RESEARCH NOTE

Publication Date: April 27, 2007

ITIL is Gaining Momentum but the Data Center is Slow to Adopt

Survey shows that ITIL is being adopted but the data center is being left behind: configuration information is incomplete and fragmented

Introduction

ITIL is the only comprehensive, non-proprietary framework available for the planning, provisioning and support of IT services. Our survey shows that while ITIL is gathering momentum, adoption in the data center has been slow. Accurate configuration information is at the heart of IT service management, yet many data centers struggle to maintain high quality documentation and 49% do not include the physical infrastructure in their Configuration Management Database (CMDB). In part, data centers struggle with documentation quality because they are over-dependent on individuals and generic, personal productivity tools.

In this research note, the Aperture Research Institute™ explores the quality of configuration and change management information in the data center, as assessed by the data center managers themselves. Based on interviews with more than 100 data center professionals across a range of industries, the Institute's extensive survey results reveal that the quality of configuration information is likely to hamper efforts to make the data center responsive to business needs.

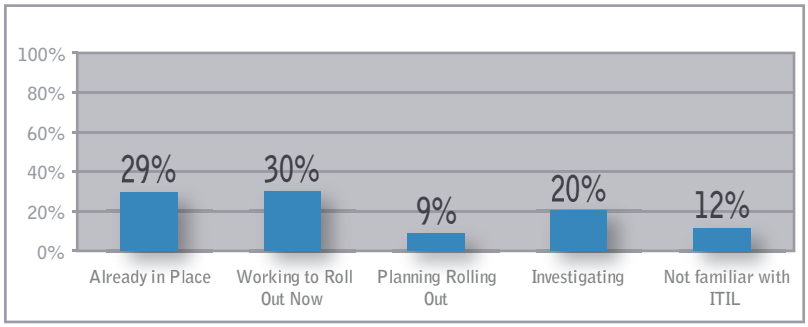
Analysis

ITIL is the only comprehensive, non-proprietary framework available for the planning, provisioning and support of IT services. Originally developed by the British government in the 1980s, it encapsulates best practice recommendations for delivering IT services more efficiently and effectively. Its framework provides high level guidance on how to align the IT organization with the business objectives, and how to establish management processes across the IT organization that support networks, systems, applications and databases. Version 3 of ITIL was published May 2007, following over a year of development.

The increase in high-density equipment is eliminating the margin for error that many data centers previously had and is bringing them closer to their limits on power and cooling capacity[1]. Best practice management of ITIL's Service Delivery and Service Support processes is essential to ensure optimal uptime and service quality. At the same time, businesses are increasingly IT-dependent and data intensive, and the data center must be closely aligned with business growth and direction. With ITIL Version 3, the link to the business requirements is much more explicit which makes ITIL even more valuable as a tool for managing IT services from planning through to retirement.

ITIL is continuing to gain a foothold in the market. 29% of data center managers surveyed said their organizations had ITIL initiatives in place. A further 30% are working on introducing them and 9% are making plans to implement ITIL. 20% said they were merely investigating ITIL and 12% confessed they were not familiar with it.

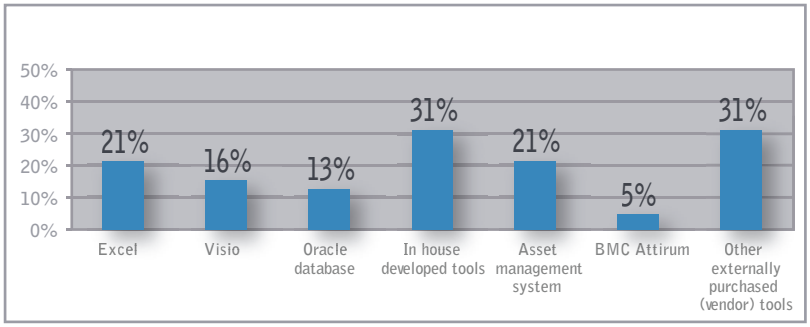
How would you describe your organization's position on ITIL?



Our survey shows, however, that while ITIL is gathering momentum in organizations, adoption has been slow in the data center.

At the heart of a sound ITIL strategy is the Configuration Management Database (CMDB). 74% of those surveyed said they had a CMDB initiative, but many of the tools were improvised using generic personal productivity software, such as Excel spreadsheets and Visio diagramming software. These tools make it harder to roll out enterprise-wide and enforce standardization, and are difficult to integrate with other data sources in the IT organization. They perpetuate a dependence on individuals and manual processes for maintaining accuracy and aggregating information.

