TOP 5 REASONS WHY FINANCIAL SERVICES FIRMS SHOULD CONSIDER SDN NOW

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From Nokia

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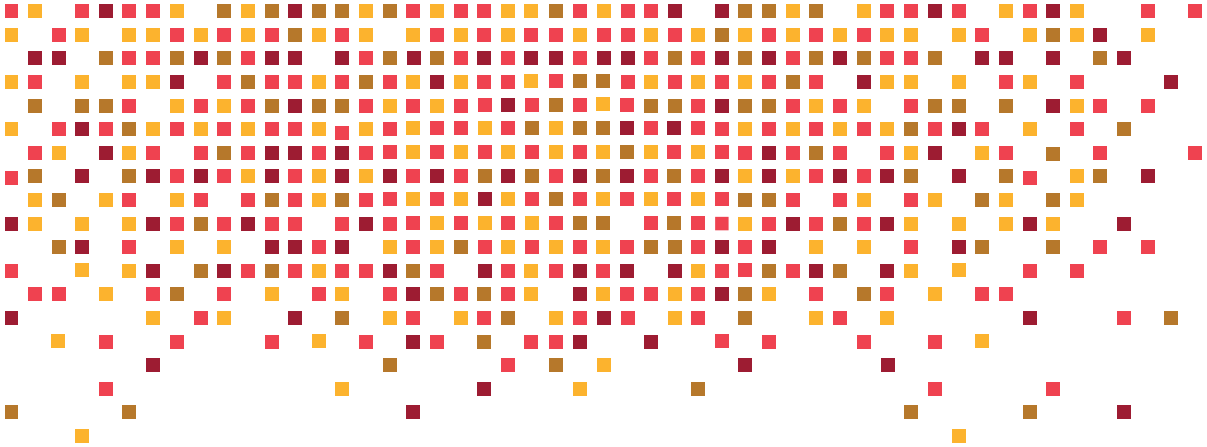
Abstract

Software-defined networking, or SDN, is a relatively new technology that is already having a major impact on companies in the financial services industry, largely because it supports a more agile and dynamic approach to IT that addresses many of the challenges of the cloud era. By utilizing SDN, IT leaders in the financial services industry are able to use a pooled resources approach to significantly accelerate the development of new applications and services. In addition, SDN provides a far more automated architecture for network management and deployment, thereby enhancing compliance, security, business continuity and disaster recovery.

This article explores why it is important that IT leaders in financial services consider upgrading their networks to SDN now. The advantages of SDN are too compelling to put on hold, particularly in financial services, where issues such as agile development, speed to market, compliance, security, data protection and high availability of applications are so critical to business success. In addition to discussing the reasons to consider SDN, the article also describes some of the important features and characteristics to look for in an SDN vendor.



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IT decision makers at financial services firms face a wide array of challenges that are stretching the limits of their legacy IT infrastructures. Changing government and industry regulations; the need to roll out new applications and services quickly; and the constant threat of security breaches are among the issues forcing financial services firms to modernize their datacenters to be more agile and cost efficient.

Software-defined networking (SDN) is a relatively new technology that is having a big impact in the financial services industry, particularly in supporting a more dynamic and flexible approach to IT. While there are differences in the challenges facing financial services firms in various segments—an investment bank is different from a retail bank or insurance firm—there are also many commonalities. Across the board, in all segments, financial services firms using SDN are seeing significant improvements in their ability to:

- Turn up and modify business applications quickly by removing the network lag faced by DevOps teams, allowing their developers to spin up resources as needed to improve business productivity. Accelerated development enables the organization to address important trends that are at the heart of customer expectations, such as the movement toward a faster and more responsive "consumerized" model for IT.
- Respond much more easily to changing government and industry regulations with automated policy-enforcement mechanisms that dramatically simplify network auditing and compliance. This also improves security by ensuring policy-driven enforcement of connectivity across users, workgroups and applications anywhere, from any device.
- Strengthen disaster recovery and business continuity, ensuring high availability of services and applications at all times.

These challenges cannot be addressed quickly and cost-effectively using traditional networking architectures. A new approach is required to meet the performance and agility requirements of today's highly virtualized datacenters in the financial services industry.

SDN: The Efficient Answer

SDN delivers that new approach by decoupling the network control function from underlying network infrastructure. This makes the network control function far more dynamic and programmable, creating significant efficiencies for next-generation datacenters and the rapidly growing range of applications and user demands that they support.

Although a relatively new technology, SDN is having a big impact in many industries—and particularly in financial services, where the need for speed and agility without compromising control and visibility are of paramount importance.

If you are in IT in financial services, you will eventually embrace SDN because it is the network architecture of the future. But why wait: The following are five reasons why your organization should consider SDN now:

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With SDN, IT departments can set up networks as easily as if they were setting up virtual server instances.

Reason No. 1: You need test and development to be faster and more dynamic than is possible today.

In financial services firms, DevOps teams will likely be among the first and most important beneficiaries of SDN capabilities. These teams are under enormous pressure to deliver new services and applications much more quickly than ever before. With SDN, IT departments can set up networks as easily as if they were setting up virtual server instances. This is a breakthrough for DevOps teams, in that they can now:

- **Drive innovation** by not having to work through long work order-driven processes to deliver network services for new applications.
- **Experiment with new networking approaches** without affecting production environments, meaning proof-of-concept and prototype applications can be created and deployed rapidly.
- **Dynamically make adjustments** to applications and services seamlessly from pooled resources in strict accordance to policy during every stage of the process, from development to testing to rollout.
- **Improve the quality** of new applications and services by enabling developers to work through more iterations and feedback loops in a much more condensed time frame—so delivery is not only accelerated, but the finished products are also typically more advanced and much more closely aligned with the needs of users.

