



# Who changed my network?

Intelliden knows.

## **Network Management 2.0: How intelligent network automation today will drive service innovation tomorrow**

In 2008, the number of Internet users passed the 1.4 billion mark with over 350 million fixed broadband subscribers. Like playing the classic game of JENGA, network change management today is a delicate balancing act in which a careless change or a rogue administrator can bring the business to a halt. The stakes are high. The threats are real. And the damage can be difficult—if not impossible—to undo.  
By **Alan Black**, President and CEO of Intelliden, Inc.

Communication Service Providers (CSPs) around the world are continuing to expand their IP-based broadband networks to deliver a new wave of slick, next-generation services. Behind the scenes, however, it takes a monumental network change management effort to make these bandwidth-hungry, delay-sensitive services work without fail. The multi-vendor networks that support and deliver services such as IPTV, VoIP, online gaming and unified communications are in a constant state of change and becoming more intricate by the day. How you configure, provision and maintain them can make or break your ability to compete.

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change or a rogue administrator can bring the business to a halt. The stakes are high. The threats are real. And the damage can be difficult—if not impossible—to undo.

For all of these reasons, a disciplined approach to network change management is essential to the long-term health of the CSP business. Intelligent network automation—which ensures that all changes are performed based on real-time configuration state of the network, according to pre-defined policies, and in a standards-driven, repeatable manner—helps CSPs achieve network accuracy, security and agility, so they can control, manage and scale the infrastructure that supports the business. The guidelines below are drawn from many years of firsthand experience in the communications industry and intended to help CSPs establish a reliable and accountable process for delivering the digital services of the future.

## No Time for Down Time

In 2008, the number of Internet users passed the 1.4 billion mark with over 350 million fixed broadband subscribers. The demand for fatter pipes is fueled by power users such as the Millennial generation, who want to watch videos on YouTube, download music, play online games, collaborate for work or call friends and family overseas. For them, the Internet is a utility that must be there when they need it—via web, email, or mobile devices—and already tuned to the type of content they want to enjoy. Having come of age in the digital era, they have little tolerance for downtime and outages that were acceptable in earlier stages of the Internet's development.

To accommodate the need for flawless service delivery, communication service providers have had to create large, complex and dynamic IP backbones and offer a greater choice of access technologies (ADSL2+, Cable, WiMAX, WiFi) that support mobile messaging, video on demand, IPTV, and more. The network devices they deploy are increasingly complicated, with more customers relying on each one.

For example, just five years ago, a large network router required 15,000 lines of CLI configuration text and supported 500. Today, a large router might need up to 500,000 lines of CLI text and support 10,000 customers. In this interconnected environment, if one device fails, thousands of customers can go down.

In the early days of the Internet, CSPs could afford to make small changes to the network in an ad hoc fashion. But now, error rates and associated costs will rise if you attempt to add services and devices without a master plan. What does it take to do it right?

### Network Management 2.0

Clearly, manual processes, script-based solutions and “fire-and-forget” legacy architectures cannot meet the needs of today's network-driven organization. Yesterday's plain old telephone service (POTS) network—and the traditional “best effort” way of managing it—simply won't suffice. Network complexity needs to be tamed. We need a new approach: Call it Network Management 2.0, a standardized, automated and intelligent way to operate networks designed for the fast-changing digital world.

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**ALAN BLACK**  
President & CEO  
Intelliden, Inc.



In our experience, companies that manage change effectively meet three criteria:

- They are organized and plan ahead.
- They are disciplined and follow a consistent process.
- They are accountable and can document their actions, retrace their steps and explain who did what, when, why and how.

Having seen many of the leading CSP networks up close—including BT, Bell Canada and TELUS—we know that intelligent automation is the only way to achieve guaranteed network performance. You need a real-time understanding of network devices and their verifiable configuration state before any network changes are made. You need a mechanism for enforcing pre-agreed network policies to meet operational, security and regulatory needs. And you need to automate everyday network functions such as backup and restore, configuration comparisons and ACL management across the entire infrastructure.

If automation was a luxury five years ago, it is a necessity today. The best change and configuration management solutions track and automate simple and complex changes to the network infrastructure, improving service availability and preventing costly outages. In fact, studies have shown that the right network configuration and change management solution can improve uptime by nearly 100 percent.

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### Managing Change in the Digital Era

It's too soon to tell which of today's CSP investments will pay off. But many are betting the future of their businesses on the delivery of value-added, content-rich services to millions of devices across converged, next-generation IP networks. These forward-looking players know that network complexity is here to stay, and the pressure to provide a guaranteed quality of experience will only increase. To succeed, they'll need to roll out new services quickly, while ensuring network accuracy, security and agility every step of the way.

The team at Intelliden is committed to transforming network change management to better harness the IP network as a platform for connectivity, communications and collaboration. Don't let the network become the biggest obstacle to your success. Intelligent network automation provides the essential tools and proven process you need to be able to focus on the opportunities ahead.