Gartner

Industry Research

Publication Date: 23 December 2008 **ID Number: G00163868**

U.S. Integrated Delivery System IT Budget and Staffing Survey, 2008

Vi Shaffer

Gartner conducts periodic surveys of the IT spending and staffing levels of U.S. integrated delivery systems (IDSs). This report details the results of Gartner's 2008 survey and analyzes key findings.

Key Findings

- 2009 will be a particularly challenging year for IT departments. They are stretched thin and managing substantially higher budgets, larger user communities and broader application responsibilities without proportionate increases in staff.
- IT department operating budgets as a percentage of IDS total have more than doubled in larger IDSs to more than 6% in the 2008 survey compared with 2003. Smaller IDS IT budgets, though, have had smaller growth as a percentage of IDS operating budget, just 30% since 2003 to about 3.6%.
- IT staffing as a percentage of total IDS full-time equivalents (FTEs) has not grown proportionate to the overall increase in IT as a percentage of operating budgets, rising to a mean of 2.3% from 1.9% in 2003.
- Three-quarters of large IDS CIOs and one-third of smaller and midsize IDSs have either transitioned or expect to move clinical engineering and biomedical device management under the office of the CIO soon. It has already transitioned in about 23% of surveyed IDSs.

Recommendations

- With the current economic concerns and tighter capital constraints, CIOs need to focus on careful cost management while advancing service and satisfaction levels.
- With the growth in share of IDS spending comes higher expectations for business value from IT and effectiveness of IT operations. CIOs need to ensure that planning, IT governance and manager maturity is keeping pace with growing size and complexity.
- CIOs should improve their domain knowledge and plan for tighter collaboration and eventual ongoing management responsibility for clinical engineering and biomedical equipment technicians in the IT department.

TABLE OF CONTENTS

LIST OF TABLES

Gartner

LIST OF FIGURES

STRATEGIC PLANNING ASSUMPTION

This document was revised on 8 January 2009. For more information, see the Corrections page on gartner.com.

By 2012, the average IT department percentage of total U.S. IDS operating expense will rise to between 6.2% and 7.25% as the routine use of core clinical applications by both physicians and nurses becomes a standard of care.

ANALYSIS

1.0 Introduction

The goal of Gartner's IDS IT staffing and budget study is to capture changing patterns of IT investment and spending in the healthcare provider industry. These results present sample measurements of key variables, including current operating and capital budgets as well as IT department staffing levels relative to IDS totals.

This data was collected before the recent volatility in the U.S. capital and debt markets. We conclude that, on average, IDS capital will be more constrained and operating budgets more conservative for 2009 than the expectations voiced at the time of this survey. The impact is expected to vary, based on localized economic and employment conditions, but will be severe in some cases.

1.1 Criteria for Inclusion in the IDS Survey

The profile of care delivery organizations in the U.S. has changed significantly in the past decade. Many hospitals have been combined into multihospital organizations and have expanded aggressively in certain areas of ambulatory and home health services. Gartner refers to these organizations as IDSs. For the purposes of our research, an IDS is characterized as an organization that:

- Delivers a vertical array of services, such as emergency room and in-patient hospital care, physician, laboratory, rehabilitation, home health, ambulatory surgery or radiological services.
- Operates as an IDS in the U.S. (noting that some IDSs also operate facilities outside the U.S.).
- Has a minimum of two acute-care hospitals, 200 acute-care hospital beds and a minimum of $200 million in annual patient revenue as of the study time frame.
- May be either public or private, and either for-profit or not-for-profit. However, federal government-operated facilities, such as the U.S. Military Health System and the U.S. Veterans Health Administration, were excluded from this study.

A total of 40 IDSs across the U.S. participated in the most recent edition of the study, which was conducted in the second quarter of 2008. The majority of responding individuals were CIOs.

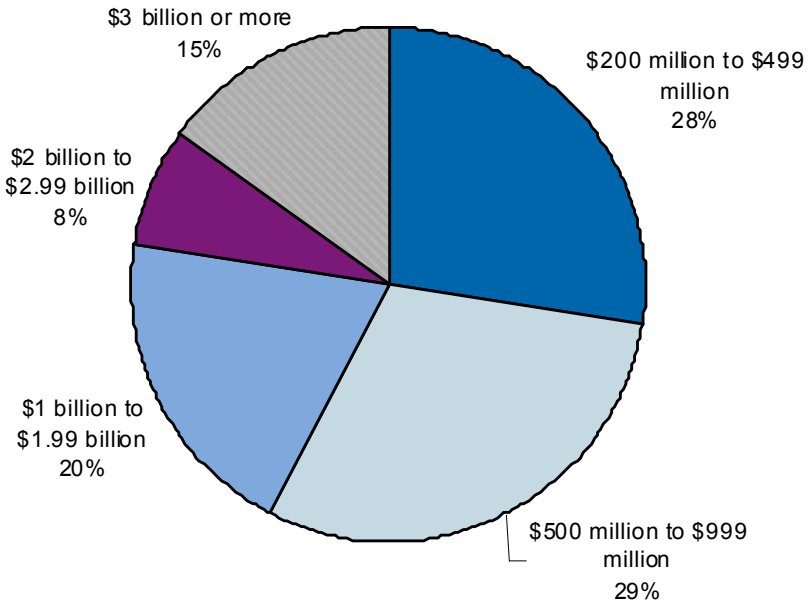
1.2 Characteristics of Participating IDSs

The characteristics of IDSs vary considerably from one organization to the next. Participating organizations represented the range of organization size: 43% had more than $1 billion in patient revenue, 29% had from $500 million to $999 million, and 28% from $200 million to $499 million

(see Figure 1). They varied in the number of total acute-care hospitals: 66% had two to four hospitals, 13% had five to nine hospitals, 8% had 10 to 19 hospitals, and 13% owned 20 to 99 hospitals (see Figure 2).

