

# communication elements



Summer 2011

## Sky-High Wireless

Cerium helps Big Sky Resort implement a cutting-edge Cisco Wi-Fi network.

**B**ig Sky Resort is known for the “Biggest Skiing in America,” with more than 5,000 acres and 150 named ski runs covering more than 85 miles on three separate mountains. With more than 400 inches of snowfall each year and short or nonexistent lift lines, Big Sky has a lot to offer skiers, snowboarders and other winter sport aficionados.

The resort also features lodging, meeting and convention facilities.

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# Care

*Expanding the Reach of*

Cerium helps Listen and Talk utilize videoconferencing technology to work with hearing-impaired children throughout the Pacific Northwest.



**T**he field of telehealth continues to grow as more health-care professionals utilize “distance” technologies to provide services to a greater number of patients. Cerium Networks is helping Listen and Talk expand the telehealth concept within the field of audiology by utilizing a state-of-the-art videoconferencing solution to broaden the geographic scope of its services.

Listen and Talk is an early intervention program designed to help children with hearing loss develop listening and spoken language skills. When intervention begins within the first six months of life, Seattle-based Listen and Talk is very successful at having children mainstreamed in their neighborhood schools by the time they’re ready to enter kindergarten.

“As more people around the region learn about our services demand has become widespread. We are now serv-

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communication elements

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# Expanding the Reach of Care

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ing families throughout the Pacific Northwest region — particularly Pierce, King and Snohomish counties,” said Suzanne Quigley, Ph.D., Executive Director of Listen and Talk. “Our auditory verbal therapists enter the families’ homes and help the family members who are involved in the session learn how to integrate listening and spoken language throughout the child’s day. It’s not just a discrete therapy session but also a parent education session.”

The home-based early intervention program lasts from birth to age three, at which point the child enters Listen and Talk’s preschool program or a neighborhood school. Visits are usually weekly but vary from family to family depending upon each child’s particular needs.

“Some children whose needs aren’t quite as significant may be seen just once a month, while others who have greater needs may be seen multiple times a week. Historically, our providers have had to drive to the child’s home for each of these sessions. As you might imagine, that’s an inefficient way to provide services. We needed to start looking at other models so we didn’t have to limit how many families we could enroll. That’s where the idea of using videoconferencing technology came in.”

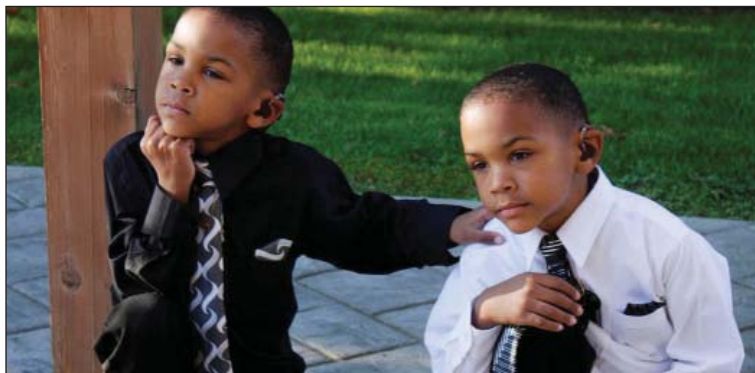
## Lending an Ear

Quigley contacted Cerium for help in sorting out the broad array of videoconferencing solutions that are available. Although telehealth is not new, it has not yet been widely adopted in the field of audiology. Cerium’s expertise in videoconferencing technology proved invaluable in choosing the right system for Listen and Talk’s needs.

“Cerium was enormously helpful as I started to navigate the available



*Education for Children with Hearing Loss*



## Solution Summary

- Videoconferencing solution enables Listen and Talk to broaden its geographic reach, and provides for more efficient delivery of home-based services for families of children with hearing loss.
- Cerium’s expertise in a wide range of IP-based communications proved invaluable in helping Listen and Talk sort through the various videoconferencing options.
- Cerium guided Listen and Talk toward a Tanberg system, which provides the immersive, telepresence experience needed to help a child’s family learn how to encourage listening and spoken language skills.
- The Tanberg equipment is easy to use, enabling nontechnical audiologists to quickly set up videoconferences via the Internet.

options. They explained the pros and cons of the different types of hardware and held our hand as we walked through launching this pilot project,” Quigley said. “We deal with a lot of technology in my field but not videoconferencing. It was great to have somebody to call or email with all of my questions.”