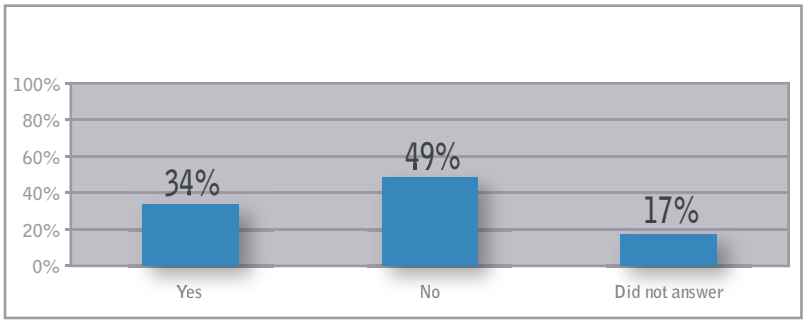
What are you using as your CMDB?



[1] See: Data Center Professionals Turn to High-Density Computing as Major Boom Continues, Aperture Research Institute, April 2007

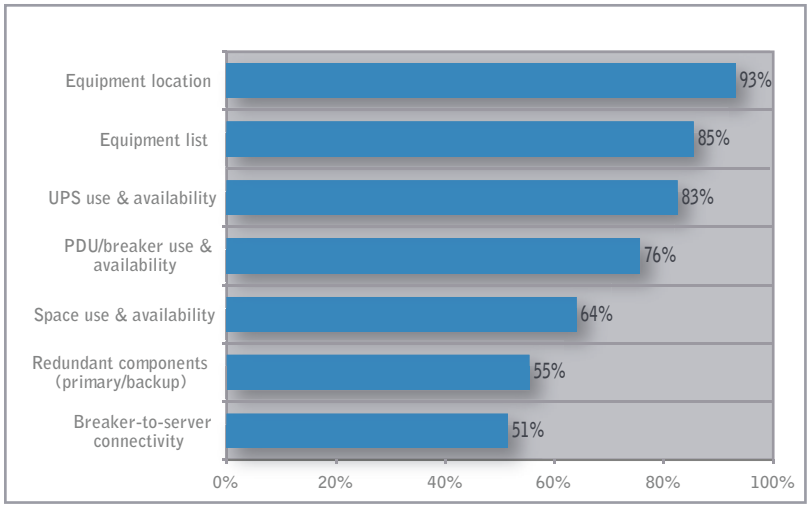
Many of those who have a CMDB strategy (49%) admitted that they did not include physical infrastructure components (such as power and cooling) in it. At a time when high-density equipment is becoming widespread, the availability of power and cooling are absolute limits on data center capacity. It is particularly surprising that data centers are not adequately documenting the physical layer of the data center, given that 54% of those surveyed said they had experienced between one and five outages at the physical level.

If you have a CMDB, is the data center physical infrastructure included?



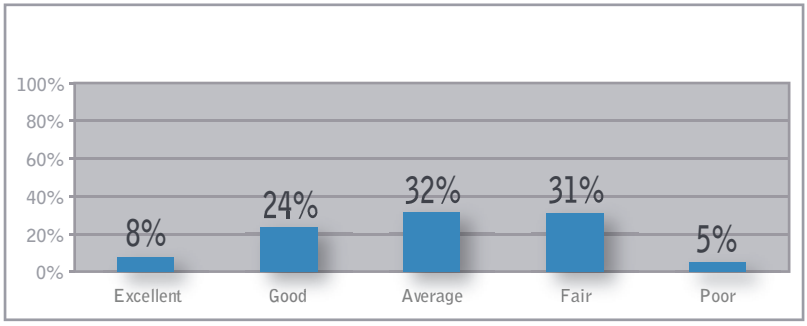
The use of PDUs and UPSs is among data center assets documented elsewhere. Most data centers document the equipment they have (85%) and its location (93%), but only 64% are tracking space availability and only 55% are recording their redundant components.

