

Information Technology in Long Term Care  
– State of the Industry  
*Multi-Facility Research Report*

April 2007

*Conducted by:*



MAESTRO  
STRATEGIES

*On Behalf of:*

ahca<sup>®</sup>

American Health Care Association

ncal<sup>®</sup>

National Center For Assisted Living

# Executive Summary

AHCA multi-facility members participated in research regarding the current state of Long Term Care Information Technology (IT) Strategy. The results, shown in detail, cover ITs impact on organizational strategy, address how long term care organizations are planning for and managing IT, define level of capital and operating budgets dedicated to IT, and explore various operating models for IT. The report also identifies in detail the applications facilities have installed and own, the applications respondents are planning to buy and the applications long term care organizations are not planning to buy.

These purchasing trends are summarized below:



## Automation Levels

	What's "In" – Top Implemented Applications	What's "Hot" – Top Planned Purchases	What's "Not" – Not Implemented/ Owned and No Plans to Buy
Clinical	<ul style="list-style-type: none"> <li>▪ MDS</li> <li>▪ Care and Service Plans</li> <li>▪ Assessments</li> </ul>	<ul style="list-style-type: none"> <li>▪ EHR/EMR</li> <li>▪ ePrescribing</li> <li>▪ eMAR/eTAR</li> </ul>	<ul style="list-style-type: none"> <li>▪ Care and Service Plans</li> <li>▪ Rehabilitation</li> <li>▪ Meals Processing</li> </ul>
Financial Planning	<ul style="list-style-type: none"> <li>▪ GL/AP/Payroll</li> <li>▪ Patient Billing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Training</li> <li>▪ Web-based Policies &amp; Procedures</li> <li>▪ Survey</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bond Accounting</li> <li>▪ Fixed Assets</li> </ul>
Resident Services	<ul style="list-style-type: none"> <li>▪ Resident Billing</li> <li>▪ Care and Service Plans</li> <li>▪ Resident Admissions and Census Management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resident Identification (Barcoding)</li> <li>▪ Marketing</li> <li>▪ Customer Satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Appointment Scheduling</li> <li>▪ Resident Identification (Barcoding)</li> <li>▪ Reservations</li> </ul>
Facilities	<ul style="list-style-type: none"> <li>▪ Preventive Maintenance Management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capital Project Management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Apartment Unit Refurbishing</li> </ul>



*The survey was conducted by Maestro Strategies, LLC an Atlanta based information technology strategy firm on behalf of AHCA's Multi-Facility CEO Group.*

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## Approach

AHCA Multi-facility members were invited to participate in research regarding Information Technology Strategy in Long Term Care. A web based survey was conducted from February 21 through March 21, 2007. Of the 197 members invited, 36 members responded resulting in a 19% response rate.

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## Survey Demographics

The majority of survey respondents are for-profit facilities owning Skilled Nursing Facilities, Rehabilitation, Assisted Living, Short Stay Respite Care and a variety of other types of programs and facilities. Respondents were from all areas of the country: Northeast, Northwest, Southeast, Southwest and Midwest, with slightly more coming from the Midwest. Twelve of the respondents have facilities in both rural and urban areas. Eleven rural, eight suburban and four urban facility respondents were represented.



**Figure 1: Types of Facilities Owned by Respondents**

Company size is demonstrated in the chart below:

Number of Facilities Owned/Operated		Average Number of Residents Per Facility	
Less than 10	23%	25-49	3%
11-30	42%	50-99	50%
31-50	26%	100-149	36%
50-100	3%	150 or more	11%
100 or more	6%		

Forty-one percent of respondents were CEOs. The remaining participants are distributed as follows:



**Figure 2: Respondent's Title**

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## Information Technology Strategy

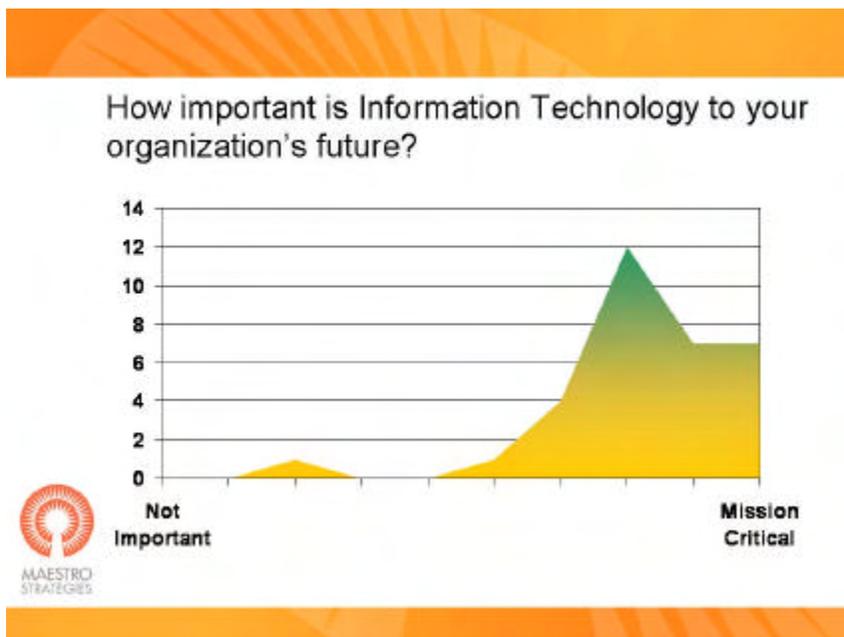
Respondents overwhelmingly identified Information Technology as “mission critical” to their organization’s success. As the industry moves into the clinical systems arena, Information Technology touches every part of the organization. No longer just an expense to be managed, Information Technology is becoming a **strategic asset**. Strategic assets are defined as resources whose value to the organization is greater than the cost of their acquisition or development.