After taking time to understand Listen and Talk’s requirements, Cerium guided Quigley to the Cisco TelePresence solution (formerly Tandberg). Cisco delivers a simple and quality experience that makes it seem as if all videoconference participants are in the same room.

“The high quality of the audio and video is certainly the most attractive

part of the Tandberg (now part of Cisco) system. We've been able to try out other systems, and my impression is that the Cisco Telepresence Solution consistently provides the highest-quality experience," Quigley said.

The system is also easy to use — a real plus for auditory therapists who are not experts in videoconferencing technology. Color-coded connections on the equipment, easy to understand set-up steps, and straightforward menus make setting up a videoconference very straightforward for the families and the verbal therapists. Listen and Talk is also able to install the video equipment in each child's home utilizing the family's computer equipment and Internet connectivity, or loaner equipment as needed.

"We're hoping to get a larger inventory of video equipment that we can lend to families. We don't want the family's technology resources to limit their ability to tap into this model of intervention," said Quigley. "Our goal is to have a lending library of equipment. If a family doesn't have what they need they can borrow from us for a period of time for the in-home therapy video sessions."

### Speaking of Success

Listen and Talk launched the videoconferencing pilot project in February 2011. Client response has been very positive, and Listen and Talk has seen some unanticipated benefits from the technology.

"Videoconferencing helps my staff fully embrace our whole parent-coaching model," Quigley said. "Sometimes when the provider is in the home there is an inclination to interact with the child, taking away some of the opportunity for the parents to interact and practice what they're learning. With videoconferencing, the provider must speak



with the parent and convey to the parent what is necessary for the interaction to be successful. Their coaching skills have to be at a high level and we know from experience that giving those tools to the parent is the most powerful way to help the child develop listening and spoken language. So, in a way, deploying video distance technology is even better than being in the home because we need to coach to the fullest extent!"

In the past, therapists would have to cancel appointments if someone in the family was ill, but videoconferencing enables them to keep those appointments and "travel" to homes in any weather at the click of a button. Quigley says the pilot project has been so successful that she hopes to expand the program later in 2011.

"I have no doubt in my mind that we will grow the program as we're able to obtain funding for additional equip-

ment," she said. "Our goal is to use videoconferencing throughout the counties we now serve. We are also getting inquiries from other counties in need of our services, so we're hoping that we can expand into those areas through this distance format.

"We're also very excited to be a part of the National Center for Hearing Assessment and Management at Utah State University, a community of like-minded professionals who believe distance technologies hold a lot of promise for early intervention. We've been meeting regularly with our friends around the country to share our experiences about the different technologies that are available and how to implement our services through distance technology. Ultimately this will help us better prepare our providers and families to get the most benefit from the technology."



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# Sky-High Wireless

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ties with state-of-the-art amenities that go beyond the packed powder and high-speed lifts. Thanks to Cerium Networks, Big Sky Resort now provides guests with a cutting-edge Cisco wireless network that is virtually unmatched in the industry.

“Our guests’ needs and expectations for Internet access continue to grow,” said Dan Hoadley, Information Technology Manager, Big Sky Resort. “Years ago, meeting groups would ask if we had Internet access. Now they want to know how much bandwidth we have, what type of bandwidth we have, who our carriers are, what kind of equipment we have, our capabilities as far as quality of service and so on. It becomes a real decision-making point with groups that are planning to come here.

“We wanted a state-of-the-art wireless network that could support all the latest Wi-Fi protocols. We also wanted multiple Wi-Fi networks so we could set up a special network just for a particular group that would have priority access. I’ve worked with the folks at Cerium Networks for more than 15 years, and asked them to help us design and implement a Cisco wireless network that would meet the demands of our guests.”

## ‘It Just Works’

Hoadley wanted the network to be based upon enterprise-class Cisco equipment. Conference groups requiring high-quality Internet access recognize Cisco as top of the line. Cerium’s longstanding relationship with Big Sky Resort and its deep understanding of Cisco networking made it the ideal partner for the project.

“Somebody from Cisco came out and did a site survey and from there we got the Cerium design folks involved,” Hoadley said. “There was definite project creep — it turned out to be bigger than we had initially anticipated. The Cerium engineer did a great job of man-

aging the project and ultimately coming up with a very successful design.”

Because of the size and density of the Wi-Fi network, Cerium implemented a controller-based environment that balances the access load among access points. The “smart” access points also know where they are in relationship to each other and can power down as necessary to avoid interference.

“Before we implemented this Wi-Fi network, I had daily help desk calls from guests who had trouble with Internet access,” said Hoadley. “I don’t hear from anybody anymore. The network just sits there and works, which is exactly what we wanted it to do.”