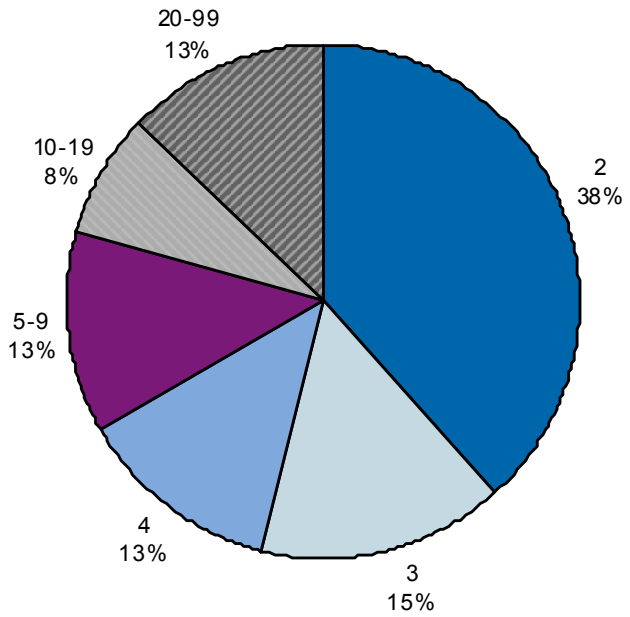
The vast majority (90%) operated both physician offices and ambulatory clinics, while nearly three-quarters (72.5%) operated home health or hospice services. Just under half (42.5%) operated some kind of subacute long-term residential care facility (see Table 1). The number of total IDS employees varied widely, generally proportionate to patient revenue. The mean number of total IDS employees was just over 10,000, with mean employment size by patient revenue category of about 19,100 employees (more than $1 billion), 5,000 employees ($500 million to $999 million) and 3,200 employees ($200 million to $499 million; see Table 2).

Figure 1. IDS Study Participants by Patient Revenue



Source: Gartner (December 2008)

Figure 2. IDS Study Participants by Number of Acute-Care Hospitals Owned



Source: Gartner (December 2008)

Table 1. Types of Nonhospital Facilities in Participating IDSs

	Percentage of Participating IDSs That Own Facilities of This Type
Home Health or Hospice Organizations	72.5%
Long-Term Subacute Residential Care Facilities	42.5%
Physician Offices	90.0%
Ambulatory Clinics	90.0%

Source: Gartner (December 2008)

Table 2. Distribution of FTEs Among IDSs by Revenue Class

No. of IDS Employees	All IDSs	$200M-$499M	$500M-$999M	$1B or More
<1,000	2.5%	9.1%	-	-
1,000-4,999	40.0%	63.6%	58.3%	11.8%
5,000-9,999	32.5%	27.3%	41.7%	29.4%
10,000 or More	25.0%	-	-	58.8%
Mean	**10,484**	**3,186**	**5,008**	**19,071**

Source: Gartner (December 2008)

1.3 State of Clinical Systems Automation in Participating IDSs

During this decade, most U.S. IDSs have focused substantial attention on clinically related IT investments, including substantial investments in computer-based patient record (CPR) systems. These investments have substantial consequences not only for software acquisition and maintenance, but also for infrastructure, data center operations for business continuity and disaster recovery, as well as support for an expanded clinical user community dependent on IT for its critical work. In 2008, we have captured general information about the adoption of clinical automation in the surveyed organizations to examine the potential impact of these applications on IT spending and staffing. Survey participants were asked several questions related to the use of clinical systems.

IDSs varied significantly in their level of use of electronic nursing documentation, physician computer-based order entry, and electronic physician documentation. About two-thirds of organizations had nurses routinely documenting care in computer-based patient records (CPRs) as shown in Table 3.

Percentages were far lower when it came to physician use of systems (see Tables 4 and 5) — about half that of nursing documentation. Only 30% of organizations had most physicians routinely placing inpatient orders by computer, and use went down with the diminishing size of the organization. Nearly half (47.1%) of large IDSs (those with more than $1 billion in patient revenue) reported that 76% to 100% of physicians routinely used computer-based physician order entry (CPOE), while only 9.1% in the small IDS category ($200 million to $499 million in revenue) had achieved this level. Overall, more than two-thirds of IDSs with less than $1 billion in patient revenue reported no current use of CPOE. Note that most organizations were either in the low- or high-penetration categories (see Table 4), suggesting that once CPOE implementation is under way, IDSs try not to linger in a hybrid state in their hospitals.

Physician documentation via CPR (see Table 5) was the lowest in use, with less than one-quarter (22.5%) of IDSs reporting routine use by more than three-quarters of their physicians. Again, penetration varied by size of IDS, with IDSs over $1 billion having the highest penetration (35.3% with 76% to 100% of physicians routinely documenting electronically), but only 16.7% of physicians in IDSs in the $500 million to $999 million range and just 9.1% in the smallest category of IDS.