Three essential best practices related to managing Information Technology as a strategic asset rather than an expense include:

- Create a unique Vision for Information Technology for your organization
- Develop an Information Technology Strategic Plan
- Create an Information Technology governance structure or IT Steering Committee composed of key stakeholders

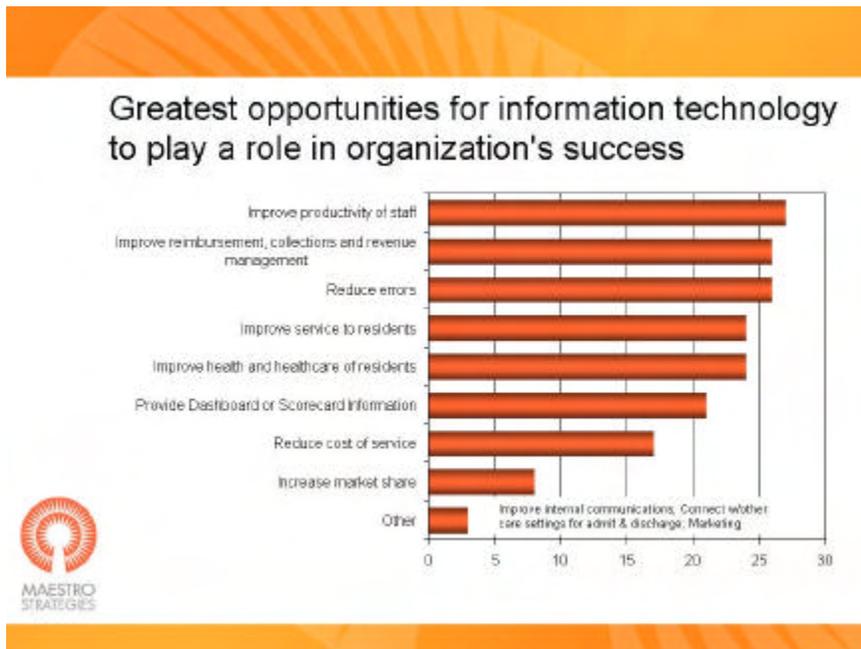
Leadership should ensure a clear and unique Vision for IT has been established for their organization. Example Visions include:

- Transform senior’s residences into interactive, independent living spaces
- Drive resident-focused care
- Expand the organization’s reach beyond the walls of the nursing home to the entire community
- Enable point of care clinical quality, improved documentation and increased satisfaction of residents, families and staff



**Figure 3: Importance of Information Technology**

Respondents saw various areas of opportunity for IT to contribute to organizational success. Most cited increased staff productivity, better revenue management, reduction in errors, and improved service and health for residents. An IT Strategic Plan should be developed to properly clarify the **value** your organization expects to achieve from Information Technology.



**Figure 4: Opportunities for IT in organization's success**

$$\text{Value} = \frac{\text{The Degree of Change in the Business}}{\text{Total IT and Business Investment}}$$

*Source: "Beyond Return on Investment:  
Expanding the Value of Healthcare  
Information Technology"  
Arlotto, HIMSS publications, 2007*

Of the survey respondents, 59% have an IT Strategic Plan in place, 35% do not, and 6% don't know. IT Strategic Plans should be focused on integrating IT with important business initiatives rather than the specifics of technology.

In contrast, only 37% of respondents have an IT Steering Committee in place, 60% do not, and 3% don't know. The role of the IT Steering Committee is to:

- Represent key stakeholders from within the organization
- Ensure development of Strategic Plan
  - Vision
  - Strategic Imperatives
  - Guiding Principles
- Understand industry best practices
- Establish priorities
- Monitor progress through project champions and project managers
- Ensure communication plan is in place
- Remove barriers
- Share lessons learned

Clinical systems deployment brings a different level of change to the organization in that it impacts the way residents are care for. Factors influencing an organization's readiness for this change include:

- Senior leadership "buy-in" and realistic expectations regarding "heavy lifting"
- A formal process redesign approach is in place
- Project champions and project managers are in place
- Appropriate Information Technology infrastructure and resources are in place
- The Steering Committee has a structured decision making process
- Clinicians understand the implications, gaps and steps toward development of clinical systems
- The vendor's long term vision and direction is understood

Respondents were asked their level of readiness. Most indicated that they had some experience with process change. Industry best practice indicates that formal process redesign training is important. Organizational performance is most impacted when systems are implemented in conjunction with process redesign.

## EMR Readiness

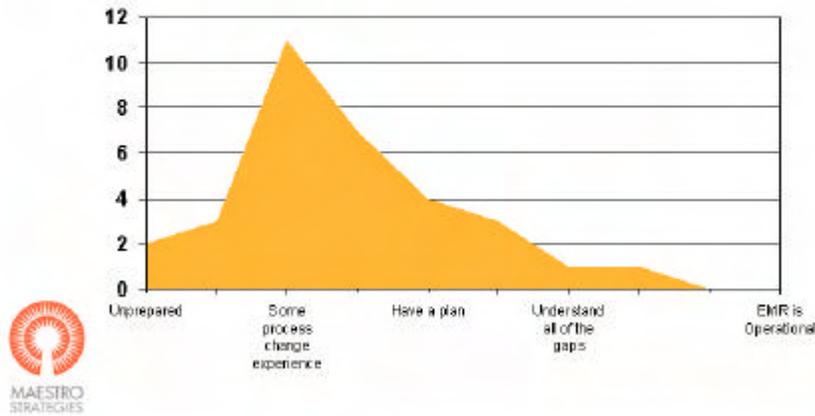


Figure 5: Readiness for EMR

Respondents described their organization’s top 3 challenges with IT as follows with Obsolescence/Limited Functionality of Legacy Systems as the most often reported. This was followed closely by End User Support, Software Incompatibility, Difficulty Quantifying the Value of IT Investments, and the Expense of Transitioning to Electronic Records.

## Organization's greatest challenges with IT (top 3)

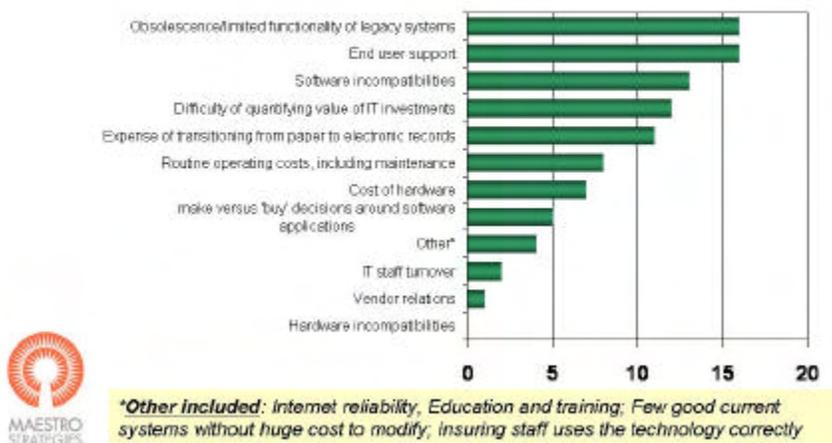


Figure 6: Top 3 challenges with IT

## Information Technology Investment

Participants were asked about their operating and capital budget, and the percentage dedicated to IT.

