THE DATA CENTER SERVICES LANDSCAPE

COLOCATION TO GET MORE "CLOUDY"

FEBRUARY 2013

EXECUTIVE SUMMARY

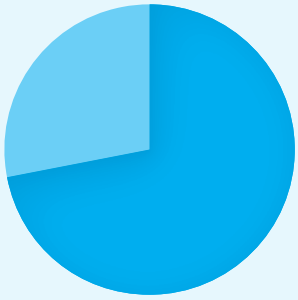
The data center services landscape is in a state of flux. Demand for colocation space remains strong, with 451 Research estimating 15% year-over-year growth through 2015. However, representing both an alternative and a complement to colocation, cloud and hosting services have also quickly gained traction. Gartner predicts end user spending on public cloud Infrastructure-as-a-Service in North America will increase at a 47. 5% compound annual growth rate from $2 billion in 2011 to $14 billion in 2016.

IT organizations of all sizes are attempting to make sense of the growing number of IT infrastructure options available to them – from colocation and managed hosting to public, private and even "bare metal" cloud. As they aim to streamline resources and costs while ensuring the required levels of security, scalability, flexibility and performance to support their application and overall business demands, the outsourced data center and its infrastructure capabilities and design are gaining critical importance.

The effect of these requirements on the data center is far-reaching, driving changes in everything from high-density power usage and the decision criteria for choosing a provider to new demands for hybrid capabilities and "single pane of glass" management across IT infrastructure services. Public cloud is clearly top of mind for most organizations today. Yet, many are still unsure of when cloud is the most effective and cost-efficient choice. Perhaps most interesting, we are witnessing the early stages of a shift in the way traditional colocation services are managed and delivered, with greater automation and self-service capabilities, propelled by the promises of the cloud model.

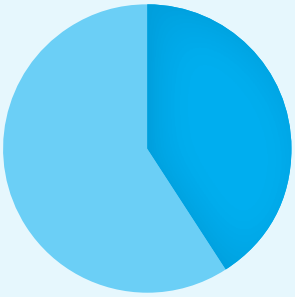
Against this evolving backdrop, Internap surveyed more than 100 IT decision makers to gain a broad view into their current use of data center services and considerations for the future. The details of these findings are reflected in this *Data Center Services Landscape* report.

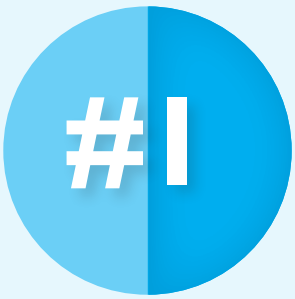
PREVIEW OF KEY SURVEY STATS



72%
of respondents are interested in hybridizing colo with cloud and hosting via an online portal

41%
of respondents are considering cloud to reduce costs





50%
of respondents ranked uptime and network performance as the #1 priorities when choosing a data center provider

METHODOLOGY & RESPONDENT PROFILE

During October 2012, Internap fielded a survey to 1,500 IT decision makers in the U. S. responsible for purchasing IT infrastructure services, such as colocation and cloud. The overall response rate to the survey was 7%, or 104 respondents, 50% of whom were director-level or above.

The decision makers spanned a wide cross-section of industries, including technology, retail, media and entertainment, healthcare, financial services, travel and transportation, education, and energy/utilities, among others. They also represented a broad range of company sizes, from more than $10 billion to less than $1 million in revenue.

Technology was the most highly-represented industry, comprising 40% of respondents. More than 50% of respondents came from mid-market companies with $1 million to $250 million in revenue.

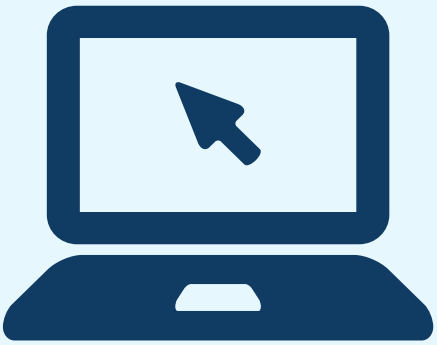
Top Industries:

1. Technology – 40%
2. Financial services – 13%
3. Education – 7%
4. Healthcare – 6%
5. Energy/utilities, media & entertainment, retail – 4% each

Company Revenue:

- Less than $1 million – 17%
- $1 million - $50 million – 43%
- $50 million - $250 million – 10%
- $250 million - $1 billion – 8%
- $1 billion - $10 billion – 12%
- More than $10 billion – 10%

TOP RESPONDENT CATEGORIES:



40% Technology

More than 50% of respondents came from mid-market companies with $1 million to $250 million in revenue

KEY FINDINGS AND RECOMMENDATIONS

COLO SERVICES TO GET MORE "CLOUDY"