## Short Timeline

Even as the project grew in scope, the timeline shrank. Big Sky Resort

learned it would be hosting a conference for the Asia Pacific Economic Cooperative (APEC) in May, and wanted to have the network in place for that event.

“APEC is a consortium of 21 different countries that rim the Pacific Ocean. Every four years they get together and discuss trade issues. This year their conference was hosted in the U.S. by the State Department,” Hoadley said. “As we were getting ready to begin this Wi-Fi project, the people from the State Department came here to explain their specialized requirements. I showed them what we were doing and they loved it. We had a very successful Internet experience for that group because of all of this.”

Of course, that meant Cerium had to adjust the project schedule dramatically. What had begun as a nine-month



## Solution Summary

- State-of-the-art Wi-Fi network built upon Cisco equipment helps Big Sky Resorts exceed the expectations of meeting groups and other guests who demand high-quality Internet access.
- Cerium engineers leveraged their extensive expertise in Cisco networking to develop a robust design amid changing requirements.
- Controller-based system balances the access load among “smart” access points that avoid interference with one another.
- The Cerium team helped Big Sky complete the project within a compressed timeline to be ready for an important conference during the resort’s busy season.

project became a four-month project, all during the resort's busiest season.

"We had a big project on our hands and a very short timeframe. And I'm told it's a pretty complex network — even the engineers from the State Department took some time to get their brains wrapped around the scope of it," said Hoadley. "The Cerium engineer was very competent, very willing to meet the demand and get everything done."

### 100 Percent Success

The successful APEC conference was followed by another meeting that put the new Wi-Fi network through its paces. Right Now Technologies, an Internet software company based in Bozeman, Mont., held a user group meeting at Big Sky Resort. The network met their exacting demands.

"They like to come here because we're right in their backyard, but their expectation as far as Internet service is nothing less than perfection. This is where the separate priority-access network came into play. When they're doing demonstrations for customers they don't have to worry about bandwidth constraints caused by other guests," Hoadley said. "We had 100 percent positive feedback from them on this year's meeting, which is in stark contrast to every other year that they've come here."

Big Sky Resort is best known for its winter sports and summer recreation, for luxury accommodations and exceptional meeting and conference facilities. Now, thanks to Cerium Networks, the resort has added an enterprise-class Wi-Fi network to its long list of amenities.

"The whole project has absolutely hit the nail on the head," said Hoadley. "It feels really good to complete a large project that does exactly what you want and has had feedback from all major parties involved that are 100 percent."

# Desktop Video is Finally Here!

By RICK DAHLGREN,  
Senior Solution Architect,  
Cerium Networks

Have you ever wondered if the video phones that Jane Jetson and Pee Wee Herman used on TV would ever reach the enterprise? Well that time is now!

Over the last few years enterprises have been upgrading and speeding up their data networking infrastructure. From the 10 Megabit shared Ethernet of the last century to the 1000 Megabit (Gigabit) switched Ethernet service now being pushed out to our desktops, applications that previously were impractical are now becoming mainstream. To accommodate this higher bandwidth to our desktops data centers are implementing 40 Gigabit and 100 Gigabit Ethernet speeds in their cores. Internet providers are using these same high speed core systems to push out more bandwidth to our homes. High speed internet service creates opportunities for enterprises to extend communication services beyond the traditional bricks and mortar boundaries.

What this means to enterprise users is that real time applications like video and voice over IP (VoIP) which require hefty amounts of bandwidth are now becoming viable options to the enterprise desktop.

Support for voice, video, instant messaging, and social media from our desktops is becoming a mandate for enterprises to differentiate themselves competitively and to attract the tech savvy new generation of workers.

Unified Communication is the term used in the industry to describe the use of multi-media modes of communication. Today's users require the ability to communicate on their terms; anywhere, anytime, and with any device that they prefer.

One of the exciting examples of this trend is Avaya's ADVD (Avaya Desktop Video Device) with the Flare Experience. The ADVD is a purpose built tablet developed on the Android Operating System. The ADVD with the Flare Experience is a video-enabled desktop collaboration endpoint. In addition to HD video, the device acts as a customer kiosk and supports functions for telephone, web conferencing, social media, calendar, scheduling and more — all from a single device with an easy to use touch screen interface. Avaya has plans to roll out the Flare Experience to Apple's iPad, Windows PCs, and to their new 96XX series of IP telephones later this year.