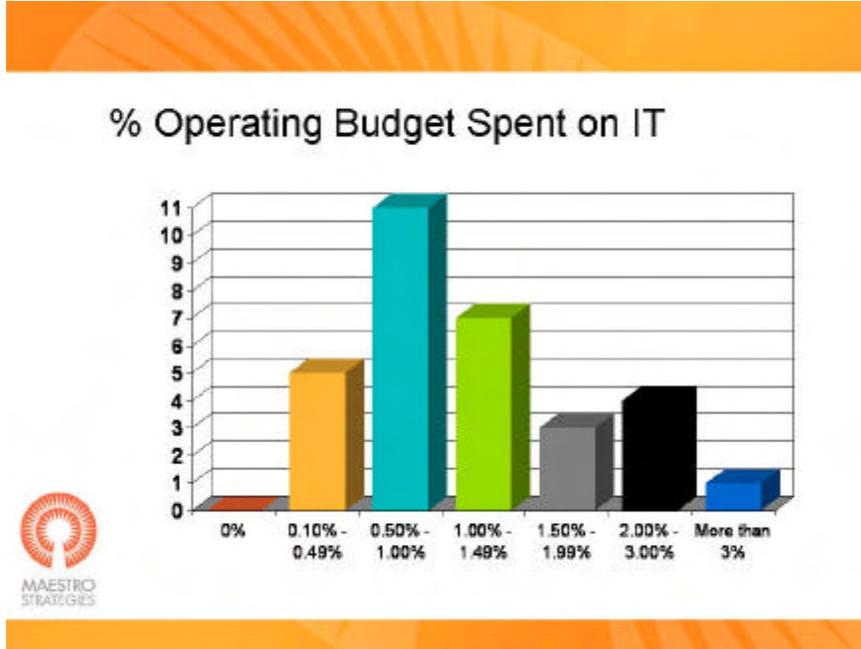


Figure 7: Percent of Operation Budget Spent on IT

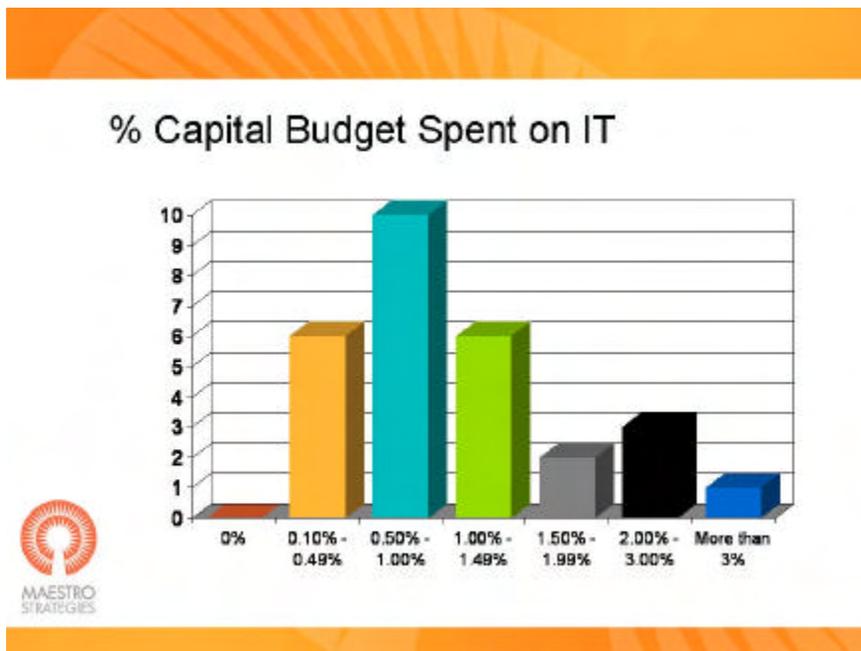


Figure 8: Percent of Capital Budget Spent on IT

Most respondents plan to increase spending for both capital purchases and operating expenses, increases are moderate (1-2%) to slight.

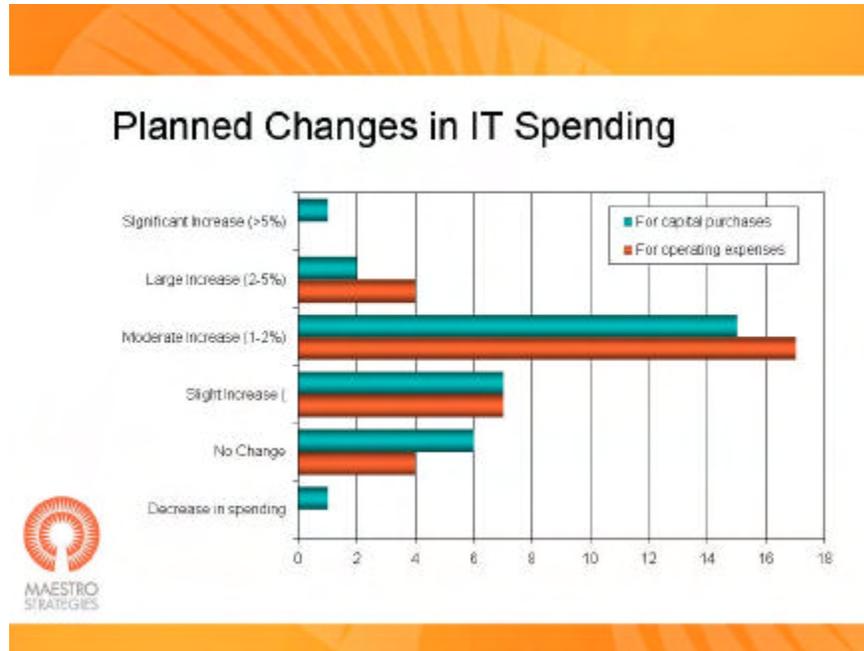


Figure 9: Planned Changes in IT Spending

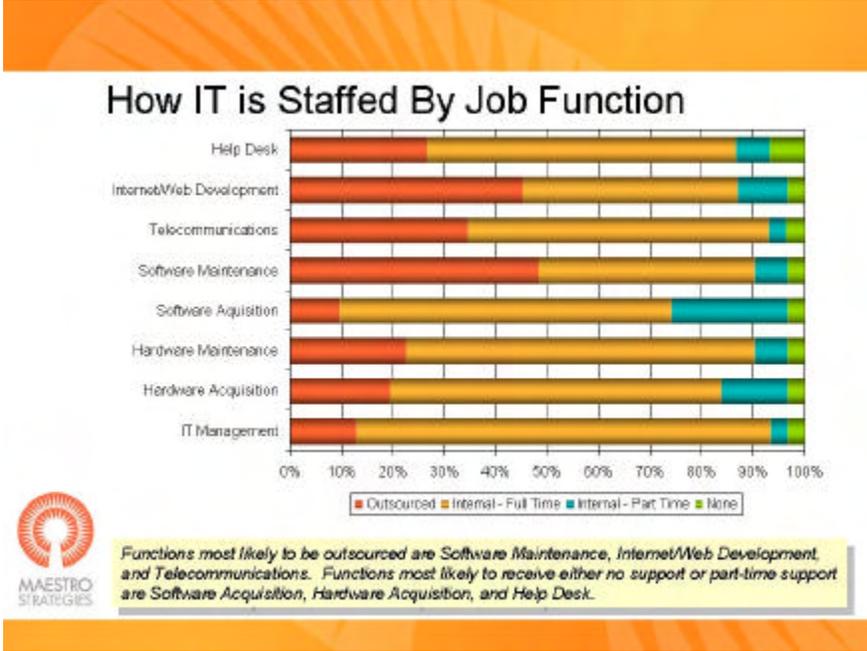
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## Information Technology Operations & Management