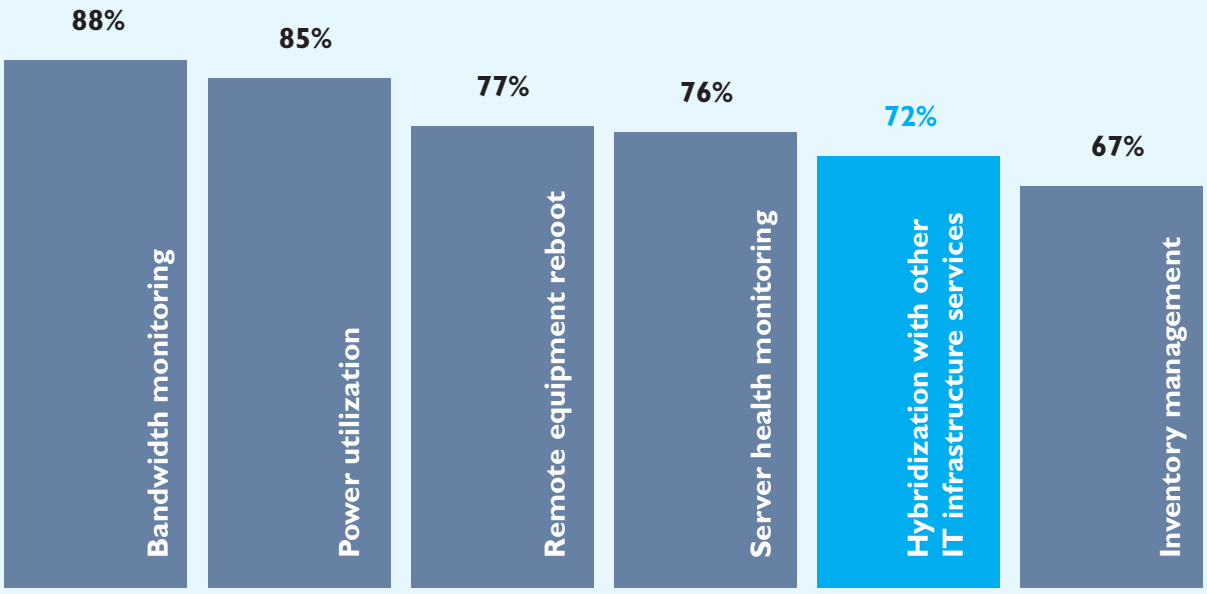
Despite the growing interest in and adoption of the cloud, colocation services will remain an important IT infrastructure option, particularly for those companies that are looking for the built-in power, cooling, connectivity, scalability, and control typically associated with a multi-tenant data center. In fact, 451 Research expects demand for colocation to outpace supply in most of the top 10 markets in North America through 2014.

However, as mentioned on page 2, the advent of cloud services is likely to shift expectations in the way colocation services are managed and delivered. Colocation customers can benefit from the same type of self-service, automation and remote visibility and management we see today with cloud environments. As a result, respondents were asked to rate their interest in a range of colocation features that could be accessed via a cloud-like online portal.

These results show strong interest in "cloudy colo" – i. e. colocation with public cloud-like monitoring, management, and provisioning capabilities. The potential appeal of these kinds of services isn't surprising, as they offer a unified view of the colocation environment, device inventory and the ability to make instant modifications remotely without the expense of remote hands services or costly visits to the data center.

Nearly three-quarters of respondents also cited interest in using an online portal to hybridize colocation with other IT infrastructure services, such as cloud and hosting. This affirms the growing need for a holistic view and seamless management across all data center services, combining the capex and control benefits of colocation with the opex and agility benefits of cloud.

KEY FINDINGS

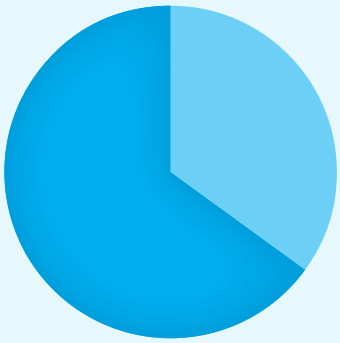


Percentage of IT buyers interested in cloud-like colocation features via an online portal

ORGANIZATIONS MAY BE CHOOSING CLOUD FOR THE WRONG REASONS

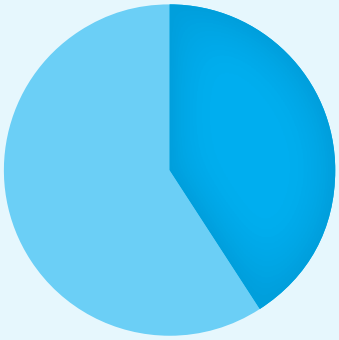
Cloud services are clearly on a growth track, with Gartner forecasting end user spending on public cloud IaaS in North America will reach $14 billion in 2016. However, the most effective and economical infrastructure scenario is rarely "one size fits all." Whether cloud is the right choice depends heavily on an organization's specific needs, including the application or workload type, security and scalability requirements and capacity demands. To gain a better view into what is driving cloud migration, respondents were asked about their rationale for considering cloud services.