Which physical infrastructure attributes do you document? (Check all that apply)



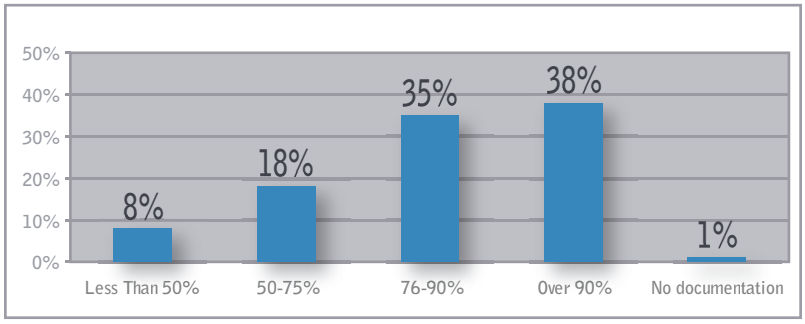
For effective service management in the data center in compliance with ITIL, good configuration information is essential. Our survey reveals that many data centers are struggling with the quality of their information. Only 8% of those surveyed were bold enough to describe their configuration information as excellent, and only 24% considered it good. About a third (32%) thought it was average, but an equal number settled on fair and 5% admitted configuration information was poor.

How would you describe the current state of your data center configuration information?



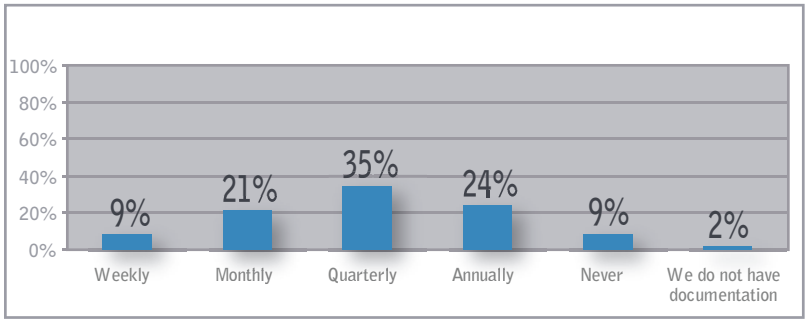
One reason for the lack of confidence in the configuration information could be its accuracy. If some data is inaccurate, it is hard to have confidence in any of it, and 62% of those surveyed thought that more than 10% of their information was incorrect. Only 38% of data center managers believe their configuration information is over 90% accurate. About a third of the managers we surveyed thought their configuration information was between 76% and 90% accurate, but 18% thought it was somewhere between 50% and 75% correct. As many as 8% confessed that they can't trust half their configuration information. The challenges will be to work out which half is reliable when they urgently need to respond to an incident and how to account for this partial accuracy in an report across the entire data center (such as a capacity report).

How accurate would you estimate your configuration information is?



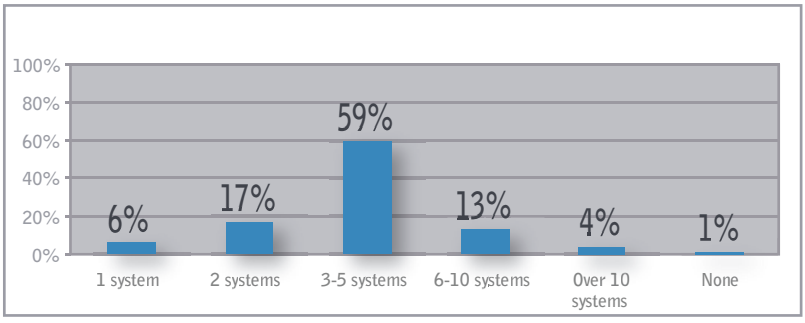
Some data centers are not making much effort to improve the accuracy of configuration information: only 30% said they audited the accuracy of the configuration information monthly or more often. Given the rapid and frequent change that is part of daily life in today's data center, unchecked configuration information can quickly fall out of step with reality. 35% said they check configuration information accuracy quarterly, and 24% check once a year. 9% never check the accuracy of their configuration information, which makes it difficult for them both to ensure accuracy and to have faith in the data they hold.

How often do you check the accuracy of your configuration information?



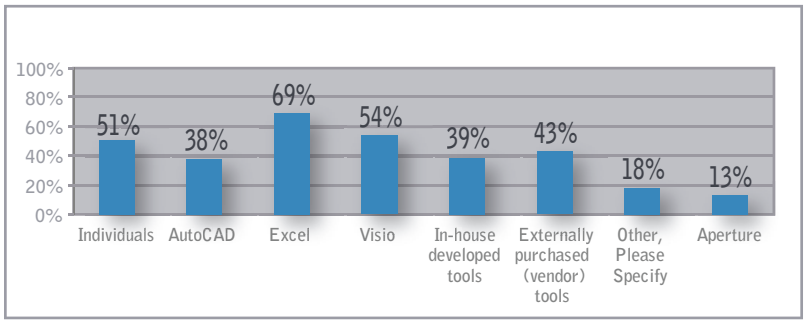
Inconsistencies arise when too many different systems are used to store data. 59% of data center managers said they use between three and five different systems to document the data center infrastructure and 17% said they use over six different systems. With so many different sources of data, it could prove difficult to react quickly to incidents or aggregate the information in a single view. Only 6% of data center managers use a single system to document everything.