Table 3. Percentage of Hospital-Based Nurses Routinely Documenting Care in a CPR at IDSs by Revenue Class

Percentage of Nurses Documenting Care	All IDSs (Mean)	$200M-$499M	$500M-$999M	$1B or More
0%	2.5%	-	8.3%	-
1% to 25%	17.5%	9.1%	25.0%	17.6%
26% to 50%	7.5%	-	-	17.6%
51% to 75%	7.5%	18.2%	8.3%	-
76% to 100%	65.0%	72.7%	58.3%	64.7%

Source: Gartner (December 2008)

Table 4. Percentage of Physicians Who Routinely Place In-Patient Orders Using CPOE by IDS Revenue Class

Percentage of Physicians Using CPOE	At All IDSs (Mean)	$200M-$499M	$500M-$999M	$1B or More
0%	50.0%	72.7%	66.7%	23.5%
1% to 25%	20.0%	18.2%	8.3%	29.4%
26% to 50%	-	-	-	-
51% to 75%	-	-	-	-
76% to 100%	30.0%	9.1%	25.0%	47.1%

Source: Gartner (December 2008)

Table 5. Percentage of Physicians Routinely Documenting Care in Electronic Medical Records by IDS Revenue Class

Percentage of Physicians Using Records	All IDSs (Mean)	$200M-$499M	$500M-$999M	$1B or More
0%	15.0%	27.3%	8.3%	11.8%
1% to 25%	35.0%	36.4%	33.3%	35.3%
26% to 50%	15.0%	27.3%	8.3%	11.8%
51% to 75%	12.5%	-	33.3%	5.9%
76% to 100%	22.5%	9.1%	16.7%	35.3%

Source: Gartner (December 2008)

1.4 Scale of Total Physician Support

IDSs often work with groups of physicians who may not be employed by the organization but are credentialed to operate in IDS facilities or are physicians-in-training who also use IT systems. To further understand the support implications of physician use, we also captured approximately how many of each of the following types of physician users the participant's IT department supports: Employed physicians, affiliated physicians, and medical students/physicians-in-training or other physicians not otherwise included. When benchmarking among organizations, ratios comparing total enterprise FTEs to IT department FTEs may not adequately account for this additional requirement, making it more difficult to create true apples-to-apples comparisons.

Table 6. Number of Employed and Other Physicians Supported by IT

Type of Physician	All IDSs (Mean)	$200M-$499M (Mean)	$500M-$999M (Mean)	$1B or More (Mean)
Employed Physicians	498	105	470	825
Affiliated Physicians	982	188	700	1854
Medical Students/Physicians-in-Training/Other	151	111	157	179

Source: Gartner (December 2008)

1.5 Changes in Functions Reporting to the CIO

In the 2008 survey, we began to document and ask for projections of certain changes to the overall responsibilities of the CIO (see Tables 7 and 8). As Gartner has observed in our research into the chief medical informatics officer (CMIO) or the chief clinical informatics officer (CCIO) role, this function is becoming more common among IDSs. The majority of IDSs (55%) reported having a CMIO reporting to the CIO, with an additional 8.6% projecting that they will add or move this role into the IT organization within 24 months.

We have predicted elsewhere that more CMIOs and CCIOs will begin to move outside of IT, primarily into the office of the chief medical officer in coming years as implementations are completed (see "Predicts 2008: Greater IT Use Will Change Roles and Drivers in Healthcare Delivery Organizations") As the CMIO role evolves toward the management of medical decision making, care quality and effectiveness, it creates a natural attraction force in medicine (see "Findings from the Gartner-AMDIS Survey of Chief Medical Information Officers").

As Gartner first predicted in 2005, the survey data confirms a trend toward integration of clinical engineering and biomedical device management into the CIO's organization. Slightly less than one-quarter (22.5%) of clinical engineering departments reported in to CIOs in this survey, with no significant difference by size of IDS. However, another 28.6% reported the intent to move this function under the CIO in the next 24 months, including a striking 47% of IDSs with more than $1 billion in patient revenue.

This indicates that as many as three-quarters of large IDSs may have combined IT and biomedical device management by early in the next decade. The attraction forces here include dependency of medical devices on networks, security issues and interoperability with CPR systems, as well as potential synergies in inventory and help desk systems and the need for coordinated support of clinical users.

This is a significant new challenge and opportunity for CIOs to leverage their management skills. This also creates additional career opportunities for clinical engineering and biomedical

equipment personnel. However, many CIOs and CTOs still understand very little about this domain and will need to increase their understanding of requirements and regulations, as well as rely on strong clinical engineering directors who are enthusiastic about the potential of this combination (see "Case Study: Duke University Health System Benefits From Consolidating Enterprisewide Clinical Engineering Within IT" and "Collaboration Enables Successful IT-Clinical Engineering Integration at Orlando Regional Healthcare").

Table 7. Functions Reporting to Participant Organization CIOs

	All IDSs	$200M-$499M	$500M-$999M	$1B or More
Clinical Engineering/Biomedical Equipment Technicians	22.5%	18.2%	25.0%	23.5%
Telecom/Telephone Service Technicians	97.5%	100.0%	91.7%	100.0%
CMIO/Staff	55.0%	36.4%	66.7%	58.8%
None of These	2.5%	-	8.3%	-

Source: Gartner (December 2008)

Table 8. Functions Planned to Add or Move Into IT Organization Within 24 Months

	All IDSs	$200M-$499M	$500M-$999M	$1B or More
Clinical Engineering/Biomedical Equipment Technicians	28.6%	18.2%	11.1%	46.7%
CMIO/Staff	8.6%	9.1%	-	13.3%

Source: Gartner (December 2008)

2.0 IT Department Staffing

IT as a percentage of the organization's total FTEs averages 2.1%, with small IDSs spending, on average, less than IDSs earning more than $500 million in revenue. (For comparison purposes among IDSs, we exclude clinical engineering and biomedical staff from IT department FTE totals.) Compared with data from Gartner's 2003 survey, the average IT staffing as a percentage of the IDS total has grown at a much faster rate than smaller ones (see Table 9), which we attribute in part to the higher penetration of advanced clinical systems.

In terms of IT department staffing, especially given the wide variability in clinical system penetration, it is not possible to conclude from the survey data whether any economies of scale are being realized by large IDSs in terms of IT staffing for support of similar levels of IT applications and infrastructure. Note that the 2003 and 2008 data are not purely comparable, as the two surveys did not include exactly the same IDSs. Even when comparing the same IDS over time, there has been so much merger and acquisition activity, new-construction activity and expansion of ambulatory services that the demands on any organization's IT department may have changed significantly. Thus, percentages and ratios, rather than the actual number of staff or spending levels, are more appropriate to use when comparing IDSs.

