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EXECUTIVE OVERVIEW

The findings of our second annual State of the Data Center report indicate the data center is at a crossroads. Continuing the trends we saw in 2007, companies are asking IT to make do with fewer resources. Staffing problems remain a big issue for companies in 2008.

Yet the IT manager’s “to do” list is as long as ever. Applications continue to grow in number and complexity. Servers remain underutilized. Storage continues to grow but is also underutilized. And disaster recovery plans – more important than ever – are still not fully complete.

So it is not surprising that in our second annual State of the Data Center Report we find the data center a very busy place. IT is pursuing dozens of initiatives – from server virtualization to Storage as a Service – with one goal in mind.

Do more with less.
**METHODOLOGY**

Symantec surveyed 1,600 companies worldwide to compile the second annual *State of the Data Center* report. Applied Research was selected to perform the survey, and targeted the following data center personnel:

- Enterprise (5,000 or more employees)
- Managers, directors or VP/SVP
- Worldwide scope (21 countries, see map below)

Applied Research fielded the survey by telephone the last two weeks of September and the first week of October.

This study has a margin-of-error of approximately 2.4 percent at a 95 percent confidence level.
Symantec spoke with data center staff in 644 companies in the Americas (USA, Canada, Brazil and Mexico). The companies ranged in size from 5,000 to more than 50,000 employees, with the median company having between 10,000 and 19,999 employees.

Roughly half were managers. The rest were directors or VP/SVPs. Three quarters recommend IT products or services.

The median company reported having 500 people working in IT, 30 to 49 data centers, and about 20 percent of their IT staff dedicated to data center responsibilities.
FINDING 1: DOING MORE WITH LESS

In many ways, the phrase “doing more with less” could be part of IT’s job description. Data center managers reported both an increase in what they need to accomplish as well as a strong drive to reduce costs. The net result was a flurry of initiatives in the data center targeted at increasing IT efficiency.

**Doing More**

Three quarters of the companies surveyed say user expectations were rising gradually or rapidly. Just 2 percent saw user expectations falling. Furthermore, 60 percent of the respondents saw meeting the service levels demanded by the organization to be getting more or much more difficult to meet. Only 10 percent saw service levels to be easier to meet.

**With less**

We asked companies to identify their key objectives for the year. Reducing costs was by far the most frequently mentioned objective. In fact, reducing costs was mentioned by more companies than the next two objectives combined (improving service levels and improving responsiveness).

**Drives initiatives**

The initiatives mentioned most often to fight costs were:

1. Increasing automation of routine tasks
2. Cross-training IT staff
3. Server virtualization/Server consolidation
FINDING 2: STAFFING A BIG ISSUE

Staffing remains a big issue for the companies in 2008. For example, 36 percent reported being understaffed while only 4 percent reported being overstaffed. Furthermore, 43 percent say finding qualified applicants is a big or huge problem.

Having distributed data centers exacerbates the issue. Two thirds of the companies believe that each data center location needs its own highly-skilled staff.

This year’s study shows that companies are relying on two specific initiatives to alleviate staffing woes: Outsourcing and training.

Outsourcing

Nearly half the companies (45 percent) outsource some tasks. (Note that this number, while significant, is slightly behind the global level of 65 percent). The primary driver for outsourcing is to give staff time to focus on other tasks (43 percent). Cost was a smaller incentive, mentioned by just 18 percent.

Outsourcing does not seem to have caused problems in the organization. Half are neither more nor less satisfied, with the rest evenly split between being more satisfied versus less satisfied.

Training

Training staff is an important job for IT. Two thirds view training as a strategic (versus tactical) activity, and 78 percent expect training budgets to rise or stay constant in the next two years.
FINDING 3: BUDGET STILL RISING

The survey was fielded at precisely the same time that the media was reporting on the meltdown of the U.S. financial segment. Applied Research contacted half the companies before and half after the crisis hit. While we believe the financial downturn will negatively impact IT budgets, companies did not report this as of late September, early October.

Looking back, seven in 10 said IT budgets had risen in the past two years, with half seeing annual increases of 10 percent or more. The biggest component was power – with 82 percent reporting increases there. Applications and infrastructure followed closely.

Surprisingly, half see increases coming over the next two years, with only 16 percent seeing decreases. One would suspect that this finding will change as companies begin to feel the full effect of the financial crisis.

