

Cloud and IPv6 – Two Interdependent Inflexion Points

The New Year is cause for celebration for all CIOs World over. 2012 will see the continued ascendance of the role played by the IT leaders in their respective businesses. Any strategic business decision will include an IT dimension and will rely on a scalable, agile and enabling IT environment. Yes, all this opportunity does not come for free; it will present itself only to the CIOs who will be able to effectively navigate their organizations through three major inflexion points: IPv6 Transition, Cloud Adoption and Application Management.

Scalability=IPv6 Transition.

It is time we face the fact that the private IPv4 address space simply doesn't cut it anymore with our growing footprint in terms of both users and, more importantly, number of devices. Let's not forget that any organization with a global footprint or aspirations for one must become IPv6 ready in short order. The first to experience the pain will be service providers and amongst them, the CGN fans should keep in mind three concerns: Scale, Complexity, Unknown impact to user experience. It is time to bite the bullet.

Agility=Cloud Adoption.

Effective use of IT resources that enable services with just the right amount of resources for the right amount of time is critical to business agility. Cloud adoption at private and public level is key to enabling an IT as a Services organization. IT organizations and consumers alike will start to tap into Cloud offerings. In 2012 however, customers will be better informed in what they need from the Cloud service providers and what they need from the access providers.

Enablement=Application Management.

All IT organizations are facing or will face a new wave of applications that are large in numbers, cloud ready and with much shorter lifecycles. Managing these applications through the IT environment will be challenging. Managing these applications across a hybrid Cloud infrastructure will be even more challenging.

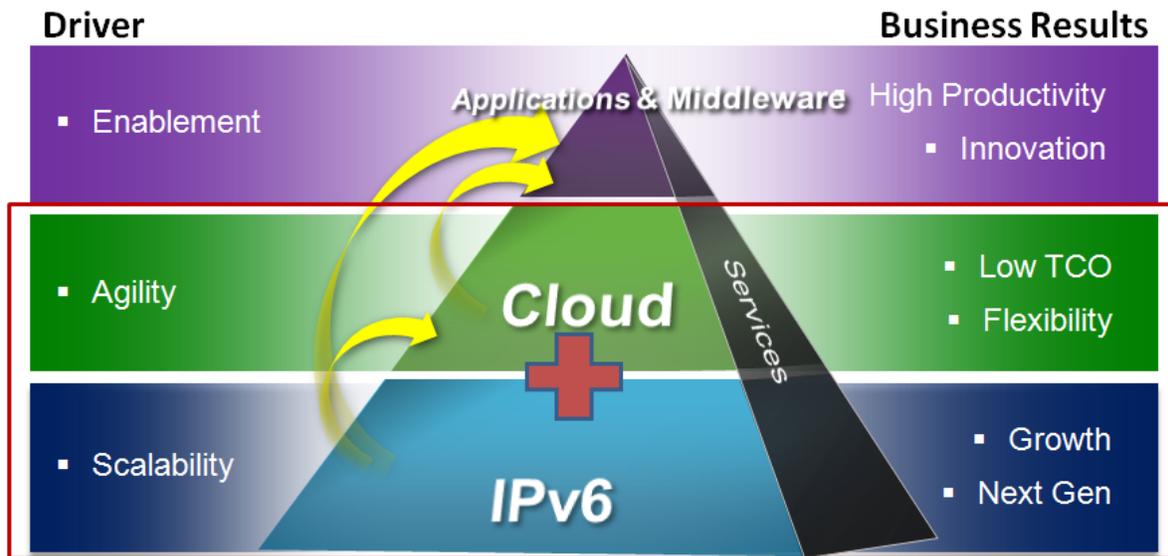


Figure 1: Three major inflexion points facing IT

We are not talking here about a feature being enabled, about a service being rolled out or some point upgrade. The inflexion points shown in Figure 1 represent foundational, all encompassing changes. They touch every aspect of the IT environment, they are very complex and they are interdependent.

Take for example Cloud adoption and IPv6 transition. Both efforts impact every aspect of the environment from infrastructure (network, compute, storage), to processes, operations and management tools that fit in cloud orchestration and support IPv6 to applications which must become cloud and IPv6 ready. Both cloud adoption and IPv6 transition are complex as they require coordination across multiple groups and projects for an effective and optimal implementation. For service providers, these two transitions will be major undertakings in their own right. It is not just about refresh, the biggest challenge will be to update the backend and operations systems to support IPv6 infrastructures and Cloud services.

On top of it all, the two transitions are interdependent in that IPv6 provides the resources and the capabilities to scale up cloud deployments. IPv6 simplifies manageability while supporting distributed cloud resources and consumers. Executing one transition independent of the other is likely to lead to suboptimal or shorter term solutions.

