



AboveNet

# INTERNATIONAL SPORTS TV BROADCASTER



## Summary

### Challenges

- Increase quality and viewing experience of 24-hour live TV coast to coast
- Develop a world-class infrastructure capable of sending huge volumes of TV images across the U.S.

### Solution

- Ciena's CoreStream® Agility Optical Transport System and Ciena's ActivSpan 4200® Advanced Services Platform
- AboveNet managed service

### Benefits

- Improves the quality of and ability to deliver richer content of sports programs
- Enables live broadcast TV to be distributed across 1000 miles in real time
- Up to 70 percent more cost-effective than like-for-like solutions
- Enables centralized video clips to be searched and downloaded from anywhere
- Supports strategy to bring innovations like 3D TV to viewers
- New circuit set-up time in days instead of months

A leading sports TV broadcaster uses a Ciena and AboveNet solution to improve the quality and sustain the growth of its video distribution network while reducing the cost structure of the delivery network by up to 70 percent.

## Challenges

One of the leading U.S. sports broadcasters produces a wide range of sports TV channels and programs that it distributes both nationally and internationally. Typically, programs consist of a mixture of news, live commentary, historical clips and live event broadcasts. Part of the production process for this type of program involves gathering content—such as sports events, local reports, and regional results—from all over the country. That content is then incorporated into the broadcaster's program schedule.

For example, the company's flagship program is a daily roundup of sports results, breaking news, interviews, and related feature stories. The program is produced in both the company's East and West Coast studios and then distributed terrestrially and via satellite. Other rich multimedia content, stored in various locations across the U.S., is sent to studios or the satellite station as needed. The company recently launched a project to digitize its entire library of media footage, which is currently stored in a data center located at the company's East Coast headquarters. This means that instead of physically finding a tape of a clip, program producers can search and access the full media database remotely, from anywhere in the world.

To meet the service functionality requirements, the new data center required a high-performance, highly reliable network infrastructure capable of carrying vast amounts of digital images across long distances. Furthermore, the broadcaster needed to control operating costs without sacrificing performance. Specifically, the network needed to support a variety of high-bandwidth traffic, such as uncompressed digital TV images, throughout the sporting calendar.

For example, the data transfer rate for a live event broadcast, like a major football game or auto race, is 1.5 Gb/s per feed, with each event of this kind using around 25 cameras and feeds to capture the action from all the necessary angles.

The broadcaster considered traditional carrier-leased line and satellite solutions, both of which turned out to be prohibitively expensive for the volume of data being transmitted, without scalability for future growth.

### **Solution**

The broadcaster decided on a managed optical service provided by AboveNet, based on Ciena optical solutions. AboveNet owns and operates a fiber optic network built on Ciena's CoreStream Agility and 4200, and composed of multiple diversely routed 10 Gb/s circuits.

To ensure optimal performance, the network is connected optically from the broadcaster's West Coast center to its East Coast headquarters and satellite broadcasting station. The 4200 ensures a flexible "any-service" metro connectivity to the customer sites in each metro location, while the Ciena CoreStream Agility backbone offers maximum performance and speed over the longer cross-country distances. In addition, there are other connections between the company's headquarters and a multi-node ring in the New York metropolitan area, where there is a concentration of content sources and program producers.

The CoreStream Agility and 4200 network combination ensures maximum performance, service transparency, and reliability—the latter largely due to the solution's all-optical approach. In addition, Ciena's technology makes it easier to compress and transport a variety of different data traffic types—for example, High Definition (HD) and Standard Definition (SD) video or enterprise Local Area Network traffic—across a single wavelength, while ensuring full transparency for each service.

The broadcaster chose the Ciena and AboveNet solution because it is the only technology capable of providing a high-performance private network that is both truly cost-effective and scalable. Alternative solutions, such as carrier-leased lines, would become too expensive and pose business risks in terms of guaranteed capacity and uptime.

In a like-for-like comparison to alternative solutions, the broadcaster learned that the Ciena solution carried less risk



while offering 70 percent cost savings. Since installing the technology, the company has increased the number of circuits in the network, improving economy of scale and enhancing the value of the original investment. The broadcaster has continued to enjoy the added advantage of a private network and the associated control it now provides.

### **Benefits**

The Ciena and AboveNet solution has been a key part of the company's strategy to digitize its entire operation so all its sports TV content can be managed remotely and shared instantly between its U.S. locations. In other words, a producer filming, editing, and broadcasting programs in New York now has immediate access to all of the company's content, even if the content is physically located on the West Coast.

One of the benefits of the Ciena and AboveNet solution has been to increase the amount of live content the broadcaster can incorporate into its flagship daily sports program. Previously, because of the complexity and delay in getting content to the satellite station, some content had to be pre-recorded. The Ciena-based AboveNet managed service enables the studio on the West Coast to send live broadcasts in real time, across the network to the satellite station, and out to viewers.

The new network also helps improve the quality and variety of programs, because producers from anywhere in the U.S. can search the company's clip archive, download clips in real time, and slot them into their programs. Prior to incorporating this solution, producers largely relied on at-hand physical tapes to incorporate historical footage.

The Ciena and AboveNet solution is also critical to the broadcaster's strategy of delivering innovative TV to its customers. In fact, the company produces a number of programs using the most advanced HD TV standards, which can take up to 3 Gb/s per feed to transmit over the network. In addition, the company has already begun looking at even more advanced services like 3D TV, which will place even greater demand on network capacity, at upwards of 5 Gb/s per feed.

Flexibility is another key benefit of the Ciena and AboveNet solution, including the ability to switch circuits on and off, on demand. For example, the company provides live coverage of events like worldwide tennis competitions, for which a temporary increase in network capacity is required to bring in the content, integrate it into the program schedule, and broadcast it. Live feeds (like tennis championships) "land" in New York. In the past, the company had to set up an

expensive dedicated link from New York to its satellite station, some 50 miles away. Now, the Ciena and AboveNet solution enables the company to turn on new circuits quickly, and provides live content at the last minute without incurring a large cost.

On a purely operational level, the broadcaster can turn up new circuits very quickly—mere days, compared to months using carrier-leased lines. This speed intrinsically provides the company significantly more flexibility—a capability that offers a distinct advantage, as the company often wins the rights to broadcast a sporting event at the last minute. The ability to switch on a circuit on its own network to access and broadcast the event is more cost-effective than the broadcaster's previous satellite-based solution.

---

Ciena may from time to time make changes to the products or specifications contained herein without notice.  
© 2010 Ciena Corporation. All rights reserved. SS032 10.2010



Specialists in unlocking  
network potential to help you  
change the way you compete.

1201 Winterson Road  
Linthicum, MD 21090  
1.800.207.3714 (US and Canada)  
1.410.865.8671 (outside US and Canada)  
+44.20.7012.5555 (international)  
[www.ciena.com](http://www.ciena.com)