Long term care IT Operations are:

- Managed by groups of less than 10 people in 87% of responding organizations, less than 5 people in 65%
- Staffed primarily at a central office (84% respondents staff at least ½ of team centrally)
- Usually centralized (90% of respondents) in a single data center for all facilities
- Primarily led by internal staff
- Hosting most applications internally, as opposed to an ASP model
- More likely to outsource Software Maintenance, Internet/Web Development, and Telecommunications

Specific job functions are staffed in the following ways:



**Figure 10: How IT is Staffed by Job Function**

When asked how many FTEs (both internal and contracted) are dedicated to Information Technology, respondents indicated the following:

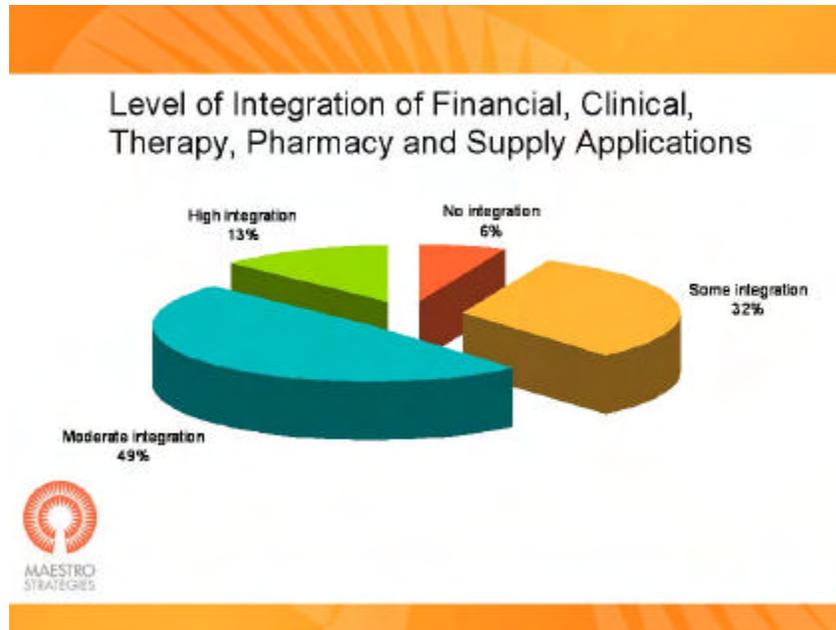
Range of FTEs dedicated to IT	% of Respondents
0-1	10%
2-5	65%
6-10	6%
11-15	3%
More than 15	10%

Of these FTEs, the majority are based in a Central Office:

Range of FTEs dedicated to IT located in central office	% of Respondents
0	10%
<25%	6%
25-50%	0%
50-75%	16%
75-99%	26%
100%	42%

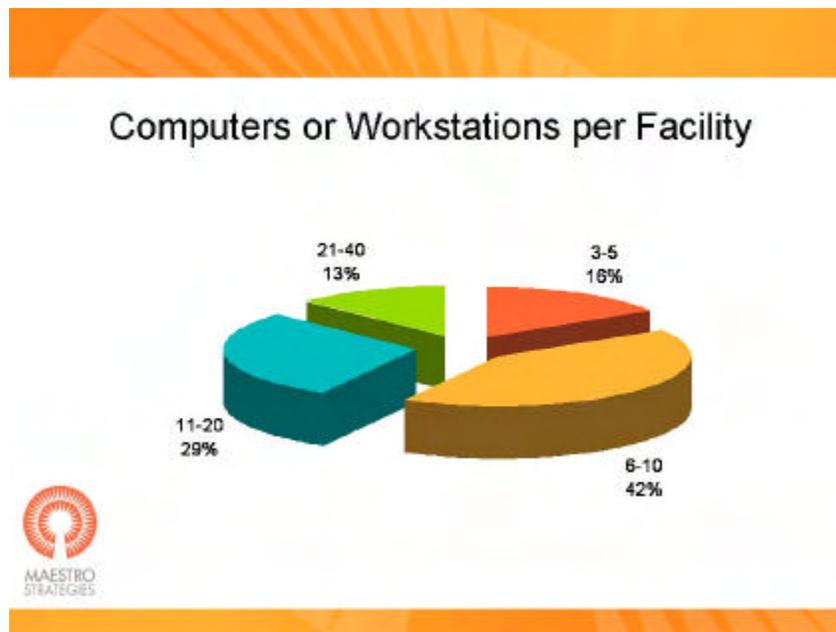
Most sites manage multiple vendors rather than selecting a core integrated vendor. Almost half of respondents (47%) indicated a “Best of Breed” approach to IT vendor selection. “Best of Breed” is typically associated with picking the most robust solution for a specific function or department rather than integrated solutions across functions. Twenty-five percent use a core vendor, and six percent are moving toward a single vendor approach. Thirteen percent gave “other” as their approach and nine percent didn’t know how their organization was handling IT vendor

selection. Continued consolidation of vendor offerings and the desire for more integration across applications may decrease the percentage of best of breed strategies and increase the level of integration of financial, clinical, therapy, pharmacy and supply applications in the future.



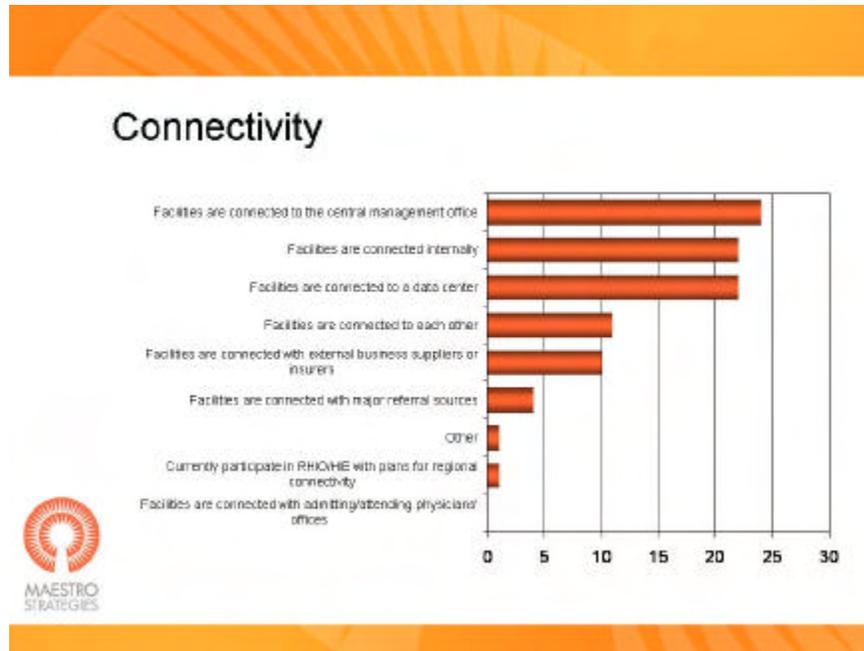
**Figure 11: Integration of Applications**

Organizations in the process of deploying clinical systems have 20% more access points or computers per facility. Overall the average numbers of computers or workstations per facility is as follows:



**Figure 12: Computers or Workstations per Facility**

Data centers are typically housed in a single location that supports all facilities across the organization. And, most centers reported that their facilities are connected to the central management office, between facilities and to a data center.