In terms of the functions of IT staffs in organizations, on average, nearly half (49%) of the IT staff is made up of programmers and analysts, with a far smaller percentage of the staff of small IDSs (21%) made up of these functions (see Figure 3), while a notably higher proportion of staff in small IDSs is made up of telecommunications/networking professionals; 17% is the smallest category, 13% in midsize IDSs, and just 4% in IDSs earning more than $1 billion.

The percentage of staff categorized as management is fairly consistent among the various sizes of IDSs, with a mean of 17%. Comparing 2008 staffing by function to that of 2003, the most apparent difference is the degree to which programmer and analyst functions have grown as a percentage of the total: 49% in 2008 compared with a mean of 39% in 2003. Larger IDSs classified a mean of 53% as programmers/analysts in 2008 compared with 39% in 2003), whereas smaller IDSs, on average, had a very similar percentage of staff allocated to these functions in 2008 (31%) and 2003 (33%), as shown in Figure 4.

Gartner projects that the amount of custom development and programming will increase in the next few years, particularly for portals and other specialized applications that integrate with enterprise systems.

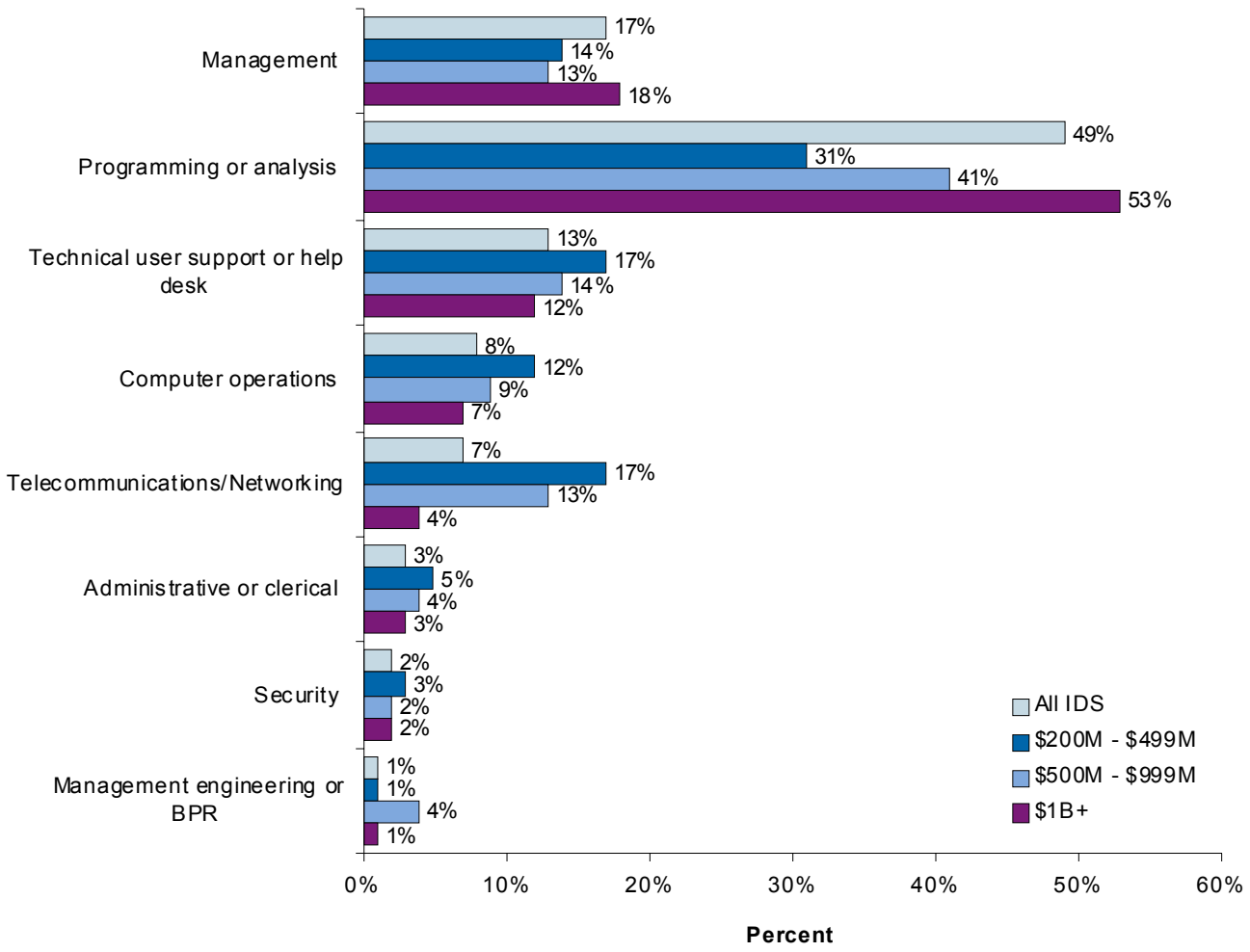
The demands of clinical system support and programming, together with the need for clinical informatics and the complexity of clinical content and decision support management, may make it increasingly difficult for smaller IDSs (and certainly for smaller stand-alone community hospitals) to keep up. This is also one facet contributing to the appeal of remote hosting.

