CLOUD IS NOT JUST FOR PILOT PROJECTS ANYMORE.
Just ask any one of the thousands of IT departments charged to do more with less, faster than ever before, and in such a way that the systems and services they come up with can all be expanded, contracted or otherwise changed on a dime, as today’s mercurial global business conditions dictate.

Welcome to the world of 21st-century cloud-based business. It’s a world in which corporate IT groups at companies across all industries are tapping managed service providers to help assemble and maintain the underlying IT fabric on which their businesses run.

Data and apps are moving to the cloud—and fast. By 2017, Gartner is projecting the overall market for cloud and related managed services will reach $244 billion, up from less than $50 billion today.
The average large enterprise has anywhere between 675 and 750 cloud services in use today, according to surveys conducted by various service providers. Cloud services range from Infrastructure-as-a-Service (IaaS) at the most basic level to Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) at the high end. IaaS offers enterprises virtual computers, while PaaS comprises a full computing platform, including operating system, database, Web server and a full execution environment. With SaaS, users gain access to application software on demand. SaaS offerings run the gamut, including financial, HR and sales apps to security and disaster recovery services.

Topping IT buyers’ list of reasons for adopting cloud apps and services are cost, innovation and agility. Across all industries, companies are under keen pressure to help bring new products and services to market quickly, grow revenue, establish new markets, engage with customers, empower employees and create overall value through IT. Increasingly, they’re turning to the cloud to do all of these things. They’re turning to public and hybrid clouds to create development and test environments for new apps they’re creating in-house or outright buying cloud-based services as a means of quickly acquiring urgently needed expertise.

The increasing popularity of hybrid

Among CTOs, “time to market and cost efficiencies are primary factors driving the rapid expansion of cloud services,” says Wade Holmes, VMware’s global cloud architect and CTO ambassador. “Second is expertise that can be obtained and maintained by service providers versus corporate customers.”

This is especially true as companies opt for a hybrid cloud environment in which some apps, services and processing are in the public cloud and some remain on-premises. According to IDC, more than 65 percent of enterprise IT organizations will commit to hybrid cloud technologies before 2016, vastly driving the rate and pace of change in IT organizations. By 2017, IDC forecasts that IT buyers will actively channel 20 percent of their IT budgets through industry clouds to enable flexible collaboration, information sharing, and commerce.

“IT buyers are shifting steadily toward cloud-also and cloud-first strategies, and nearly all are reconsidering their IT best practices to embrace hybrid cloud construction and operations, secure data management, end-to-end governance, updated IT skills, and improved multi-vendor sourcing.”

— Robert Mahowald, Program VP, IDC

“Digitization and transformation to virtualized, on-demand provider-based services are driving very rapid internal IT change,” says Robert Mahowald, program vice president with IDC’s SaaS & Cloud Software research practice. “IT buyers are shifting steadily toward cloud-also and cloud-first strategies, and nearly all are reconsidering their IT best practices to embrace hybrid cloud construction and operations, secure data management, end-to-end governance, updated IT skills, and improved multi-vendor sourcing.”

Moreover, IDC predicts that by 2016, there will be an 11 percent shift of IT budget away from traditional in-house IT delivery toward various versions of cloud as a new delivery model.

But experts say that few organizations will completely migrate to Software-as-a-Service (SaaS). Instead, an application’s business criticality, the organization’s geography, business agility and usage scenario will all be factored into the decision about what to move to the cloud and what to keep on-premises. The upshot, according to Gartner, is that most organizations will live with a mix of SaaS and traditional on-premises application deployment models, with a focus on integration and migration between different deployment models.

Hybrid cloud adoption requires more than connectivity and system integration. Hybrid cloud customers also need security, data management, systems management, plus compliance and other services, all of which are quickly coming to market. Backup-as-a-Service, Desktop-as-a-Service, Database-as-a-Service and Platform-as-a-Service are among the many and varied cloud-based infrastructure services on which companies—and their service providers—are coming to rely.

Case in point: real-time tax calculations

Consider the case of SureTax, an Atlanta-based company that helps its clients ensure they accurately deliver customer invoices with appropriate sales and communications taxes. To keep pace with rapid business growth without making a costly investment in computing hardware, SureTax contracted the services of phoenixNAP, an Infrastructure-as-a-Service provider offering cloud services based on VMware vCloud technologies. Today, SureTax is providing real-time SaaS tax calculations using VMware’s private cloud and virtualized solutions to meet its own and its clients’ privacy, performance and high-availability requirements.
A major benefit for SureTax and its clients is SureTax’s ability now to create customer-specific versions of its tax calculation solution simply by deploying an instance of the software.