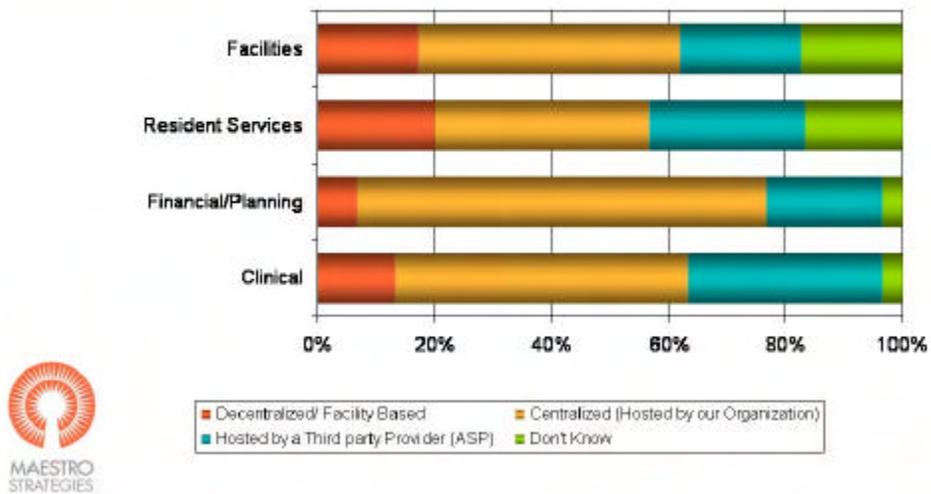
**Figure 13: Connectivity**

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### What Have We Installed, What Do We Own, and What are We Buying?

Information Technology applications in long term care can be broken down into four application groups: facilities, resident services, financial/planning and clinical applications. Long term care organizations are most likely to run financial/planning applications at a central data center while facilities and resident services applications are frequently decentralized at the facility level. Clinical systems are typically managed by a central group yet are also the application group most often hosted by a third party provider.

## Deployment Strategy by Application Group



**Figure 14: Deployment Strategy by Application Group**

Survey respondents were asked to describe each of these application groups by what they had already installed, what they owned but had not installed, what they planned to purchase and what applications they did not plan to purchase. The following sections describe by application group – clinical, financial/planning, resident services and facilities the specific applications by group that fall into each of these categories. In addition, respondents were asked to identify those emerging or supporting technologies that supported their application deployment plans.