Table 9. IT FTEs as a Percentage of Total Organization FTEs, 2008 Survey Compared With 2003

	2003	2008	Change
$200M-$499M	1.8%	1.9%	6%
$500M-$999M	1.9%	2.3%	21%
$1B or More	1.9%	2.2%	16%
All IDSs (Mean)	1.9%	2.1%	11%

Source: Gartner (December 2008)

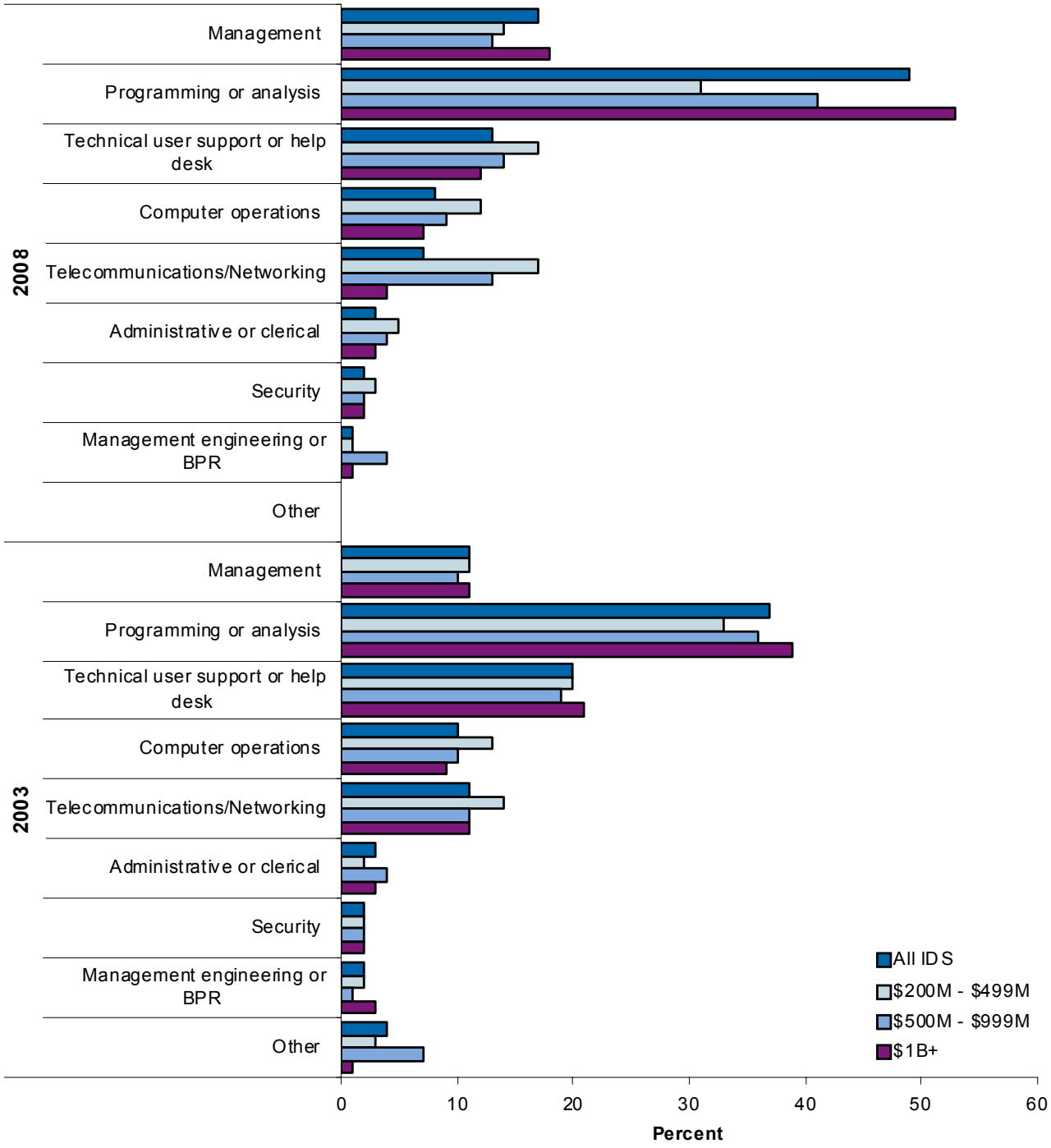
Figure 3. Percentage Breakout of IT Staff by Category, 2008



BPR = business process re-engineering

Source: Gartner (December 2008)

Figure 4. Comparison of IT Staffing by Function, 2003 and 2008



BPR = business process re-engineering

Source: Gartner (December 2008)

Gartner

3.0 IT Capital and IT Department Operating Budgets

3.1 IT Capital Budget

Table 10 shows IDSs' average IT capital budgets as a percentage of total organization capital in 2008 and the spread of percentages, from less than 10% to 30% or more. The mean percentage of the capital budget allocated to IT spending is 17.3% across all IDSs, with a higher allocation among small IDSs (22.2%) than among midsize (14.4%) or larger ones (16%).

Table 11 contrasts this year's survey data with our sampling of IDSs in 2003. In all size categories, IT capital budgets as a percentage of IDS total actually were smaller than the 2003 levels. The capital budget differs from operating expenses in that it can be heavily influenced by such factors as particularly heavy investment in new facility construction to meet growing/changing demand, to capture new markets or to replace aging physical plant. Although capital for IT is a critical part of most new construction, it is more difficult to discern pure growth trends in IT capital spending as a percentage of the total. Obviously, though, capital for IT continues to be is a very significant component of IDS totals, and, thus, shares the pain of the current constrained capital environment.

Figure 5 and Table 12 display breakouts of IT capital expenditures by category. Given the fundamental similarity of functions from one IDS to another, the industry has typically gravitated toward packaged software applications for both core and niche applications. Thus, total capital allocated to software purchases is the highest-spending category across all sizes of IDSs surveyed, averaging 37.4% of the total, with data processing equipment (24.7%) and communications equipment (14.2%) receiving the next-highest allocations. Large IDSs are, on average, spending a higher proportion of their capital on software than are small ones, 42.6% versus 30.1%, while small IDS capital spending is more proportionately going for communications equipment, nearly one-quarter of the their capital, compared with just 9.9% of the total for large IDSs.