How many different systems are used to document your data center infrastructure (equipment, space, power, cooling, network connectivity)?



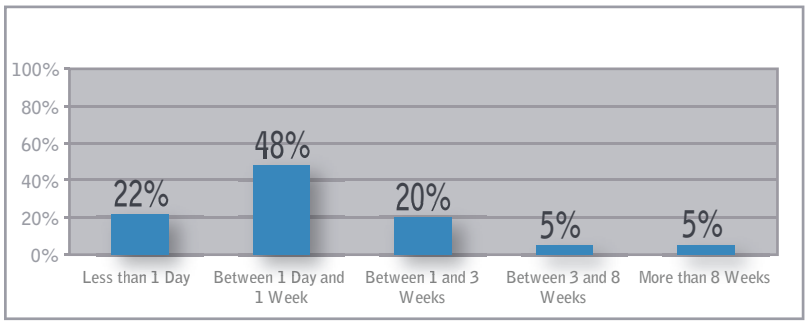
Data centers are still over-dependent on staff and personal productivity tools for their documentation. Using generic tools makes it harder to standardize and also limits the organization's ability to integrate its information with other data sources. When configuration information is not standardized, it can make the data center reliant on the availability of a particular staff member to access information, which could be required urgently to avert or fix an outage. Half the data centers rely on individuals for configuration information, 69% are using Excel spreadsheets and 54% are using Visio. 39% have developed bespoke tools and 43% are using vendor tools.

What do you use to document your data center?



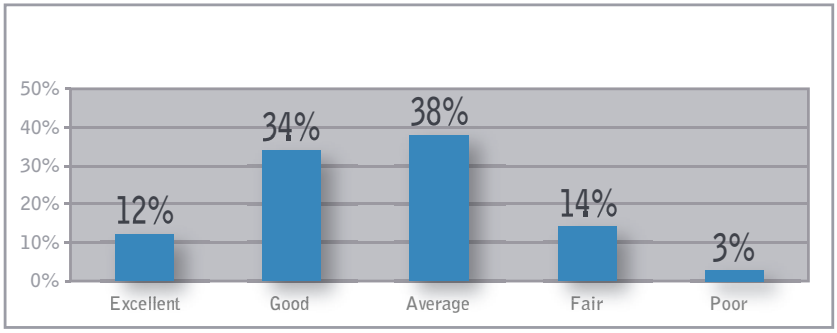
The systems used and their multiplicity makes it difficult to update data quickly. A fifth of data center managers said it took between one and three weeks to update configuration information, which means they can only be confident it is accurate to three weeks ago if there is an outage. A lot can change in that time. Nearly half of data centers (48%) take between a day and a week to update configuration information. Only 22% could achieve an update the same day, achieving ITIL's goal to tightly integrate change and configuration management.

How much time does it take to update your configuration information?



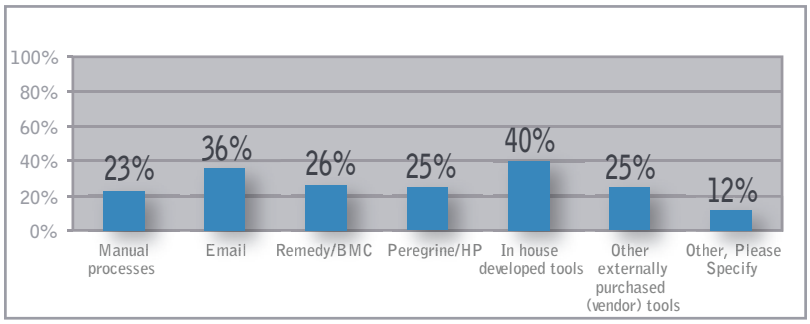
As well as documenting the data center environment, good service management discipline requires change management processes to be fully documented. Data center managers have more faith in their change management processes than their configuration documentation, with 12% describing it as excellent, 34% saying it was good and 38% calling it average. Only 14% thought the change management documentation was fair and only 3% considered it poor. Change management includes equipment installs, moves and decommissions.

How well are your change management procedures (equipment installs, moves, decommissions) documented and followed?



Although the procedures are considered to be well documented and followed, over half use email or manual processes which do not have tight integration with their configuration information. 36% rely on email, which has no workflow management and in effect delegates responsibility for the change without follow-up. 23% use manual processes, which are more prone to error and which can be labor and time intensive. 40% of those surveyed use tools developed in-house. These offer optimal flexibility only if the organization has the resources to rapidly adapt the software in line with changes in the data center and market.