This capability positions SureTax to grow its business. For example, as more companies sell products and services, such as tracking devices that are subject to communication taxes, SureTax is able to bring them on as clients. The virtualized infrastructure can scale to meet the needs of a growing customer base.

But infrastructure is merely the tip of the iceberg. Other service categories, particularly security services, are booming. Thanks to North American companies’ increasing reliance on managed security services providers, Frost & Sullivan researchers are estimating that managed security services market revenues could increase from $1.8 billion in 2014 to $3.25 billion by 2018. One of the critical factors driving the purchase of these services is the high degree of difficulty companies are having recruiting and retaining skilled security professionals.

Cranbury, Texas-based Creative Solutions in Healthcare opted to migrate its physical IT environment to the cloud, primarily to comply with security and privacy requirements necessary for HIPAA certification. Using VMware vCloud Air, the company gained the certification and reduced its IT budget by one-third in the process. In addition, it has implemented an electronic health record system that includes electronic prescriptions and online physician orders, which improves both staff agility and overall patient care.

“The infrastructure in a HIPAA-compliant environment needs to be secure with controls for change management and the right firewalls and technology to protect the perimeter,” says Creative Solutions CIO Shawn Wiora.

Before moving to the cloud, the company had policies in place, but it didn’t have the infrastructure to support them, Wiora noted. In the cloud, “we’ve deployed technical controls on our core infrastructure and anti-virus and other solutions in a holistic approach to security that allows us to comply with regulations and achieve HIPAA certification.”

“Many of our customers evaluate the costs associated with maintaining strict guidelines for security and compliance mandates,” says VMware’s Holmes. “In many cases, they choose hybrid cloud vendors that actually provide higher levels of security and offer a multitude of services—such as patching, management and SLAs—that they would not be able to provide themselves at comparable costs.”

That’s not to say that companies do not have security and privacy concerns about moving applications to the public cloud. They certainly do. Yet they also continue to invest in public cloud for SaaS deployment of software applications. The need for more rapid deployments than are available from in-house IT resources and faster access to innovation frequently override privacy concerns.

“We are seeing the trend move from IaaS to XaaS,” says Holmes. “Customers are increasingly asking for solutions, such as Disaster Recovery-as-a-Service and Desktop-as-a-Service, which encompass more than just compute services. Customers want complete, turnkey services that help them reduce capital expenditures and operating expenses.”

VMware is responding to this demand via an extensive partner network in its vCloud Air ecosystem. It already has provided the virtualization foundation that the majority of enterprise customers rely on in their private data centers. Now, with the addition of vCloud Air Network Partner services, VMware customers also have the option to utilize the computer resources and vertical market expertise of more than 4,000 VMware service partners.

VMware vCloud Air Network Services delivers value to the business rapidly and affordably. Full VMware compatibility means data and applications are portable between a customer’s datacenter and VMware vCloud Network Air Services infrastructure.

Customers run the gamut from IT managers to administrators and department heads looking for on-demand capacity for a seasonal or special project. It might be a developer in search of a test/dev cloud environment. Whatever the role and requirements, there are VMware vCloud Network Air Services offerings optimized to fulfill them: development and testing, training, technical support, seasonal and transient workloads, batch processing, disaster recovery, startup environments and practically any other use case.

The bottom line: The vCloud Air network partner ecosystem offers highly trained management and value-added services to cost-effectively benefit joint customers of both VMware and its expanding ecosystem of vCloud Air service providers.

To learn more, go to [http://vcloudproviders.vmware.com](http://vcloudproviders.vmware.com)

1 IDC FutureScape: Worldwide Cloud 2015 Predictions
GIANTS IN CLOUD

13 Tips to Achieve Cloud Success

5. Vet your partners. Campbell’s has developed very formal processes, reviewed monthly, for the acquisition, management and recertification of its cloud partners, Spagnoletti says. The program, which involves the internal audit department, examines the risk a process could potentially introduce.

Choose your cloud partners wisely, echoes Paula Tolliver, CIO and corporate vice president, business services, at Dow Chemical. Make sure you’re working with cloud service providers that share the same values and requirements that you do, and that they’re working with you to mature and evolve to standards. “We’re encouraging our service providers to get standardization across industry so that we live up to the ultimate cloud promise of being able to move services and capabilities at will and as needed,” Tolliver says.

In addition, Dow chooses to avoid specialty players. “We’re steering around niche players,” Tolliver says. Dow wants “mature,” established vendors with proven prowess in key enterprise areas such as compliance, reliability and security.