Reason No. 2: Speed is highly critical—you need real-time information that is accurate and actionable.

In financial services, giving employees and customers access to real-time, actionable information translates into competitive advantage. As important as network performance is today, it will be even more important in the future, as financial services firms further embrace initiatives such as big data analytics, cloud computing, mobility and the evolution of services to or from their branch locations.

SDN is at the top of the list of technologies that eliminate the barriers to agility and network performance, while also enabling enterprise IT organizations to break free from the vendor lock-in that typically limits choice and stifles rapid innovation.

The complexity of legacy network architectures slows down performance. While SDN uses the exact same Ethernet network that is already in place, it improves performance through abstraction and automation. SDN provides an architectural foundation to eliminate performance bottlenecks and build dynamic, agile and scalable networks that are "future proofed."

The need for speed in development and production environments is being fueled by the changing demands of consumers, driven in large part by the proliferation of technology in our personal lives. The idea behind this IT consumerization model is that all users—not just customers, but employees and partners as well—now have the same expectations for business applications as they do for their experiences in the consumer world. That means much faster development cycles for new applications, and services that are finely tuned to user needs right from the time they are launched.

Reason No. 3: Government and industry regulations are prone to frequent change and you need automated processes to ensure compliance.

In financial services, it sometimes feels as if regulatory compliance is a moving target. In the U.S., for example, the Dodd-Frank Act was signed into law in 2010, yet many of the provisions are still being debated. SDN makes it much easier to adapt to changing requirements by automating many of the functions involved in defining, enforcing and evolving polices across the network.

With traditional networks, operations teams typically have to go through a manual process of distributing network policies on all elements of the network whenever a change is needed: For example, when a password change is required, or when a new application is launched and a service policy has to be changed across the network.

With SDN, policy-based networking can centrally enforce these changes while assuring that the new policy is pushed throughout the network. The SDN architecture can provide for a tracking and auditing mechanism for all changes, thus ensuring that the network platform is delivering the business information to only those individuals who have the proper approvals.

In addition, by centralizing policy management SDN provides a single, easy location for auditing and compliance reporting. This makes it much simpler for the IT organization to satisfy government compliance requirements, such as those mandated by the Sarbanes-Oxley Act in the U.S.

Reason No. 4: Security and data protection are critical to every aspect of your operations—and SDN reduces risk through enhanced protection.

Financial services firms are particularly challenged by the need to strengthen security and data protection across a range of systems and networks and, increasingly, public, private and hybrid clouds. The separation of network control and hardware functions in SDN provides the opportunity for a much more secure architecture across all environments.

The IT organization can take a granular approach to managing the network, ensuring that access mechanisms directly match the existing security and operational models of the organization. As a result, SDN can enable the organization to simply create specific security requirements and policies for applications, devices and users. Coupled with a programmable analytics engine available in the most advanced SDN solutions, security and data protection safeguards can not only be deployed much more easily, but they can also be monitored in real-time for rapid problem resolution.

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Reason No. 5: SDN will improve the availability of applications, while strengthening disaster recovery. Can you really afford to lag behind your competition in either of those areas?

Just as server virtualization changed the methods of disaster recovery for financial services firms, SDN has the potential to change the paradigm once again. The

dynamic nature of SDN makes it much simpler for enterprise IT to back up and restore networks faster than traditional approaches—getting the business up and running more quickly than traditional network approaches would allow. With SDN, IT teams can improve high availability and disaster recovery by:

- Moving or mirroring applications to a backup site in a private or hybrid cloud.
- Using virtual networks to scale between physical locations.
- Enabling applications and workloads to be instantiated based on hierarchical policy rules of the organization.
- Centralizing control and visibility of network functions and performance across disparate physical locations.

Conclusion

The benefits of SDN are especially valuable to financial services firms because it addresses their needs for speed, nimble applications development, enhanced security and simplified compliance, among others. The opportunity is to begin deploying SDN now, to address today's challenges with a solution that will position you strongly for future growth and innovation.

In choosing an SDN solution, it is important to note that there are several approaches, with many vendors jumping onto the bandwagon. You want to make sure you choose a vendor with an open approach and a rich background in building large and complex networks.

Nuage Networks, an Nokia venture, has taken a breakthrough approach to SDN that is garnering important industry recognition, including a Cool Vendor in Enterprise Communications designation by Gartner,[1] and a TMC Excellence in SDN Award.[2]

Nuage Networks has completed a wide range of successful customer trials and deployments, consistently delivering SDN capabilities that remove the network constraints of legacy environments.

Nuage Networks' solutions transform the physical network into a simple-to-manage, rack-once and wire-once, vendor-independent IT backplane. With Nuage Networks, network resources within and across datacenters can be treated as an elastic resource pool that can be consumed and repurposed on demand.

Are you ready to take the next step in evolving your datacenter networks for the cloud era? Contact Nuage Networks to get started, at **largeenterprise@nuagenetworks.com** or **(877) 425-8822**.

1 "Gartner Research Names Nuage Networks a 'Cool Vendor' in Enterprise Communication Strategies," Yahoo! Finance, Oct. 1, 2014

2 "TMC Announces the 2014 Excellence in SDN Award Winners," TMC, April 15, 2014

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