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Research

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Server Consolidation Is Still a Major Goal, but Not Just for Cost Cutting

John R. Phelps

Interest in server consolidation continues unabated, according to audience survey results from the December 2004 Data Center Conference. Although reducing total cost of ownership is still a major reason for consolidation, it now concerns fewer than 50 percent of the participants.

WHAT YOU NEED TO KNOW

Attendees at the November-December 2004 Gartner Data Center Conference confirmed that interest in server consolidation is continuing unabated. Reducing total cost of ownership remains a major reason for consolidation, but other reasons, especially control of server sprawl to provide better system management, are becoming important. More organizations are seeing the reality that staff savings do not always translate to the bottom line. They are finding that internal politics must be understood and addressed to avoid a negative impact on consolidation. Finally, companies are finding that not all server consolidations will save money.

EVENT

Event Facts

Gartner's 23rd annual Data Center Conference in November-December 2004 attracted more than 1,600 attendees. As part of the conference, electronic polling devices were made available, with selected questions inserted in each presentation. Server consolidation questions were contained in a main tent and track session. Although we recognize that the respondents do not necessarily represent a statistically significant distribution, we believe the results of these polls will be of interest to users. Accordingly, we have compiled the results of the server consolidation questions, along with some general observations and analysis of the results. Many of the questions had been asked in previous years to determine developing trends.

Analysis

In the main tent introduction session, a general question was posed about server consolidation projects and if they were being undertaken. This was the fourth consecutive year that we asked attendees this question. It was also asked in a more general form in a survey at the 1998 Gartner Data Center Conference. This comparison of the five years (see Table 1) shows that server consolidation continues to be a major issue for the data center.

Table 1. Do You Currently Have a Server Consolidation Project Under Way?

	1998	**2001**	**2002**	**2003**	**2004**
1. No plans to consolidate servers	25%	6%	8%	6%	7%
2. Want to consolidate servers and we are looking into doing a consolidation	45%	25%	25%	28%	28%
3. Have a consolidation project under way	30%	69%	67%	61%	60%
4. Have already done a server consolidation and have no plans for any more (Only asked in 2003 and 2004)	—	—	—	5%	5%
Total Respondents	**100+**	**116**	**475**	**518**	**592**

Source: Gartner Research (December 1998, 2001, 2002, 2003, 2004)

The results indicate the continued interest in, and work on, server consolidation. By 2001, server consolidation became a major concern and effort. Since then, we have seen interest and work on server consolidation continue unabated, with only 6 percent to 8 percent of the respondents not concerned about performing some form of consolidation. In 2003 and 2004, we formally asked about how many respondents had completed a consolidation and had no plans for any more work on server consolidation. Five percent responded that they were finished. The previous years had shown less than 1 percent through informal questioning.

A very interesting result is the fairly steady state observed in "looking at consolidation," "have a project under way," and "finished and will do no more." We believe that the fairly steady state for "finished and no more" and "have a project under way" is because consolidation is still not a normal day-to-day process and new workloads must be consolidated as the respondents move into the environment. New applications and middleware are still not being designed for a consolidated environment. It is important to understand that server consolidation is a continuing, not a short-term project. Also, the somewhat steady state for having a project under way is because many have completed part of the consolidation (logical and physical), but not yet all the rationalization desired because of the slowly maturing technology. The fact that "looking at consolidation" has not changed much during the past four years reflects the initial planning that must take place and the need to overcome political inertia.

Table 2 shows the results for the question: "Why is your enterprise interested in server consolidation?"

Table 2. Why Is Your Organization Interested in Server Consolidation?

	2003	**2004**
1. Only reason is to reduce total cost of ownership (TCO)	11%	5%
2. Mainly to reduce TCO, but other reasons also	45%	43%
3. To gain control and manage the systems better (security, availability, disaster recovery)	36%	44%
4. To provide better service and agility	6%	7%
5. Other	2%	2%
Total Respondents	**175**	**103**

Source: Gartner Research (December 2003, 2004)

Although the hope of reduced TCO remains a major reason for server consolidation, in 2004 it slipped below the 50 percent mark. We have seen a growing realization that server consolidation provides more than just the possibility of TCO savings. The desire to control server sprawl to better manage systems (the No. 2 reason for server consolidation) grew from 36 percent in 2003 to 44 percent of the respondents in 2004, a significant jump that came mostly from the TCO-only category. Stopping server sprawl to gain better control of the IT infrastructure could very well surpass TCO savings as the major reason for server consolidation in 2005. In today's dynamic environment, the need to maintain agility and provide better service levels has begun to show up as a server consolidation benefit as companies look at the move toward a real-time infrastructure. With that in mind, it is important to consider that it is possible to consolidate too much in the pursuit of short-term TCO goals and, in doing so, adversely affect strategic service levels or system agility goals. The growth in interest in non-TCO benefits also reflects the improving economy, so that enterprises can move beyond simply reduced-TCO goals. Organizations working on server consolidation projects should always look to include non-TCO benefits as part of their justification.

Table 3 shows the results for the question: "Where will savings come from after performing a server consolidation?"

Table 3. What Is the Major Area for Savings After a Server Consolidation?