6. Have an exit plan. “Make sure you get a prenup in place,” says Steve Phillips, CIO at Avnet. The relationship might be great when you sign the contract, but make sure the contract addresses separation in the future, he warns.

7. Avoid customization. It’s best to limit the amount that you’re tailoring a cloud service for your organization, says Rich Adduci, CIO at Boston Scientific. “The more you build around it, the more best of breed you’re doing, the more you’re moving away from the cloud’s value proposition,” Adduci says. The better approach, he says, is to establish a strong relationship with your vendor to help them evolve the platform.

“Before you sign that dotted line, you really need to understand that software and how it will work in your environment,” says Avnet’s Phillips, who also recommends not making changes to cloud software.

8. Feed the network. “Your network has got to be Class A,” says Wayne Shurts, CTO at Sysco. The food distributor is in the middle of a three-year network upgrade project to increase bandwidth, provide more complete redundancy, and improve traffic prioritization capabilities. “The network really becomes even more important and a huge point of failure in your infrastructure than it ever was before,” Shurts says.

By Ann Bednarz, CIO

We interviewed 16 CIOs and IT leaders about their public and private cloud deployments, usage trends, skills requirements, lingering obstacles and future plans. Here are some nuggets of advice from these cloud giants.

1. Don’t get too caught up in cost savings. “If you make it a money thing, you’re making a mistake,” says Joe Spagnoletti, CIO at Campbell Soup. “It’s an option to deliver capability. You have to get it at the cost commensurate with the capability. You can’t do it for cost savings or management efficiency.”

2. Don’t just ‘lift and shift’ — that is, don’t simply take your existing infrastructure and move it wholesale to the cloud. “Don’t move to the cloud just because it’s trendy,” says Chris Drumgoole, chief operating officer for cloud services at General Electric. “Sure, it might save you some money -- but you’ll miss the opportunity to transform how you do business, and those don’t come around that often.”

3. Understand that it’s an iterative learning process. “Being successful isn’t really about the technology. The technology is there and it works pretty well. The hard part is understanding the problem you’re trying to solve,” says McKesson CIO and CTO Randy Spratt. “One size doesn’t fit all. You need to understand what your users are trying to do.”

4. Embrace change management. Cloud is a big change for people and organizations, says McKesson’s Spratt. Change management becomes an “evangelical” function, he says. “Just building and deploying isn’t enough. You need to educate businesses about what they have. It’s like an internal sales job.”
GIANTS IN CLOUD

CIOs Face Cloud Computing Challenges, Pitfalls

What’s the hardest part about migrating to the cloud? Giants talk security, vendor lock-in, shadow IT and other common challenges.

By Ann Bednarz, CIO

There’s no easy path to the cloud for large companies with decades of legacy IT investments.

Roughly 20 percent of Progressive Insurance’s business applications run in a SaaS model, while 80 percent run on the company’s own hardware. On the infrastructure side, Progressive uses IaaS, but mainly for experimentation.

It would be “a whole new ballgame” if Progressive were some medium-sized business that didn’t have an extensive data center footprint, says CIO Ray Voelker, but “we already have assets we own that we can leverage.”

Chris Drumgoole, chief operating officer for cloud at General Electric, says legacy is “where it’s more interesting for us; we need to be more thoughtful there.” Most new apps — over 90 percent of those deployed so far this year — have been in the cloud.

“That’s the de facto place to deploy apps for us,” he says.

But for a substantial number of the 9,000 apps GE has in its infrastructure, a decision will need to be made about whether to move the app, kill it, consolidate multiple apps or allow the software to stay on some sort of legacy system. “We’re hoping by 2016 to have made all those decisions and started action” on whatever the decisions are, Drumgoole says.

The burden of legacy systems is just one challenge that adds to the complexity of cloud computing for large enterprises. CIOs and cloud leaders wrestle with many other common challenges, including security, vendor lock-in, and shadow IT.

Dow Chemical knows firsthand that it can be difficult to change cloud providers. The company is in the process of moving to a new human capital management provider, says David Day, director of WorkPlace Services at Dow.

But switching clouds isn’t as easy as vendors lead people to believe. “Providers don’t talk to each other. It’s complicated,” Day says. The market needs better “orchestration tools,” as well as standards, to allow companies to move more easily from one supplier to another, he says.

That said, it is generally less expensive to switch providers in the cloud than it is to change on-premises vendors, Land O’Lakes has found. “There is a cost,” says Mike Macrie, CIO. “But where it can cost $10 million to change on-premises ERP, it costs $2 million in the cloud. The barrier has come down.”