## Level of Automation – Clinical Applications

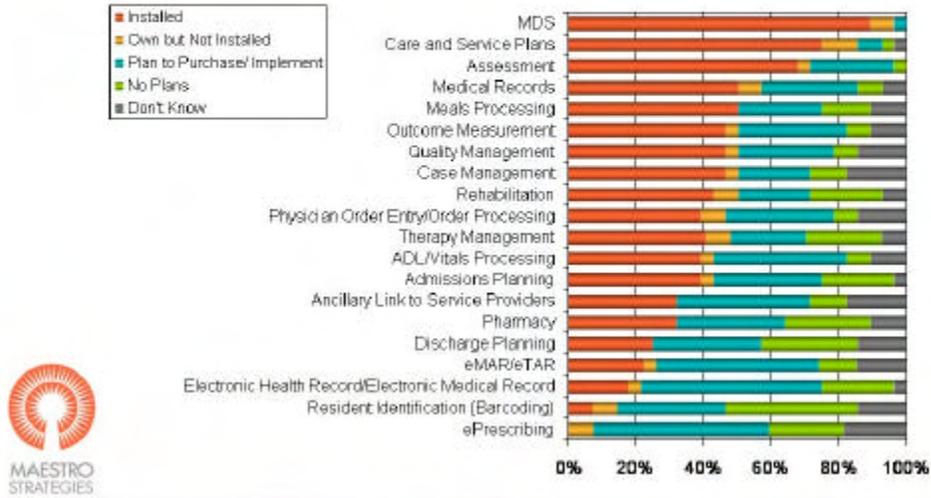


Figure 15: Level of Automation – Clinical Applications

## Level of Automation – Clinical Applications Installed or Owned but Not Installed

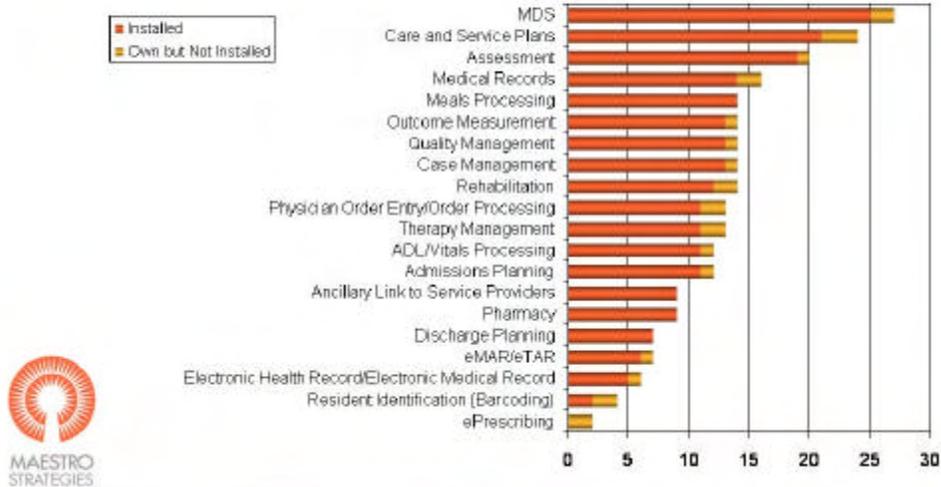


Figure 16: Clinical Applications Installed or, Owned but not Installed

## Level of Automation – Clinical Applications with Plan to Purchase

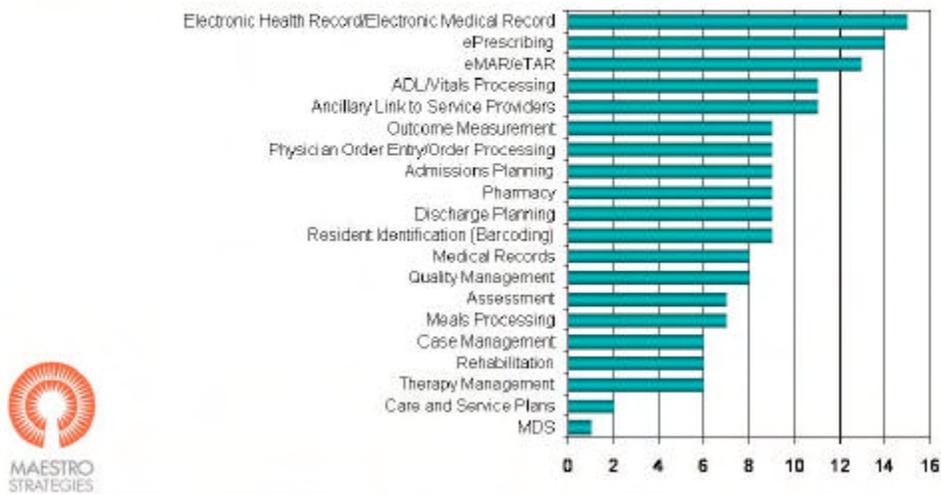


Figure 17: Clinical Applications with Plan to Purchase

## Level of Automation – Clinical Applications With No Plans to Purchase



Figure 18: Clinical Applications With No Plans to Purchase

## Level of Automation – Financial Planning Applications

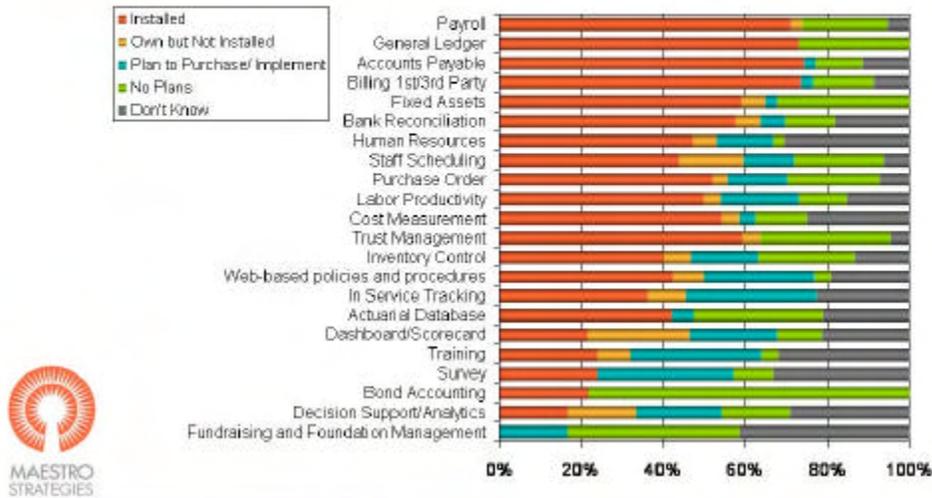


Figure 19: Level of Automation – Financial Planning Applications

## Level of Automation – Financial Planning Applications Installed or Owned but Not Installed



Figure 20: Financial Planning Applications Installed, or Owned but Not Installed

## Level of Automation – Financial Planning Applications with Plan to Purchase

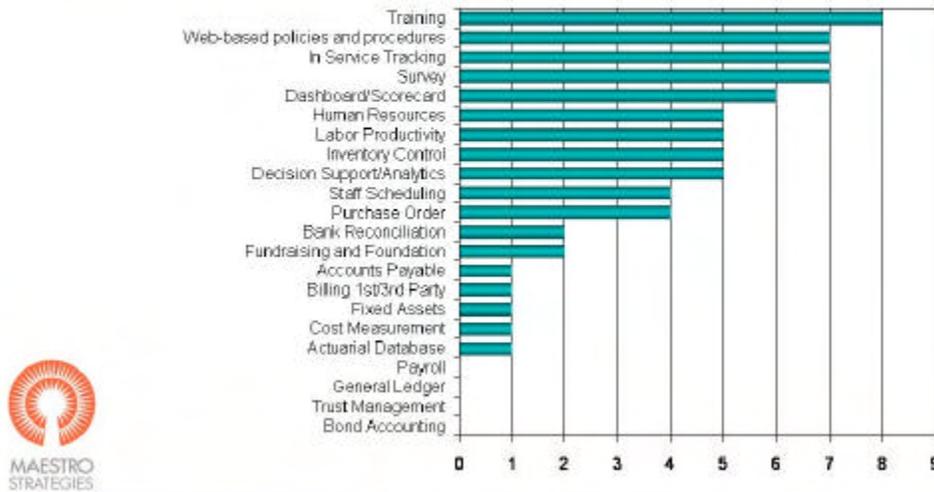


Figure 21: Financial Planning Applications with Plan to Purchase