How do you manage changes in the data center?

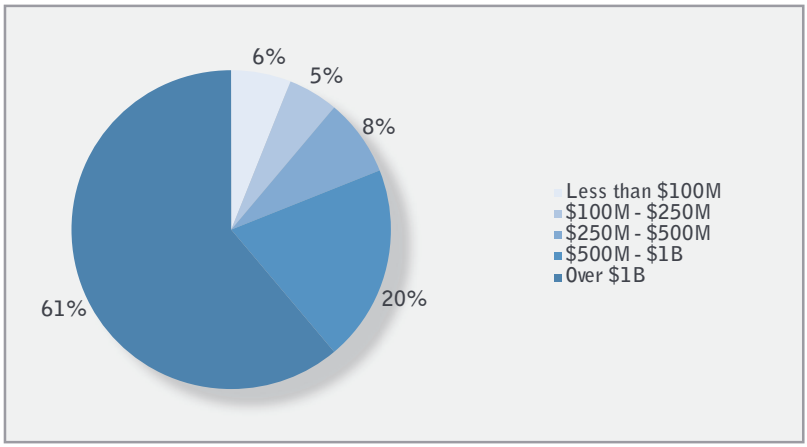


For optimal service management, organizations should implement ITIL and deploy end-to-end management systems that can encapsulate their configuration information and change management needs.

Survey methodology

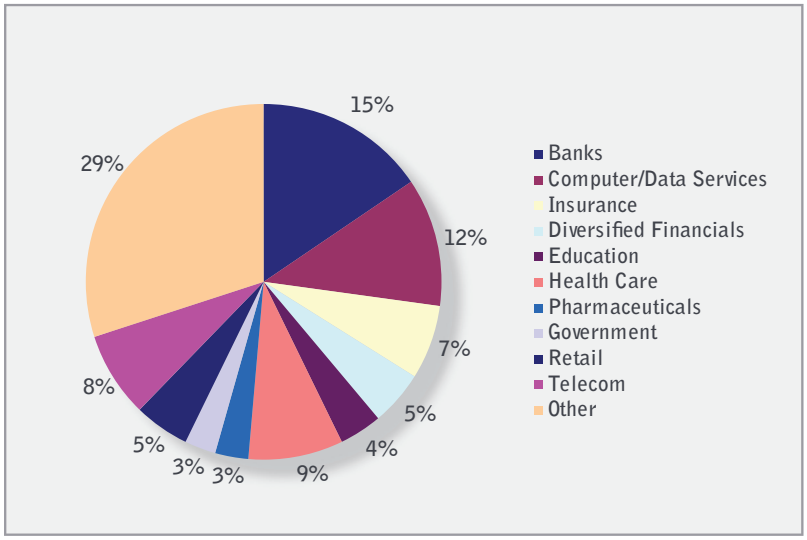
More than 100 data center professionals and executives from a variety of industries participated in this online survey. Survey participants were solicited from an industry database of Aperture customers and prospects. The below charts describe the demographics of companies that took part in the survey.

Annual Revenue of Participating Companies



The below chart shows the cross section of types of businesses that participated in the survey. It includes companies across various vertical industries and ranges from smaller businesses to Fortune 100 companies.

Primary Industry of Participating Organizations



.

Conclusions

ITIL offers a service management framework that is gaining momentum in data centers, but a data center's management is only as good as its configuration information (documentation). Configuration management in the data center and of the physical infrastructure is sorely lacking in many data centers, and is overly dependent on personal productivity tools and spreadsheets. Change management processes are more mature, but many are using inappropriate tools (e.g. email) to manage it, which lack workflow management and controls to ensure changes are carried out accurately and configuration information is updated.

The Aperture Research Institute is dedicated to providing the market with current information and trends on enterprise data centers. The institute plans to publish new research notes on a quarterly basis. To read the latest research findings, visit http://www.aperture.com.

Aperture®
Changing the way companies run their data centers

www.aperture.com

CORPORATE HEADQUARTERS

Aperture Technologies
9 Riverbend Drive South
Stamford, CT 06907

tel 203.357.0800
800.346.6828
fax 203.357.0809

EUROPEAN HEADQUARTERS

Aperture Technologies
288 Bishopsgate
London EC2M 4QP
United Kingdom

tel +44 (0)20 7959 3024
fax +44 (0)20 7959 3030

US-RN-01-0408