Table 10. IT Capital Budget as a Percentage of Total Capital Budget, 2008 Survey

	All IDSs	$200M-$499M	$500M-$999M	$1B or More
IT Is Less Than 10% of IDS Capital Budget%	25.0%	20.0%	20.0%	31.3%
10% to <20%	22.2%	10.0%	40.0%	18.8%
20% to <30%	30.6%	20.0%	30.0%	37.5%
30% or More	22.2%	50.0%	10.0%	12.5%
Mean	**17.3%**	**22.2%**	**14.4%**	**16.0%**

Source: Gartner (December 2008)

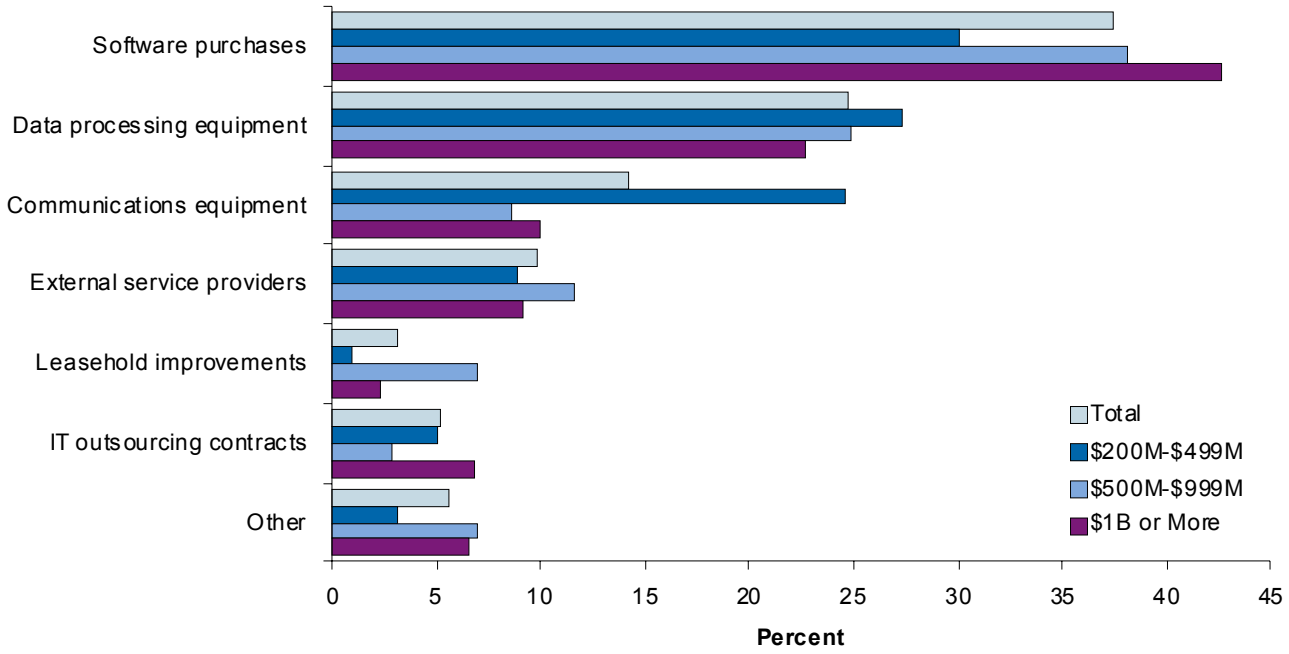
Table 11. IT Capital Budget as a Percentage of IDS Total Capital Budget, 2008 Compared With 2003

	2003	2008	2008 as a Percentage of 2003
$200M-$499M	27.9	22.2	80%
$500M-$999M	26.1	14.4	55%
$1B or More	18.5	16.0	86%

	2003	2008	2008 as a Percentage of 2003
All IDSs (Mean)	23.4	17.3	74%

Source: Gartner (December 2008)

Figure 5. Breakout of Capital Budget by Category, 2008 Survey



Source: Gartner (December 2008)

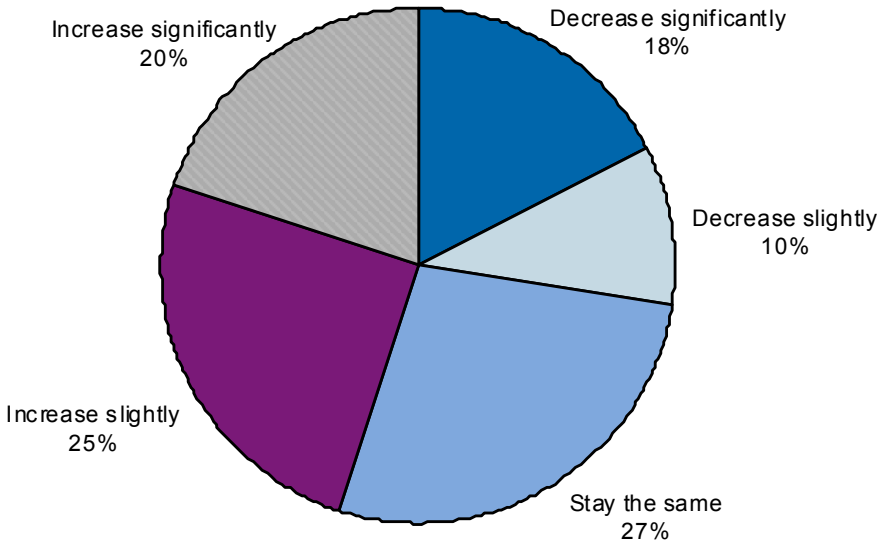
Table 12. Detailed Breakout of IT Capital Allocation by Category, 2008