The bottom line is that IT organizations must expand the scope of individual cloud adoption or IPv6 transition efforts, they must take a comprehensive approach to managing these inflexion points as shown in Figure 2 and in the context of Technology, Processes and People. When defining the new network, compute and storage standards for the cloud infrastructure, make sure they are IPv6 ready. When designing the data centers, go for those larger broadcast domains knowing that IPv6 is making it

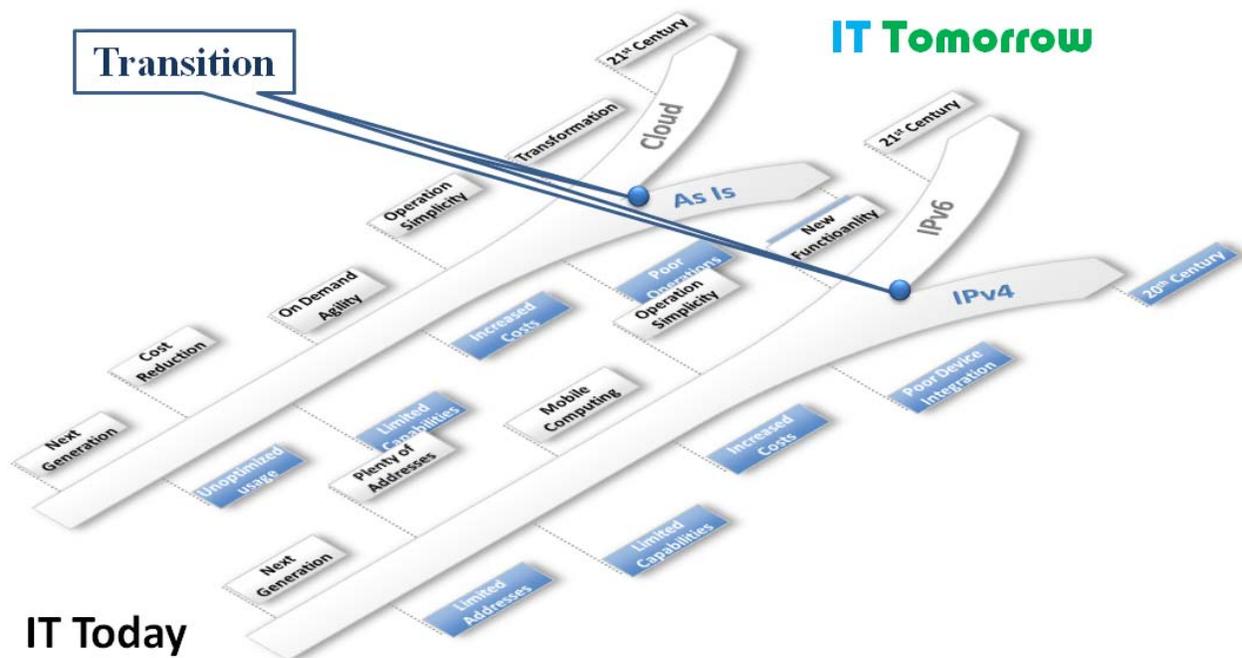


Figure 2: Aligning the Cloud and IPv6 Transition Roadmaps

easy to support them. Plan to leverage the size of the IPv6 address space to embed more information in the IP address to simplify management. When selecting the tools for cloud orchestration, ensure their IPv6 readiness. The same goes for the cloud providers you include in your cloud strategy. Assess applications for Cloud and IPv6 readiness at the same time to optimize execution. In a nut shell: design with both in mind and align roadmaps as shown in Figure 2 to leverage efforts and avoid rework.

Complexity is the bane of our collective IT existence and it is bound to get worse. However, setting the proper foundation for our IPv6 ready, cloud enabled next generation IT environment will save us a lot of grief, both with its implementation and its operation. These inflexion points represent a perfect storm we will not encounter again anytime soon and the right strategy is a Cloud+IPv6 strategy.

About the Author

Dr. Ciprian Popoviciu is the President/CEO of Nephos6, a Cloud and IPv6 consulting services company with extensive experience in defining the strategy, developing the planning and implementing cloud solutions and IPv6 transitions. An industry recognized subject matter expert in IPv6, Ciprian co-authored two books (“Deploying IPv6 Networks” and “Global IPv6 Strategies”), multiple RFCs and patents. Visit www.nephos6.com for more information, or follow me on Twitter @zamolxesv6.



About Nephos6, Inc.

Nephos6 is technology consulting firm that helps businesses find value in disruptive technologies. The company's comprehensive service portfolio covers the spectrum of critical business issues facing enterprises and services providers as they transition to IPv6 and migrate to cloud computing architectures simultaneously. Founded by well known IPv6 domain and cloud computing experts, Nephos6 is headquartered in Raleigh, NC, with presences in Washington DC, and Seattle, WA. For more information, please visit us at www.nephos6.com.

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