	2002	**2003**	**2004**
1. Staffing	42%	36%	31%
2. Hardware	27%	38%	40%

3. Software	19%	13%	15%
4. Facilities	12%	13%	14%
Total Respondents	**188**	**197**	**108**

Source: Gartner Research (December 2002, 2003, 2004)

These polling results are mainly consistent with results reported to us as we talk with clients, except for the large number who believe software savings will be the major savings area. We have found that software cost is normally an area that is prone to negative values because of capacity-based licensing. The results do show there has been some lowering of expectations for software savings from 2002. The major differences from 2002 to 2003 to 2004 were in the areas of staffing and hardware savings. The growth in the number of respondents saying hardware savings will be the major area for savings stems from the realization that staffing and software savings are not as easy to achieve, and hardware savings are easier to assess and measure. Partitioning, which in this time frame has been the first choice for many companies, provides more savings in hardware resources and fewer savings in staffing as the number of operating system environments to administer is usually not reduced. There also is the growing realization that, although lower staffing levels are possible, this often does not result in bottom-line savings.

To better understand the TCO impact seen so far, we looked at whether savings were being realized and if staffing savings were accruing. Table 4 shows the results for the question: "For those respondents who have a project under way, have you saved money and have you reduced staff?"

Table 4. Respondents With Projects Under Way

	Yes	**No**
Have you saved money?	60%	40%
Total Respondents	80	
Have you reduced staff?	25%	75%
Total Respondents	89	

Source: Gartner Research (December 2004)

We had very interesting results from the question “Have you been able to save money via a server consolidation project?” From Question 3 we see 48 percent of the respondents expect TCO savings to be the reason, or a major part of the reason, for doing a server consolidation. Although server consolidation provides the opportunity to lower IT TCO significantly, the poll indicates that doesn't happen in all cases. We know that some of the 40 percent responding “no” will change their answers to “yes” farther along into their consolidation projects, as they reach a crossover point where they can recover the initial expenses used to conduct the consolidation. We believe the actual number of companies that *will* not save money in the long run will be between 10 percent and 15 percent. This does not mean that a server consolidation should not be done in these cases, because other very worthwhile benefits can still be forthcoming. Proper expectations must be set with upper management for the other benefits vs. bottom-line cost savings.

Because staff savings is felt by many to be a major component of TCO savings (see Question 3), we also asked “Have you been able to reduce the number of employees as a direct result of a server consolidation project?” This produced an interesting result, given that staff savings are usually perceived as the largest or second-largest component of the total savings. Only 25 percent of the respondents actually reduced total head count (thereby saving hard dollars). Although staffing levels are affected by server consolidation, it shows that people who are freed from one area often are shifted to backlogged work, or to new projects that would have required new employees rather than staff terminations. It is important to understand this when predicting hard-dollar savings from a server consolidation. The server consolidation project team must set proper expectations with upper management concerning the true staff savings potential based on the disposition of freed-up staff.

In the presentation, server consolidation using rationalization was defined as decreasing the number of physical servers by combining applications into fewer, larger servers. This can be achieved by partitioning or workload management. With that in mind, we asked the question in Table 5.

Table 5. What Is Your Biggest Concern or Problem Impacting Server Consolidation Using Rationalization?

	2003	2004
1. Internal politics	35%	43%
2. Operating-system workload management solutions are immature	15%	9%
3. Partitioning solutions are immature	9%	5%
4. Independent software vendor (ISV) software pricing	7%	6%
5. ISV support for consolidated environment	5%	9%
6. Software coexistence problems	28%	25%
7. Other	—	2%
Total Respondents	**195**	**106**

Source: Gartner Research (December 2003, 2004)

Most problem areas affecting server consolidation are technical in nature. However, the No. 1 problem we see when talking with clients (and verified by the polling results) is internal politics. Most of these political problems have to do with loss of control, lowering of departmental budget/staff levels, and concerns over security, availability, chargeback and performance. It is crucial to try to address these concerns as part of your initial consolidation planning. Software coexistence continues to be the No. 2 concern. Immature rationalization technology (partitioning and workload management) and ISV problems (support and pricing) round out the major problem areas. The biggest change from 2003 to 2004 is the improvement in the partitioning and workload management technology (24 percent moving to 14 percent) with internal politics as the leading problem area, growing from 35 percent to 43 percent. We believe that the continuing improvements in partitioning and workload management technology will remove them as major problems/concerns within the next two years. During this time frame, internal politics will continue to be the No. 1 problem area, even growing in percentage size.

This research is part of a set of related research pieces. See "Data Center Conference Interactive Polling Results" for an overview.

REGIONAL HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
U.S.A.
+1 203 964 0096

European Headquarters
Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Asia/Pacific Headquarters
Gartner Australasia Pty. Ltd.
Level 9, 141 Walker Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

Japan Headquarters
Gartner Japan Ltd.
Aobadai Hills, 6F
7-7, Aobadai, 4-chome
Meguro-ku, Tokyo 153-0042
JAPAN
+81 3 3481 3670

Latin America Headquarters
Gartner do Brazil
Av. das Nações Unidas, 12551
9° andar—World Trade Center
04578-903—São Paulo SP
BRAZIL
+55 11 3443 1509