	All IDS	$200M-$499M	$500M-$999M	$1B or More
Software purchases	37.4%	30.1%	38.1%	42.6%
Data processing equipment	24.7%	27.3%	24.9%	22.7%
Communications equipment	14.2%	24.6%	8.6%	9.9%
External service providers	9.8%	8.9%	11.5%	9.2%
Leasehold improvements	3.2%	0.9%	7.0%	2.3%
IT outsourcing contracts	5.2%	5.0%	2.9%	6.8%
Other	5.6%	3.2%	6.9%	6.5%

Source: Gartner (December 2008)

As of the second quarter of 2008, IDSs were quite varied in their expectations for the next year's IT capital budgets, with 45% expecting the budget to increase significantly or slightly, 28% expecting a significant or slight decrease, and 27% expecting the capital budget to remain the same (see Figure 6). Based on subsequent discussions with IDS CIOs and recent surveys of healthcare CFOs, IT departments are now experiencing more constraint on new capital spending, ranging from a small to a quite severe impact.

Figure 6. Expectations for Next Year's IT Capital Budget



Source: Gartner (December 2008)

3.2 IT Operating Budget

Table 13 displays the IT department budget as a percentage of the IDS total operating budget (note that these figures include depreciation expense). The mean IT operating budget as a percentage of the total IDS operating budget was 5.5% in this year's survey, but ranged from a mean of 3.57% in IDSs with patient revenue of $200 million to $499 million, to 6.45% and 6.19%, respectively, for IDSs with patient revenue of $500 million to $999 million, and more than $1 billion. There is little doubt that the level of investment in advanced software applications, such as clinical systems (see Tables 3 through 5), impacts this. The vast majority of IT expenditures across all sizes of IDS are directed by the organization's IT department, on average 96.2% (see Table 14).

The breakout of IT operating budget by category is displayed in Figure 7 and Table 15. Staff and related expense continue to be the top category of expenditure across all IDSs, averaging about 43% of the total. Equipment and software make up the second-largest category of spending, averaging about 29% of the total.

In terms of expectations for next year's budget, most respondents expected their IT operating budgets to increase significantly (15%) or slightly (39%) for next year (see Figure 8). About 33% expected the budget to stay the same, while just 5% expected a slight decrease and 8% expected a significant decrease in budget. Note that this was before the recent headlines about the economic downturn. Gartner expects that IDS operating budgets will, on average, be somewhat more constrained than expected at the time of the survey, varying by the overall financial picture and projections of the IDS.

Table 13. IT Department Operating Budget as a Percentage of the Total, 2008 and 2003 (Mean by Category)

	2003	2008	2003-2008 Growth
$200M-$499M	2.60%	3.57%	37%
$500M-$999M	3.20%	6.45%	102%
$1B or more	3.00%	6.19%	106%
Mean of All IDSs	2.90%	5.50%	90%

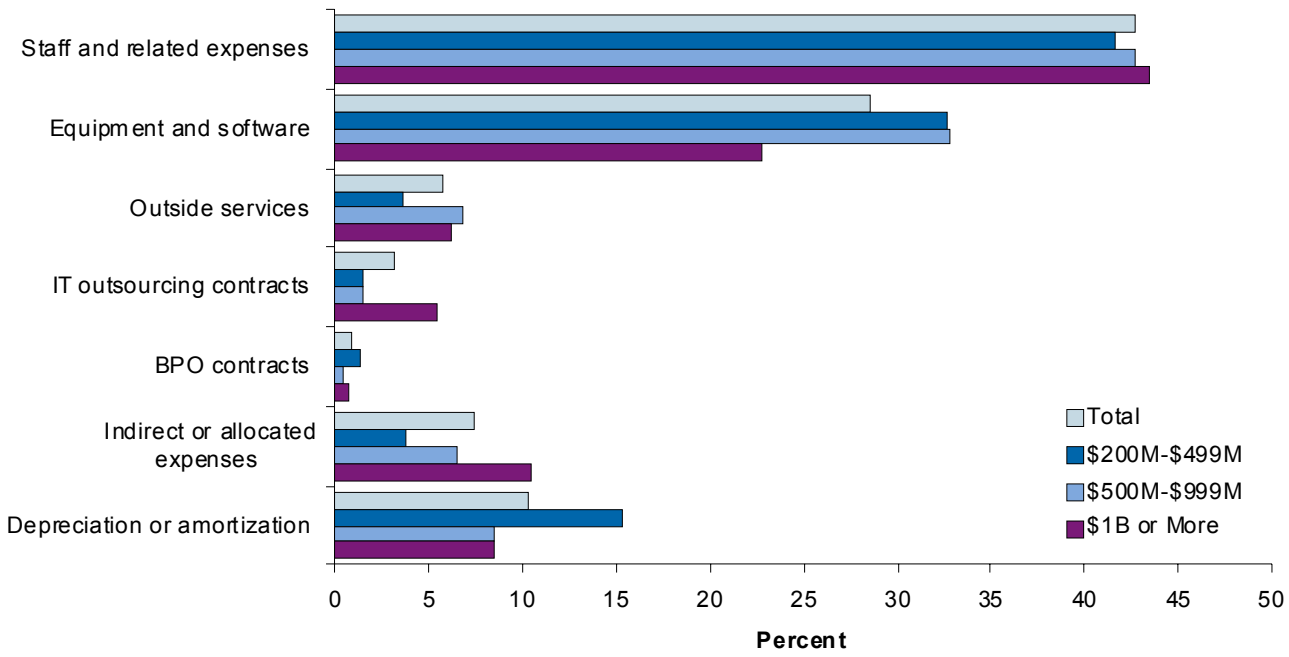
Source: Gartner (December 2008)

