IT organizations ran into a common set of problems in the “land rush” to the Cloud 1.0 stage. Perhaps the most important and overarching issue was the lack of planning and long-term strategy. As executives and business units bought their own services or made demands that IT “do something now,” there was no time for necessary, traditional strategic IT thinking. This was often exacerbated by a skills shortage for the newest products and services. Further, as business units increased the pressure to act, many cloud deployments were unique and siloed one-offs. IT had no time to build the standards and consistent processes needed to ensure interoperability, and often, the business completely bypassed IT. This led to many operational problems and difficulties meeting operational, governance and security requirements across the infrastructure.

Don’t Repeat the Mistakes of Cloud 1.0

Cloud technology has fundamentally and irreversibly changed IT forever. Many benefits were gained from this new architectural approach, but there were also some very real drawbacks that IT teams discovered as they became more familiar and experienced with cloud deployments. To move forward with new, next-generation cloud solutions that support digital businesses, it is essential that these problems are resolved going forward.

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Doing Cloud 2.0 Right—An Expert Perspective on 5 Key Issues

As organizations approach the design, deployment and operation of their next-generation cloud services, it is essential that they do it in the most beneficial manner. To support this goal, we have enlisted the support of an expert, Scott Brindamour, senior director of the U.S. architect team, cloud hosting and IT services, at CenturyLink. He has personally directed numerous successful Cloud 2.0 projects and provides answers to the most important questions about this migration.

Q What are some of the key planning assumptions or tasks that we should focus on to start our Cloud 2.0 projects?

A Without the right plan, it’s almost impossible for the project to succeed. The starting point is to know why you are moving workloads to the cloud. Is there a cost issue, a lack of space in the data center, or other factor driving the migration? From this information, you then need to understand what workloads are right for the cloud and what aren’t. You have to look at all of the issues, not just application versions, to make this determination. Once this is worked out, the next step is to be sure cloud infrastructure can support the necessary service levels and SLAs. Evaluating the impact of cloud on your software licenses is also essential, as some software vendors have very different pricing for cloud architecture.

Q Migration is often a focal point for IT organizations. How do we ensure that we have an optimized migration process?

A Migration is where many projects run off the rails. A detailed and documented process is essential, and the development of a “migration factory” concept, like what we have here at CenturyLink, helps ensure these processes are in place. This approach provides a more comprehensive understanding of all the elements of the migration process for each individual application workload so that it goes more smoothly.

Developing a standard approach will encompass a number of aspects of the migration project. For many, the starting point is to understand the impact of rehosting or re-platforming applications in the broadest sense. For example, will rehosting be impacted by different versions of software components of the stack? Will there be IP addressing conflicts? Can you ensure app consistency? And depending on your own situation, there are likely to be others. It
is also important to assess the underlying data that supports the workload. Can it easily be moved to the cloud? Moving data efficiently and ensuring it remains consistent in the target environment is a major concern, and of course, you have to meet any data sovereignty or other compliance requirements. Finally, success is often greatly enhanced by not only developing a standard checklist for each application workload but also deploying a migration tool kit that works for each workload type and different target cloud environment and requires as little manual effort while leveraging as much automation as possible.

Q The concept of a “service catalog” is something you talk about quite frequently. How does it benefit the migration process?

A Developing and codifying a service catalog is the best way to deliver the structure that enhances migration projects. The service catalog should also be viewed as a dynamic framework that will be enhanced and modified over time. The catalog should be enhanced with an eye toward improving completeness and effectiveness of your applications as they change over time. This helps capture learning and experience so that new or changing members of the team can benefit from work that has been done before their arrival. This approach helps to develop best practices that become part of your standard operating procedures.

The service catalog should enable key standards that are essential to project success and ultimately tie back to the user experience of the applications or the cloud environment. These include the standards for secure application builds and deployment, data categorization and protection standards, specification configuration and performance standards, and SLA requirements or user experience criteria. This is just a starting point, and a full-service catalog should contain more detail and granularity to support each of these tasks. The service catalog will go a long way toward delivering an environment that is fully understood by all parties and supports change based on user needs or technology changes without missing a beat.

A The operational issues are often underestimated, but without streamlined and efficient operations, poor results are likely. What are some of the hallmarks of next-generation operational capability?

A The best migration practices won’t bring much benefit if you don’t have an operational model that can support next-generation solutions. Many of the limitations that impact agility and flexibility are the result of complex operational practices that must be updated and enhanced. The starting point for a next-generation operational model is to deploy a single operational framework across on-premises and cloud resources. This is where an approach such as software-defined infrastructure (SDI) provides an excellent solution. You can standardize the platform, and utilizing the same operational tools your team has been using for in-house environments is an excellent approach. Moving forward, any silos, cloud or on premises, will create substantial operational complexity with constant exception management that will drive higher operational costs and ultimately higher risks for failure.

Next-generation operations starts with a commitment to automation. Any best-in-class next-generation management console, such as VMware’s vCloud, will provide the ability to automate many current manual functions. Automation will free up IT staff, eliminating:

- Manual deployment, updating and patching
- Initial incident response and troubleshooting
- Sizing and resource management
- Failover and spinning up new instances to replace failed ones

Automation will also depend on strong and comprehensive monitoring to spot issues that need remediation or to kick off an automated process to handle it. Monitoring will also ensure that operational issues such as service levels, dynamic workload migration and other activities common in Cloud 2.0 are tracked and managed, often without manual intervention.
One of the problems of Cloud 1.0 that got management’s attention was the lack of governance options and the need to ensure compliance. As we get into Cloud 2.0, how should we view the governance issue?

Every aspect of the organization, including IT, must work within the governance requirements and guidelines of the organization. For IT, many activities are impacted by governance, and many organizations are finding out after the fact that the headlong rush into Cloud 1.0 created numerous security, compliance and other governance issues that now need attention. Rather than working from a reactionary perspective, Cloud 2.0 will be typified by the inclusion of governance from the very start.

Among the most important governance requirements is the need for consistent cybersecurity deployments. This is where a single management platform is hugely important, as it makes standardization much simpler and ensures that the same “security stack” is used across all infrastructure. There should be a set of standards for each application environment based on the application’s risk profile and the data that the application is using or storing or has access to. Next is a documented set of processes for supporting compliance regimes. Many compliance audits start by evaluating the processes for ensuring compliance, and when they are absent, passing the audit is quite unlikely.

Governance is also a financial demand. With multiple environments and cloud providers being used in Cloud 2.0, IT must have documented methods for chargebacks and billing to the lines of business. The process must be able to keep up with the changing environments and automate cost control to maintain budgets across the business. Delivering on cost visibility, reporting, control and expense optimization ensures that finance is on board with IT.

Key Takeaways
The pressure on IT teams to move quickly and deliver agile IT systems that can support high-speed digital businesses has never been higher. Utilizing cloud architectures is a key component of that strategy. However, the limitations and shortcomings of Cloud 1.0 are now apparent, requiring IT to shift to a more complete and integrated approach to all phases of cloud migration and operations.

The five key steps outlined above for implementing an improved strategic approach will ensure success with Cloud 2.0. CenturyLink has identified these five issues as critical to success in real-world customer engagements. They cover the entire range of processes necessary for implementing next-generation Cloud 2.0 systems and infrastructure.

Take the Next Step
To find out more about CenturyLink Cloud® Solutions, visit https://www.centurylink.com/business/hybrid-it-cloud.html. Or drop us a line at info@centurylink.com to request a no-charge, 30-minute consultation with a CenturyLink expert and find out how managed services can help you.