KEY FINDINGS



Nearly **65%** of respondents are considering public cloud services

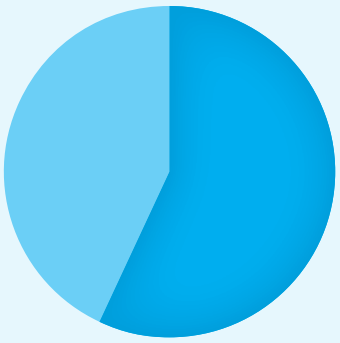
41% of those considering cloud are doing so based on perceived reduced costs



Interestingly, the majority of respondents (41%) said they are considering public cloud to reduce costs, followed by improved scalability (23%), improved efficiency (21%) and reduced complexity (6%). The relatively large margin between reduced costs and the other reasons for cloud adoption indicates a potential opportunity to better educate organizations about the specific instances where cloud might make the most economic sense. For example, the cloud can be an ideal option for "bursty" or unpredictable workloads since it eliminates the capital expenditures needed for additional servers. However, for more predictable workloads, a longer-term colocation or hosting scenario may be more economical than paying a premium for the flexibility of a cloud service. Many times, the most efficient solution is a hybrid one that includes a mix of IT infrastructure services that are optimized for the specific application or use case.

To this point, respondents were asked if they were considering hybrid IT infrastructure services (a mix of colocation, cloud and hosting), and the majority (57%) said "yes". When combined with 72% of respondents expressing interest in hybridizing their colocation environment with other IT infrastructure services via an online portal (on page 4), the results show emerging interest in data center environments that can support hybrid customer use cases as well as unified monitoring and management via a "single pane of glass."

57% of respondents are considering hybrid IT infrastucture services



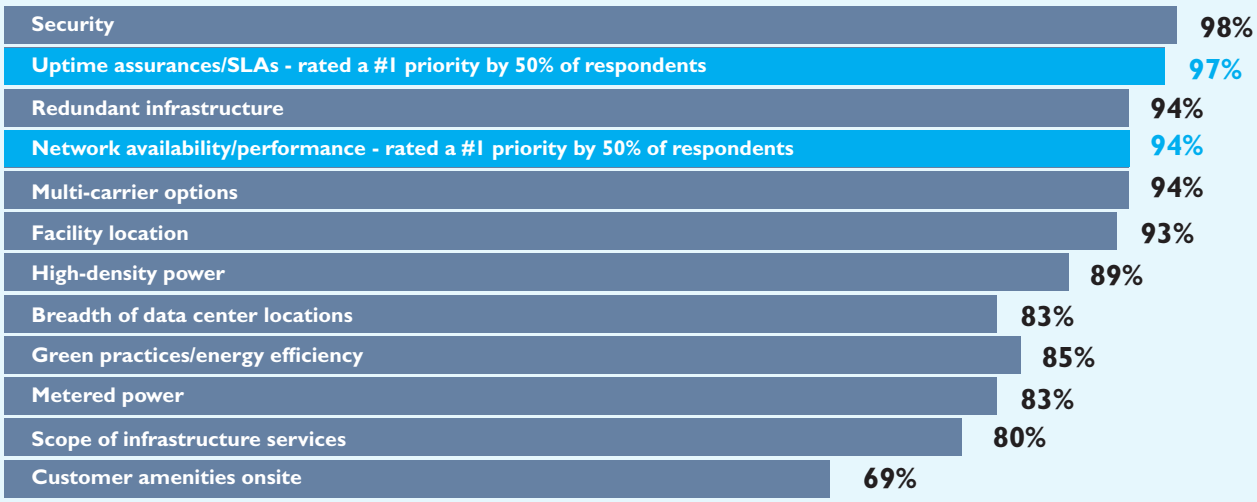
AVAILABILITY AND PERFORMANCE ARE TOP PRIORITIES WHEN CHOOSING A DATA CENTER PROVIDER

According to 451 Research, there are currently more than 300 multi-tenant data center providers in North America alone. The vast range of data centers to choose from, each with different mechanical and electrical designs, amenities, features and infrastructure platforms, can make it difficult for organizations to identify the best fit for their specific requirements. Accordingly, respondents were asked to rank a number of key data center features in terms of importance when choosing a data center provider.