Table 14. Mean Percentage of the Organization's IT Expenditures Directed by the IT Department

	All IDSs	$200M-$499M	$500M-$999M	$1B or More
Mean	96.2%	96.8%	94.6%	96.8%

Source: Gartner (December 2008)

Figure 7. Mean IT Operating Budget by Size and Category



BPO = business process outsourcing

Source: Gartner (December 2008)

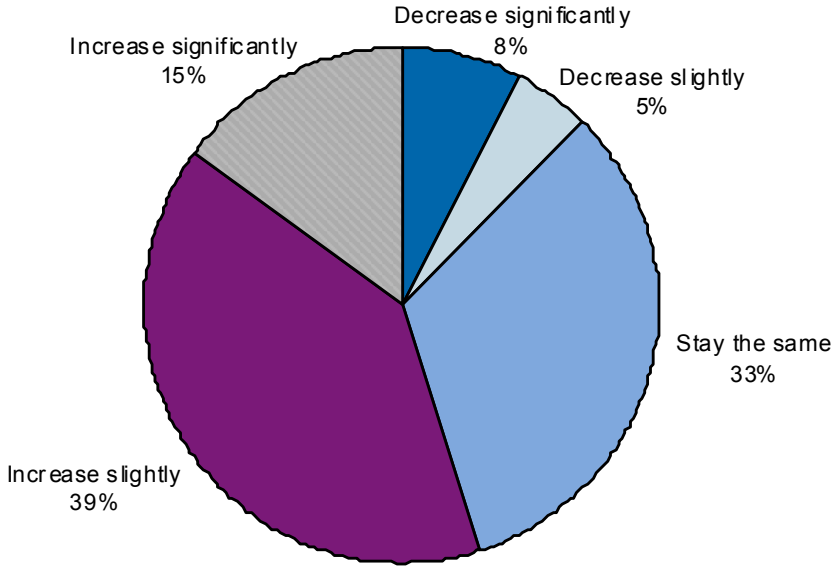
Table 15. IT Operating Budget by Category

	All IDSs	$200M-$499M	$500M-$999M	$1B or More
Staff and related expenses	42.7%	41.6%	42.7%	43.5%
Equipment and software	28.5%	32.7%	32.8%	22.8%
Outside services	5.7%	3.7%	6.8%	6.2%
IT outsourcing contracts	3.2%	1.5%	1.5%	5.5%
BPO contracts	0.9%	1.3%	0.5%	0.8%
Indirect or allocated expenses	7.5%	3.8%	6.5%	10.5%
Depreciation or amortization	10.4%	15.3%	8.5%	8.5%
Other	1.2%	0.1%	0.7%	2.2%

BPO = business process outsourcing

Source: Gartner (December 2008)

Figure 8. Expectations for FY09 IT Operating Budget



Source: Gartner (December 2008)

4.0 Observations and Recommendations

The relationship of IT to business and clinical processes, as well as to clinicians and patients, is changing fundamentally. IT investments and IT department expenditures have been growing as IDSs try to harness technology's potential to improve quality and gain process efficiencies. At the same time, we also see many U.S. health systems (and public and private healthcare delivery organizations in other countries) trying to move from a more federated model to a more cohesive enterprise operating and shared-service model for economies of scale and effectiveness. We call this "seeking systemness," an effort in which IT's contributions are particularly high.

These forces have raised the stakes for IT departments along with the rise in their share of the operating-cost pie. In light of the current economic challenges and constrained access to capital on top of the persistent shortage of funding and staff that most healthcare providers face, 2009 will be a visibly challenging year for IT departments. This could put the brakes on progress toward the pervasive use of CPRs but is an opportunity for CIOs to focus on improved management.

Gartner — having the advantage of working with many healthcare organizations — sees too few strategic and operational plans that explain clearly and specifically how IT investments will yield the superior results the organization desires. It is also fairly rare to see an IDS plan that articulates how the IT department will truly distinguish itself.

- CIOs need to ensure that IDS and IT department planning, governance, structure, staffing and management talent keep pace with the organization's growing dependency. on IT for critical clinical decisions and processes. IT management can often benefit from more attention to regular meaningful communication with stakeholders, end users and IT staff — about IT priorities, project status, service levels, improvement efforts and accomplishments.

- CIOs and other executives and senior management should spend more time assessing, communicating and obtaining the business value from new projects. Organizations should take the opportunity of constrained new capital to focus on extracting higher levels of value from existing revenue cycles, supply chains, human capital management and clinical systems. Strategic applications and technology vendors can enhance customer satisfaction and loyalty in the challenging year ahead by strengthening their documentation and disseminating best practices in the use of applications and management of technology.

- CIOs need to plan for effective integration of clinical engineering into IT by driving tighter joint planning and communication and improving their familiarity with this important domain.

- CIOs need to focus on the "blocking and tackling" — achieving excellence in IT service levels and user satisfaction.

RECOMMENDED READING

"Gartner's Top Twelve Actions for the Healthcare CIO, 2008"

"A Benchmark of Healthcare IT Governance and Approaches for Improvement, 2008"

"Collaboration Enables Successful IT-Clinical Engineering Integration at Orlando Regional Healthcare"

"Case Study: Duke University Health System Benefits From Consolidating Enterprisewide Clinical Engineering Within IT"

"Findings From the Gartner-AMDIS Survey of Chief Medical Information Officers"

"Care Delivery Organizations Need to Increase Their Infrastructure Intelligence"

"Q&A for Remote Hosting"

"Make IT Demand Governance Easier: Use Project Portfolio Analysis"

"Integrate EA and IT Governance Initiatives"

"Leadership Development Module 4, Chapter 7: Stakeholder and Relationship Management"

This research is part of a set of related research pieces. See "Roundup of Healthcare Provider Research, 2Q09" 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

Gartner