## Level of Automation – Financial Planning Applications With No Plans to Purchase

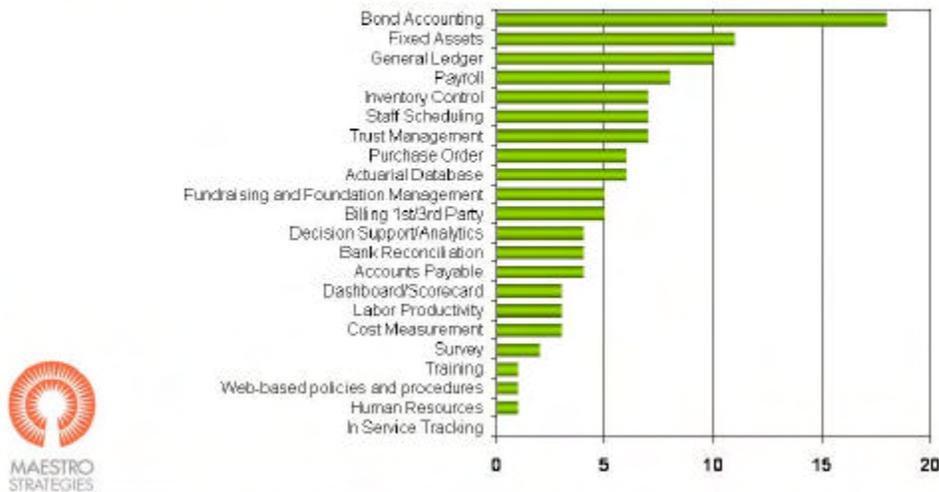


Figure 22: Financial Planning Applications With No Plans to Purchase

## Level of Automation – Resident Services Applications

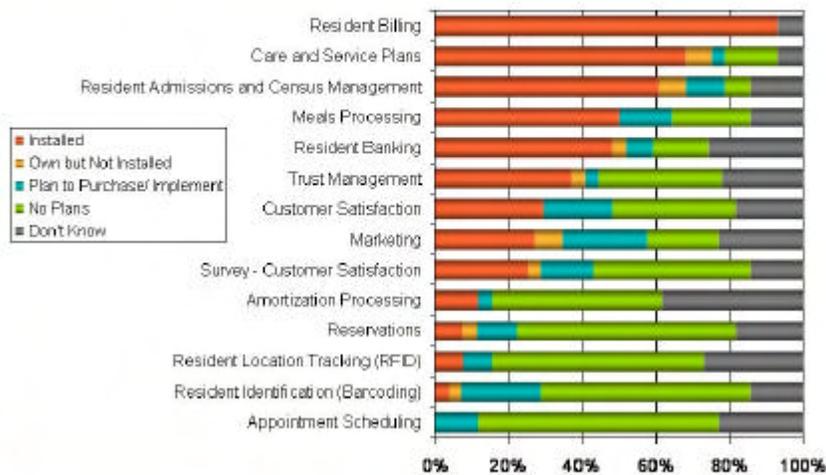


Figure 23: Level of Automation – Resident Services Applications

## Level of Automation – Resident Services Applications Installed or Owned but Not Installed



Figure 24: Resident Services Applications Installed, or Owned but Not Installed

## Level of Automation – Resident Services Applications with Plan to Purchase



Figure 25: Resident Services Applications with Plan to Purchase

## Level of Automation – Resident Services Applications With No Plans to Purchase

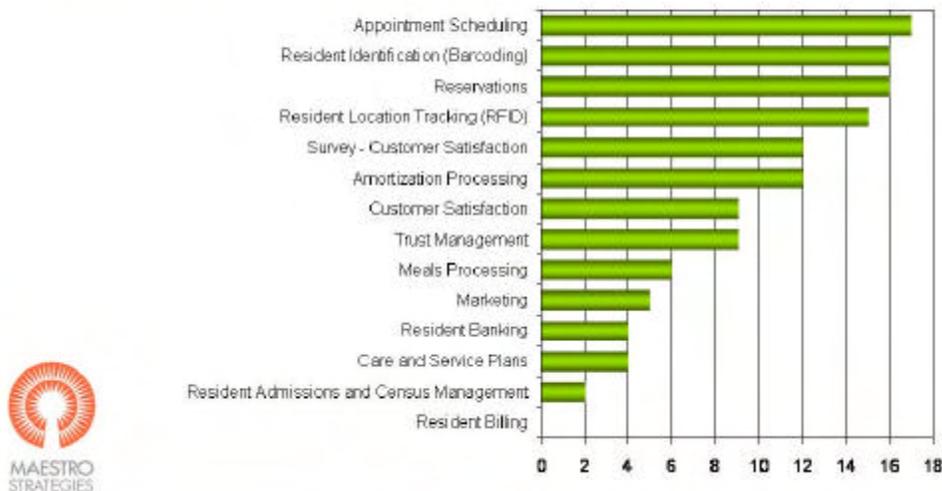


Figure 26: Resident Services Applications - No Plans to Purchase

## Level of Automation – Facilities Applications

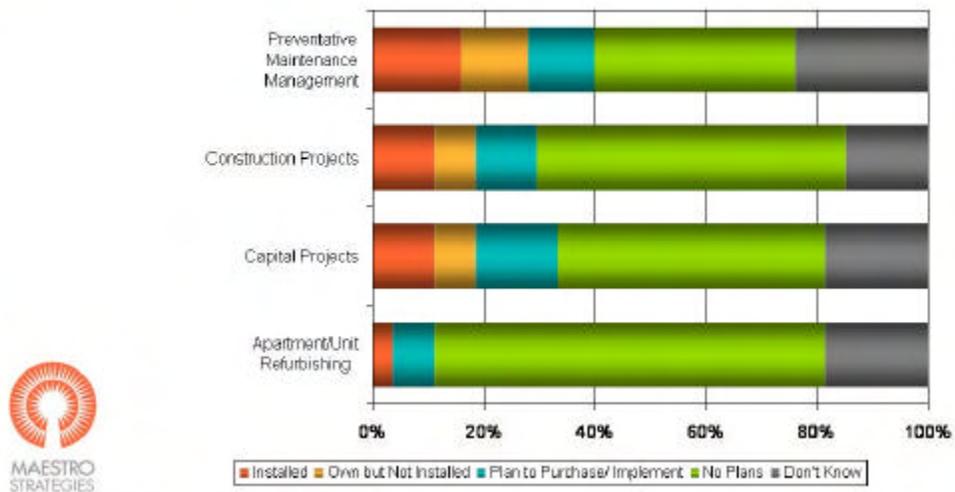


Figure 27: Level of Automation – Facilities Applications

## Level of Automation – Facilities Applications Installed or Owned but Not Installed

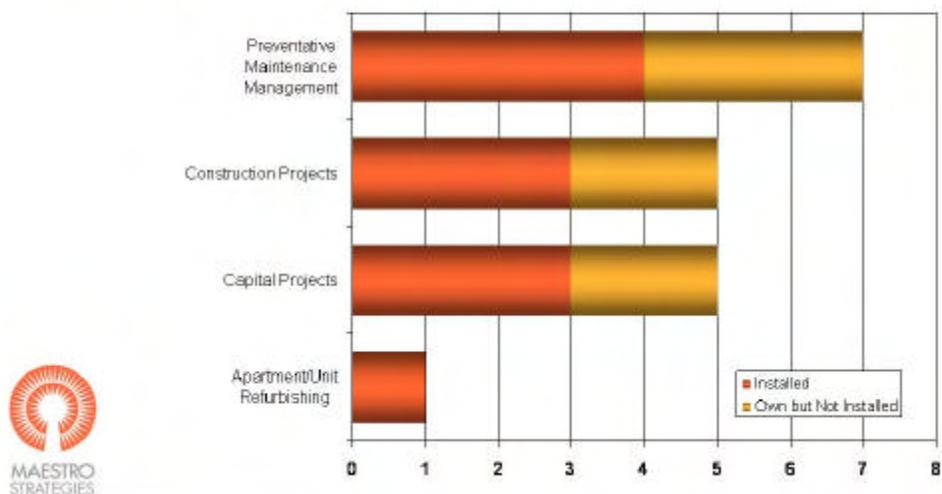
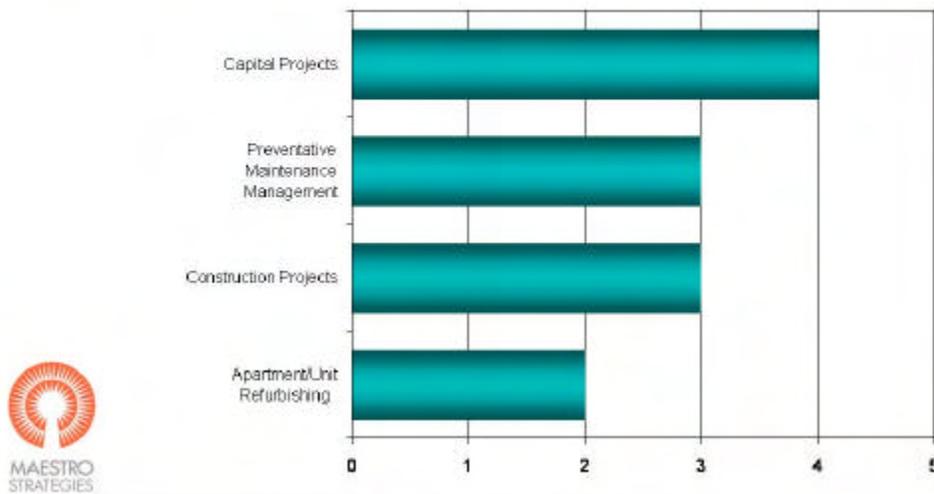


