances working in tandem. Which of these visions best apply to how your organization will run its mission critical applications in the future? (N=1,091)
Source: Springboard Research, February 2011
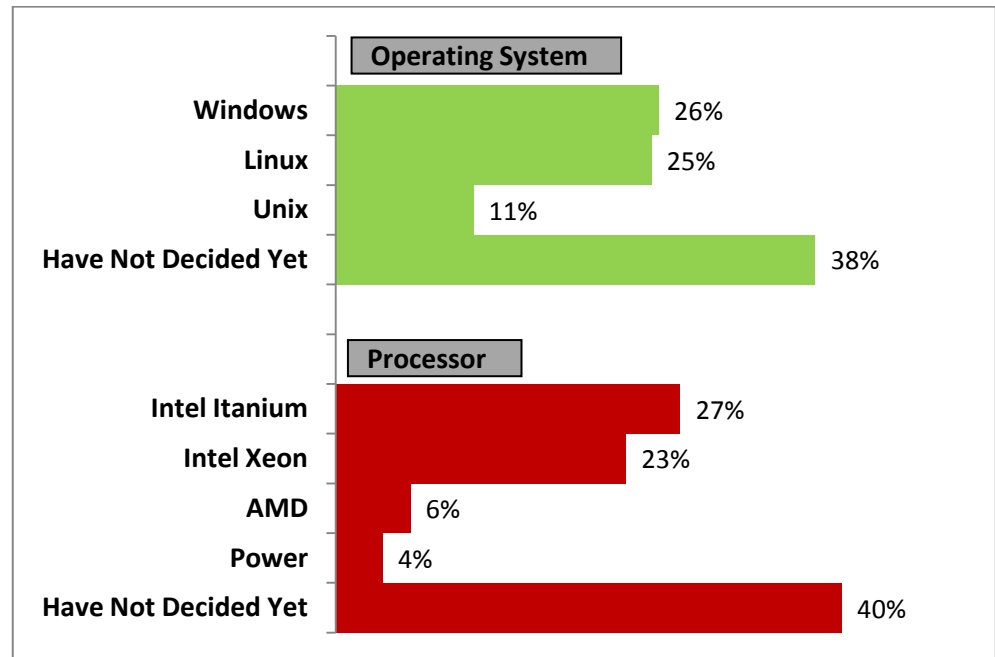
FUTURE MISSION CRITICAL SUPPLIERS

The changes to how Asian organizations perceive and invest in mission critical infrastructure are reflected in the platform suppliers they are considering for future investments. (Figure 6)

Among the respondents likely or very likely to make a mission critical computing change in the coming three years, there is an expansion to include open industry standard building blocks such as Intel Xeon processors running Windows and Linux and Itanium running UNIX. From an operating system perspective, Windows (26 percent) and Linux (25 percent) represented slightly more than half of the collective responses. These results are unweighted, future actions can be different from intentions and 38 percent indicated they have not yet decided the direction they will go; however, the results signal strong perceived momentum for these environments.

Similarly, Intel Itanium and Xeon collectively represented 50 percent of respondents from a processor point of view. Once again, 40 percent have not yet decided and future actions

can indeed be different from intentions, but based on survey results Intel appears well positioned to benefit from the mission critical changes expected by Asian organizations over the coming three years. This strong result is likely because Intel platforms are able to scale up or scale out and offer particularly broad OS and application support.

Figure 6: Mission Critical Platforms Considered within Next Three Years

Q: Which platform/vendor will you consider for your future mission-critical requirements?
(Unweighted N=225 for server; 157 for OS and 187 for processor)
Base=Respondents likely/very likely to make a mission critical computing change in the next 3 years
Source: Springboard Research, February 2011

RECOMMENDATIONS

Springboard Research recommends the following to Asian organizations crafting their mission critical infrastructures for the future:

- Challenge historical mission critical perspectives and approaches that depend on silos of separate infrastructure, people and approaches for applications deemed mission critical. If it is feasible to break down these silos, organizations can unleash operational cost savings, reduce total cost of ownership and inject greater efficiencies.

- When considering building a single virtualized platform, consider the degrees of mission critical protection required for your application from business critical to

mission critical or fault tolerant. Look for a supplier with the capabilities to simplify, automate, and integrate your data center to deliver the most cost savings.

- UNIX plays an important role in an organization's mission critical strategy and infrastructure plans for key applications and workloads. In addition, as Xeon-based server deployments expand within the organization, a broader range of Intel-based server providers and OS platforms should be considered to ensure they can operate effectively within your mission critical infrastructure.

CONCLUSION

Historical methods of defining and managing mission critical workloads are expanding and modernizing to include a range of mission-critical needs, especially in the Asian region where a lack of legacy infrastructure and strong growth are contributing to new strategies. As part of a broader market drive to reduce waste, lower costs and improve efficiency, leading Asian organizations are creating highly efficient virtualized foundations and processes that combine with mission-critical infrastructure to deliver different quality of service levels according a workload's specific needs. As this process continues to build momentum, platforms previously considered unable to support mission critical workloads will become increasingly relevant in the mission critical infrastructures of Asian organizations.
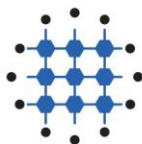
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