Lock-in is always an issue, says GE’s Drumgoole. “We’re cognizant of the potential for lock-in” and are trying to mitigate that. For one thing, there are multiple cloud providers in each category of service GE deploys.

The company has also developed a service rail, which provides a raft of services needed by just about every application — from identity management to Domain Name Services and time and date. “You can use that GE service the same way whether you’re on an Amazon, Azure on VMware cloud,” Drumgoole says.

Security remains a universal concern — though some CIOs are more bullish about cloud providers’ handling of it.

“Security is one of the more complex problems to solve. To really put together an effective solution, you need to cobble together 5–6 solutions,” says Randy Spratt, CIO and CTO at McKesson.

McKesson relies on a suite of tools, from antivirus and malware to secure web gateways. One of its more unique features is for data loss prevention: McKesson inspects data in motion, looking for transactions or records that contain protected health information, such as procedure codes and social security numbers. It halts any transaction that triggers a red flag, Spratt says.

Likewise, Humana relies on multiple tools and tactics to protect individuals’ information. Before engaging with a cloud-services vendor, Humana assesses the provider’s security framework — what tools they use, the general approach to security, how encryption is handled, the ability to ensure information never leaves the continental U.S., and a whole host of other things, says Brian LeClaire, CIO at the health insurance provider.

On the positive side, cloud providers understand that legal and security issues are some of their biggest obstacles, so they’ve really concentrated on addressing those issues over the last several years, says Wayne Shurts, CTO at food distributor Sysco. “They have pretty good answers.”
How To Get more out of your Virtualized and Cloud Environments

IT orgs brace for an explosion in number of virtual machines

By Brandon Butler, Network World

After Dammons Darden arrived as the new senior systems administrator for the city of Garland, Texas, he knew that the 50 to 60 physical hosts for this 234,000-person city outside of Dallas were not running nearly as efficiently as they could be. Some had excess capacity, others were running way too hot.

Traditionally if apps are slow and virtual machines need more memory the easy answer is an unfortunate one: Throw more hardware at the problem. But Darden wasn’t satisfied with that. While roaming the expo floor at VMworld two years ago he stumbled across VMTurbo, a company that specializes in analyzing virtual environments.

Using VMTurbo to gain insight into what was happening in the virtual realm, the city of Garland found it could ratchet up the VM load on some machines dramatically, going from 20 to 45 VMs per host to 40 to 45 on some servers. That consolidation freed up hosts that could be used to support other initiatives. The city, for example, was considering a virtual desktop environment but was worried about hardware costs, and suddenly Darden had servers to host the deployment.

It’s a lot easier to just keep adding hardware, but there’s a better way, Darden says.

Matt Eastwood, general manager of IDC’s enterprise platform group agrees. He estimates the typical enterprise server runs 10 to 12 virtual machines today at about 30% to 40% capacity. An optimal server utilization rate is usually around 60% to 70%, meaning many servers could easily handle twice the VM load. With an explosion of VMs on the horizon — IDC predicts the number of VMs to increase 130% in the next four years -- some shops will buy more hardware to increase capacity. But experts say smart organizations will first optimize their existing environments.

Paying too much for cloud services? These five tools can help cut your cloud costs

By David Strom, Network World

As you move workloads to the cloud, you’ve probably already discovered that keeping track of your monthly cloud computing bills is not an easy task. Certainly, using a cloud provider can be cheaper than purchasing your own hardware, or instrumental in moving a capital expense into an operating one. And there are impressive multi-core hyperscale servers that are now available to anyone for a reasonable monthly fee.

But while it is great that cloud providers base their fees on what resources you actually consume, the various elements of your bill are daunting and complex, to say the least. True, many of the cloud components can be had for pennies per month, but for some resources (such as those heavily loaded multicore CPUs) the meter can run up to real money very quickly.

One of the ways the cloud is evolving is in how these fees are calculated. Some vendors, such as Amazon Web Services, have blue-light specials where if you can plan in advance you can cut your costs significantly. Others, such as IBM’s SoftLayer, offer freebies like inbound and outbound data transfers.

And all of the vendors are cutting their prices regularly. According to one vendor, AWS EC2 has had 44 price reductions since its inception in 2006. And that is just for one of their several dozen offerings, each of which has had its own price reductions. Keeping up with these constant changes can be tough.

Certainly, the cloud providers are trying to help with pricing pages on their own websites. But because each provider charges separately for each individual storage unit, CPU core, amount of RAM, disk space, and data transfer, these calculations can be hard to predict with any accuracy, even if you know ahead of time the parameters of your particular instance.

AWS has so many different services that they have a link to what they call their economics center where customers can explore how to cut monthly bills and optimize configurations.