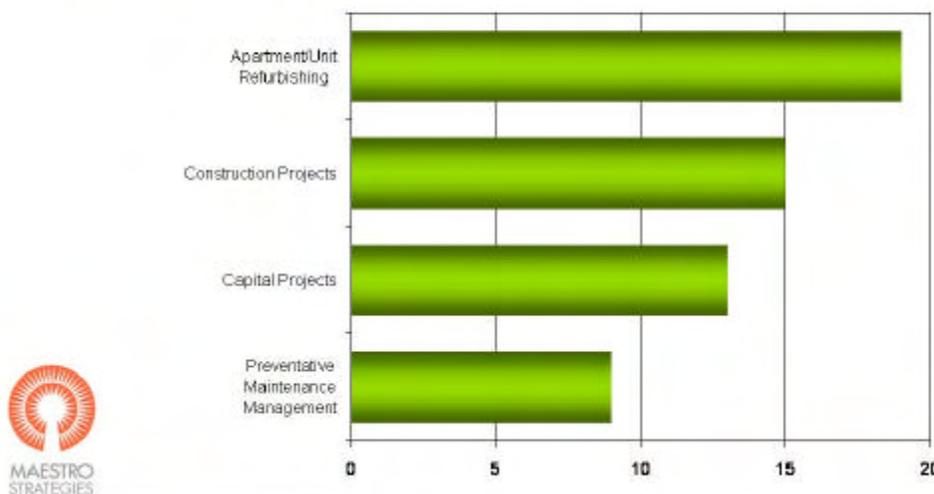
Figure 28: Facilities Applications Installed, or Owned But Not Installed

## Level of Automation – Facilities Applications with Plan to Purchase



**Figure 29: Facilities Applications with Plan to Purchase**

## Level of Automation – Facilities Applications With No Plans to Purchase



**Figure 30: Facilities Applications With No Plans to Purchase**

## Emerging Technologies

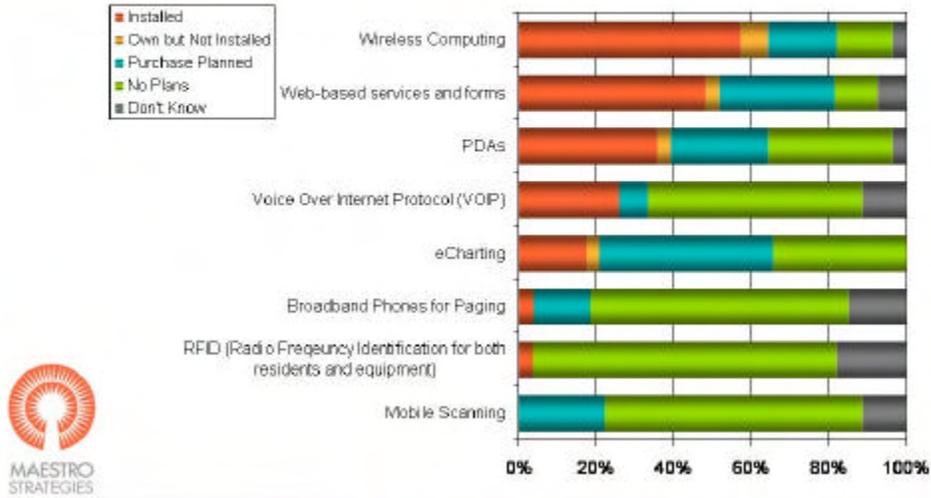


Figure 31: Emerging Technologies

## Software Vendors Currently Providing Applications

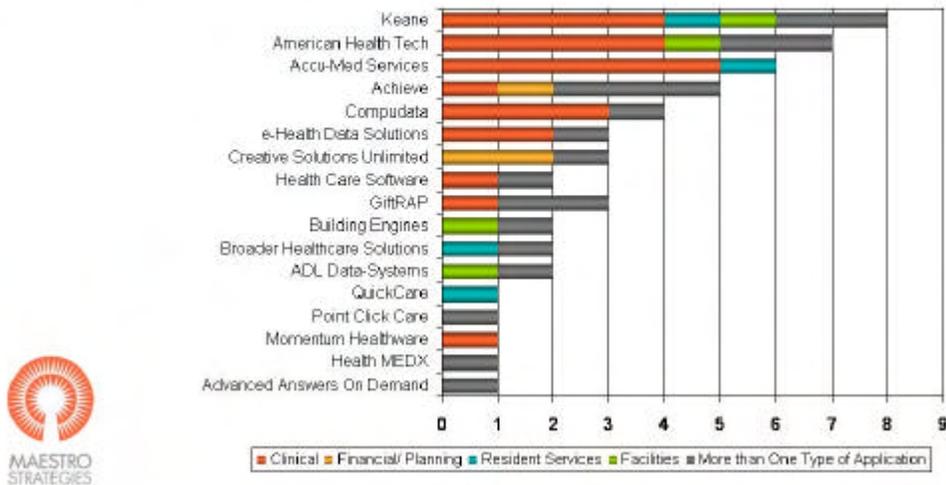


Figure 32: Software Vendors Currently Providing Applications

Finally, each participant was asked to identify the software vendors currently providing applications to their facilities. Figure 32 identifies vendors providing clinical, financial/planning, resident services and facilities applications. Respondents also identified those vendors providing more than one type of application to the facility.

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### **Concluding Remarks**

The Long-Term Care Industry is adopting information technology and understands the strategic role IT can play in an organization. Continued monitoring of practices and associated trends will help the industry understand important issues around IT and to move forward as new technologies become available.

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