

# Smarter Networks Propel Smarter Business

**Network-as-a-Service is built on SDN and intelligent orchestration, enabling you to get more out of your existing resources without sacrificing quality or security.**

BY JEFF DOYLE

Real-time communications are essential to any business, from basic voice to high-definition videoconferencing. Economics have long driven the migration of these services to the IP “cloud,” but, more and more, traditional IP networks are forcing businesses to sacrifice quality of user experience in order to keep capital and operational costs under control. Instead of “throwing bandwidth at the problem,” we need a new, comprehensive approach for supporting real-time communications over IP that allows us to get the most out of existing network resources.

**N**etwork-as-a-Service (NaaS) is the solution. The advantages of other “as-a-Service” models, such as Infrastructure-as-a-Service (IaaS) and Software-as-a-Service (SaaS), have been appreciated for some time: Virtualized compute, storage and application resources coupled with intelligent orchestration provide service agility and efficient utility-based cost structures. NaaS takes the same approach to networks by virtualizing physical network resources and then coupling to an orchestration layer that can adapt the network to application demands on the fly.

Software Defined Networking (SDN) is the foundation of NaaS, representing the physical network as an abstract model and then providing a unified, programmable interface to an intelligent orchestration layer. The orchestration layer then acts as an arbiter between the needs of real-time applications and the realities of available network resources.

Google has applied this model for several years. Through intelligent monitoring and control of its inter-data center networks, it has safely driven utilization close to 100%. Comparing this to traditional rules that limit network utilization to around 50%, the rewards are clear.

## A Perfect Storm

Sonus CTO Kevin Riley explains the dilemma businesses face with legacy networks: “It’s no longer economically feasible to just arbitrarily

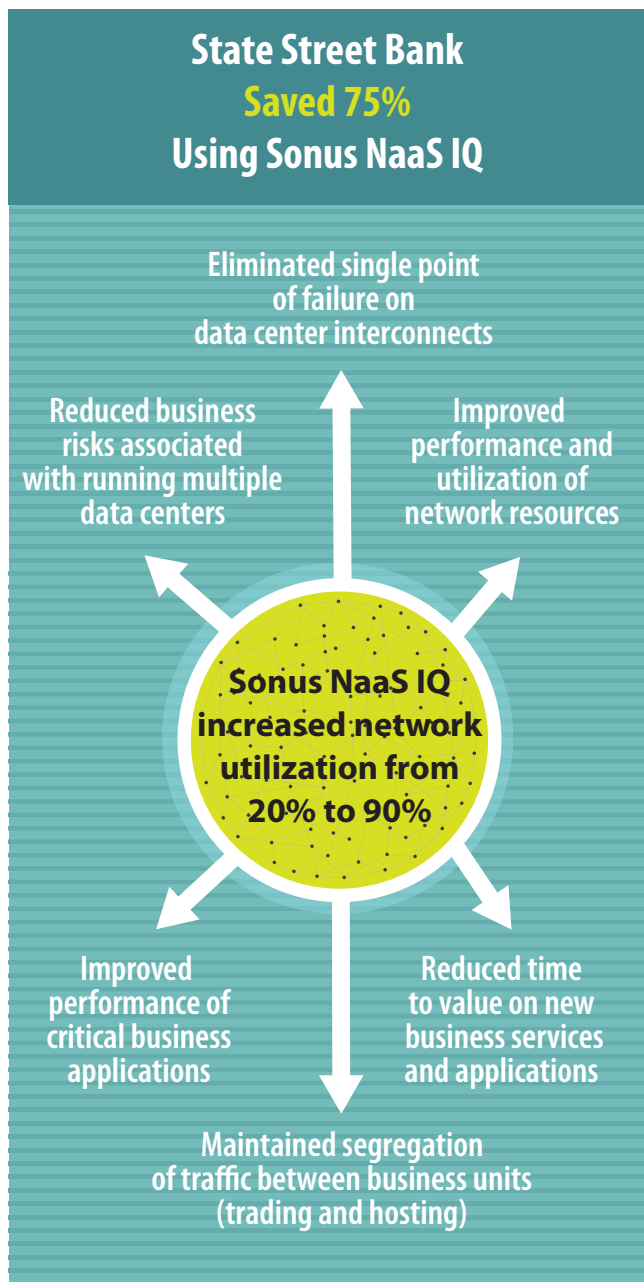
keep adding bandwidth to your network, because the multiplier is too high. For example, if an enterprise has 100 people, a CIO might multiply those 100 people by the cost of a phone call and arrive at a pretty modest number. But if you multiply 100 people by the worst-case needs of a unified communication session, you wind up with a very large number. It starts to become prohibitive.”

Addressing the growing complexity of real-time communications by adding more spectrum, more fiber and more nodes creates what Riley calls a perfect storm of inflated costs and poor return on investment. Expensive physical plants are underutilized, inflexible and difficult to manage.

CIOs must seek technologies that allow them to manage their networks more intelligently and dynamically, defining end-to-end policies that align transport with applications to deliver a high quality of experience within tight operational budgets.

## Smarter Networks, Smarter Business

SDN is only a part of the NaaS solution. It provides the abstraction and the programmable interface, but not the intelligence. “It’s like a fancy new car—but without the driver,” says Riley. The orchestration layer sits between the programmable interface and the applications, brokering the demands of the application with the resources of the network. Riley compares the combination to a road system:



SDN's network abstraction is a map of the roadways, indicating the various options for getting from point A to point B, and how fast you can travel on each. Sonus' NaaS IQ Platform is analogous to toll booths around the periphery of the system, evaluating incoming traffic loads and prioritizing admission.

"The application, such as an audio call or a fully immersive video session, starts up with a certain SLA. The orchestration layer understands the needs of the application and translates that into programmable network actions in real time," Riley explains.

The benefits can be extraordinary:


- **Improved Quality of Experience (QoE):** Real-time applications get the resources they need as they need them, which translates directly into a better user perception.
- **Reduced capital expenditure:** You're getting more out of your existing network investment and facing less new build-out. One Sonus customer, State Street Bank, increased its network utilization from 20% to 90%, with no reduction in the quality of experience.
- **Reduced operational expenditure:** SDN's programmable interface puts an end to the days of touching multiple points of the network to manually configure new services. Automation results in fast, reliable and consistent provisioning and management through a single interface.
- **Increased network agility:** New services are rolled out on demand. The result is not only operational savings, but also the capability to adapt to new applications in minutes rather than weeks, sharply improving business responsiveness.
- **Increased network visibility:** SDN allows you to create fine-grained models of application and user behavior. This in turn not only enables better policy and admission control, it provides an inherent level of security. Anomalous behaviors can be identified, analyzed and policed.

Sonus' NaaS IQ is an integration strategy, deploying points of intelligent, secure control around your existing network where it matters to you and to your customers. Your network becomes a part of familiar, proven and efficient cloud-based service and deployment models, and the increased network intelligence enables new levels of business intelligence. ■



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—KEVIN RILEY  
SONUS CTO



## WHEN NETWORKS GET SMARTER, YOUR BUSINESS GETS SMARTER.

If you're looking to make your network smarter and more secure, start with Sonus. Sonus enables and secures real-time communications so the world's leading service providers and enterprises can embrace the next generation of SIP and 4G/LTE solutions, including VoIP, video, instant messaging and online collaboration.

To learn more about how Sonus can help your network deliver the SIP communications of tomorrow, visit us online at [sonus.net](http://sonus.net) or call us at 1-855-GO-SONUS