The majority of features that ranked highest were related to keeping applications and data safe and available. **In fact, network availability/performance and uptime assurances/SLAs were ranked equally by 50% of respondents as the number one priority when choosing a data center provider.** With trends like cloud, mobility and big data on the rise, this isn't surprising. Factors such as uptime, high-performance and low latency, and security are essential to guaranteeing the integrity of business operations and critical applications as well as ensuring an optimal customer experience.

Drilling down further, technology companies were significantly less concerned with the location of a data center (51%) than organizations in non-tech industries (66%). This aligns with tech companies' higher interest in cloud services (63%) than non-tech companies (48%) – since cloud is not as location-dependent as services such as colocation. Additionally, organizations with revenues of more than $250 million placed a higher priority on green data center practices (45%) than companies under $250 million (34%). This may be the result of corporate responsibility or sustainability programs often found within larger companies.

KEY FINDINGS



Percentage of IT buyers that ranked each data center feature as "important" or "very important" when choosing a provider

HIGH-DENSITY POWER USAGE SET TO DOUBLE WITHIN THE NEXT FIVE YEARS

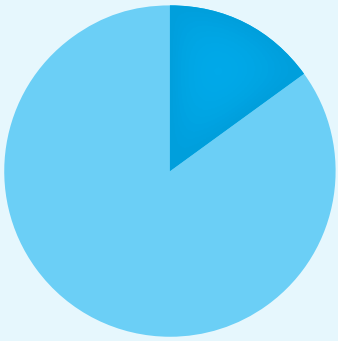
A recent year-long study commissioned by *The New York Times* found staggering data center electricity usage roughly equivalent to the output of 30 nuclear power plants, with the U. S. accounting for one-quarter to one-third of this amount. It also found that the majority of the energy usage was for non-essential purposes – keeping servers idling but ready for a potential surge of activity. On average, only 6 to 12% of the energy was being used for actual server computations. To gain insight into organizations' usage patterns, respondents were asked about their current and expected power demands.

The results revealed that 55% of respondents are using 4kW of power or less per rack today. However, they also showed a clear trend toward future high-density requirements. For example, while just 15% are using more than 8kW per rack today, nearly double that number (27%) expect to consume 8kW or more per rack within the next five years.

As power usage inevitably rises, data center features like variable speed cooling fans and uninterruptible power supply (UPS) can reduce the impact by ramping power up and down as needed instead of consistently running at peak capacity to support potential demand. The ability to remotely cycle-down both virtual machines and physical servers to better match usage patterns should also allow companies to mitigate the increasing demand for power within the data center.

Moreover, new power pricing models are likely to emerge, and organizations can also scale power more efficiently by looking for data center design architectures that allow them to consume high densities "in-rack" – without purchasing additional and unnecessary floor space when their power needs grow.

KEY FINDINGS

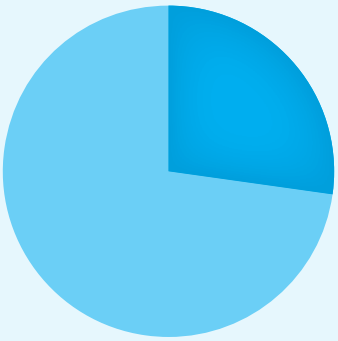


15%

of respondents are currently consuming more than 8kW per rack today

Within the next 5 years, the amount of respondents expecting to use 8kW or more nearly doubled to

27%



CONCLUSION

The outsourced data center services market – including colocation, cloud and dedicated and managed hosting – is set to grow at an estimated 17% annually through 2015. But with numerous technology and customer forces at work, it is still a highly dynamic industry. Evolving IT infrastructure options will impact the landscape, and customer demand driven by mega-trends like mobility and big data will also play a role.

The results of Internap's *Data Center Services Landscape* report reflect some of the current priorities and emerging trends, as well as the gaps that exist today. While no one can argue that cloud services are on a growth trajectory, the survey results confirm that more education is needed to help organizations determine whether and when cloud is the right IT infrastructure strategy for their unique needs. The data also shows interest in "cloudy colo" – applying a cloud-like user experience to make colocation services more transparent and agile.

With the data center now pivotal to business agility and success as well as end user satisfaction, network and infrastructure performance, uptime assurances and security are likely to remain top priorities when choosing a provider.

Changes are taking place across all aspects of the data center, and organizations that are aware of these trends will be better positioned to make informed decisions about the provider and services they choose.

About Internap

Internap provides intelligent IT Infrastructure services that combine platform flexibility and unmatched performance, enabling customers to focus on their core business, improve service levels and lower the cost of IT operations. The company's cloud, hosting and colocation services are delivered from a geographically distributed platform of high-density, redundant data centers. Its patented, performance-optimized IP connectivity guarantees 100% uptime and lowest latency, resulting in a seamless user experience. For more information, visit www.internap.com or call 866-467-5441.