*If you would like to hear more about these exciting new technologies contact your Cerium Networks Account Manager and arrange for a demonstration.*

## The Avaya Flare Experience

Imagine the possibilities. Your favorite communications tools — video, e-mail, IM, social networks, phone — at your fingertips. Now put all these tools into a single, unified enterprise workspace and you have the Avaya Flare Experience. Designed to change the way you communicate and collaborate, the Avaya Flare Experience delivers a seamless communications experience that is easy to use, convenient, and ready in real time to help you focus on the task at hand.

Contact your Cerium Networks representative to learn more.

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# Attaining Unlimited Visibility in Network Security

*RSA enVision, is a great fit for organizations seeking to understand their level of network security, set alerts for potential attacks, report on security events, and prove compliance with industry regulations.*

By JOHN WHALEN,  
CISSP, CISA, CRISC, Security Solutions Architect,  
Cerium Networks

All aspects of information security are addressed in the concepts of confidentiality, integrity, and availability. We want to keep our information and the systems that we use available only to those people in our organization who legitimately need access. We also want that information to remain uncorrupted, intact and usable. The three main categories of controls are managerial and operational, technical and physical.

For technical controls, we can say that the twin goals of information security on IP networks are segmentation and visibility. Controls that help security administrators achieve the goal of segmentation include technology such as: Virtual Private Networks (VPNs), Virtual Local Area Networks (VLANs), Access Control Lists (ACLs), firewalls, Demilitarized Zones (DMZs), routers, subnetting and many others. To achieve the goal of visibility,

security staff use tools such as intrusion prevention, intrusion detection, Layer-4 traffic monitoring, and security monitoring.

Achieving a high level of security within your organization involves many important elements, including hardening your perimeter, providing safe remote access to your users, and preventing the leakage of confidential data. One of the most crucial elements is that of security monitoring. A good monitoring tool will be configured to notice suspicious events and set off alarms when you are being attacked, whether from sophisticated hackers or malicious, disgruntled, or curious inside users.

For security monitoring, an effective tool set is composed of intrusion detection to track network traffic and a central monitoring system that collects the log information from critical security devices, such as switches, routers, firewalls, servers, and databases.

Full and continuous monitoring is very difficult to achieve. You need to have a monitoring system that will analyze, store, and report on the huge quantity of log events that are generated daily. The monitoring system will parse through the logs and zero in on those that might be of interest to a security analyst and then further filter those to alert on the smaller subset worth your full attention.

RSA enVision is a security information and event management (SIEM) platform, enabling security professionals to collect and analyze log and event data to identify high-priority security incidents as they occur. With enVision, your security-operations

tions team will gain a solution for addressing network-security and compliance-management challenges. Analytical software turns unstructured raw data into valuable business information, giving administrators actionable insights to help simplify compliance, optimize incident management, and secure virtual and physical networks.

As an RSA business partner, Cerium designs, implements, optimizes, and supports RSA's world-class security monitoring system, enVision. In terms of down-to-earth business value, enVision provides security administrators unlimited visibility into security events happening on the network and at the network edge. enVision takes in huge volumes of security information and sorts through them to find actionable information. enVision accepts logs, netflow and session information from all types of network devices, including routers, switches, firewalls, intrusion prevention systems, and others. In addition, enVision is completely agnostic as to manufacturer. By continuously sorting through the logs, enVision can alert on suspicious activities and point out events for further investigation.

With real-time security-event alerts, monitoring, and drill-down forensic functionality, enVision security information and event management gives administrators visibility and understanding of how their network is used and the threats and risks to the infrastructure and applications, enabling more effective actions to mitigate those risks for the future.

enVision is an intuitive forensic tool for investigating potential threats and compliance challenges, providing business-critical visibility into specific behaviors by end users for effective remediation by your security and operations teams.

**COMPLIANCE** — Simplify your compliance process with compliance-specific, out-of-the-box reports and alerts. Reduce time and effort by automating your compliance reporting.

**INCIDENT MANAGEMENT** — Optimize incident management by leveraging enVision for real-time correlation and investigation of high-priority events and alerts. Spend more time remediating incidents and less time managing them.

**SECURITY** — Enable real-time notification of high-risk events across physical, virtual, and hybrid IT environments. Turn raw log data into actionable intelligence.

## Communication Elements

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### **Cerium Receives Cisco Customer Satisfaction Excellence Award**

Cisco Systems is pleased to recognize and congratulate Cerium Networks for achieving Cisco Channel Customer Satisfaction Excellence, the highest distinction a partner can achieve within the Cisco Channel Partner Program. The award is based on customer feedback to Cisco.

Cerium is grateful to its customers for their participation and their continued loyalty.