But, for now, companies expect budget increases in power (76 percent), applications (72 percent) and IT service assurance (64 percent).
FINDING 4: APPS CONTINUE TO GROW

Companies have a lot of applications. In fact, 41 percent report having more than 1,000 applications. Just less than half will add 11 or more applications, while 55 percent will refresh 11 or more applications. Just 36 percent will decommission 11 or more applications.

Data center managers report that half of these applications are deemed mission critical.

When asked which types of applications require the most IT resources, companies pointed to Web applications (40 percent), transaction (39 percent) and messaging (38 percent).
FINDING 5: SERVER INITIATIVES

Continuing the trend from 2007, servers remain underutilized. In fact, companies in 2008 reported 53 percent server utilization down from 65 percent in 2007. Compounding this problem is the difficulty data center staff has managing servers. Half the companies found troubleshooting downtime somewhat to very difficult, followed by identifying configuration changes and insuring high availability across multiple tiers.

As one would expect, companies are scrambling to find ways to address these issues.

Nearly all (89 percent) are pursuing a strategy of standardizing server and storage management on one layer of software that will work across most application and hardware platforms. This is an early stage initiative, with 41 percent discussing/planning and 48 percent in trials or implementing.

Four of five are pursuing server consolidation, with about half in discussion/planning stages and 31 percent in trials or implementing.

The situation is nearly identical with server virtualization. Interestingly, when we asked those who were not virtualizing why, nearly half complained existing solutions were too new or immature. This is a significant increase from 2007, where just 29 percent reported this issue. It appears that as companies have gained experience with virtualization they have run into difficulties. In fact, 37 percent report that virtual servers have management issues and 30 percent report that virtual servers are not robust enough.

We saw a surge in Windows servers in 2008 at the expense of UNIX. Linux is holding steady for now.
FINDING 6: STORAGE INITIATIVES

We found the situation with storage to parallel that of servers. While storage capacity continues to grow, it remains underutilized, and drives a wide range of initiatives.

In 2008, companies reported a median of 200 terabytes of raw storage within the organization (up from 100 in 2007). Despite this growth, storage utilization is 50 percent, down from 60 percent in 2007.

The applications most driving storage growth were business intelligence, Web applications and enterprise applications. Note that Web applications are up from 2007 (34 percent report Web applications as increasing storage needs in 2008 up from 21 percent in 2007).

Three quarters are exploring storage virtualization, with half in discussing/planning versus 25 percent in trials or implementing. File-based virtualization is at 61 percent, up from 41 percent in 2007.

Storage resource management has 46 percent discussing/planning stages and 25 percent in trials or implementing.

As far as data protection, 72 percent are pursuing continuous data protection, with about half in discussion/planning stages and 24 percent in trials or implementing.

We found 70 percent of companies are working on data deduplication, with 43 percent discussing/planning and 27 percent trialing or implementing. Interestingly, this is mostly happening at the data center, with only 35 percent in trials or implementing data deduplication in remote offices.

Almost two thirds are pursuing replication, with 44 percent discussing/planning and 27 percent in trials or implementing.

And, finally, roughly two thirds are exploring Storage as a Service, with 42 percent discussing/planning and 22 percent in trials or implementing.
FINDING 7: DISASTER RECOVERY

Again echoing our findings from 2007, companies report room for improvement in the area of disaster recovery. In fact, just 35 percent report their DR plan is above average, while 27 percent say it needs work and 9 percent report their DR plan is informal or undocumented.

Of those reevaluating their plan, regulatory influence is the biggest driver, followed by increased management focus and increased importance of IT to the business.

Companies still find that human error is the biggest cause of unplanned downtime, being the culprit 25 percent of the time. Hardware/software failure and power outages follow closely behind.

The top data center DR plan component remains restoring from backup, with 66 percent of the companies mentioning, followed by offsite backup (37 percent) and replication (34 percent).
FINDING 8: GREEN DATA CENTER

Continuing the trend we spotted in 2007, the data center’s focus “being green” was driven primarily by cost issues in 2008. That said, social responsibility is on the rise as a driver.

We asked companies why creating a Green Data Center was important to their workplace. Reducing electricity consumption was mentioned by 54 percent, followed by reducing cooling costs (51 percent) and a sense of responsibility to the community (42 percent).

We then asked what they specifically planned to do within the next 12 months. Again, reducing annual energy costs topped the list at 28 percent, tied with recycling obsolete hardware, and followed by using cleaner power sources (21 percent).

Symantec plans to follow-up with a much more detailed study of the Green Data Center in the first half of 2009.