Publisher Improves Efficiency of Network-Based Business with NGA

Cisco NGA provides granular visibility to help Human Kinetics deliver consistent network performance and security.

EXECUTIVE SUMMARY

Customer Name: Human Kinetics

Industry: Publishing

Headquarters: Champaign, IL

Number of Employees: 300

BUSINESS CHALLENGE

- Helping ensure consistent and reliable access to network-hosted products and services
- Scaling resources, while maintaining security
- Reducing administrative time required to troubleshoot issues

CISCO SOLUTION

- Cisco NGA for in-depth visibility into the network, to help ensure responsive customer service and protect online content

BUSINESS RESULTS

- Protected against content theft, DDoS, and other attacks
- Swiftly resolved issues, pinpointing problems in minutes instead of hours or days
- Guided proactive investment in supporting growth

Business Challenge

The network enables the business. Nowhere is this more apparent than in publishing, where content is no longer shipped out in book-filled cartons but hosted online and downloaded. The implications for companies in the content business are far-reaching: now that networks are key both to selling and delivering products, they need to be more available, more powerful, and more secure than ever.

But when a company's network is at the heart of a constantly changing and content-rich business, the network is likely to be complex, with many different connections, components, and devices. This makes it difficult for IT teams to know exactly what is going on, where, and when. If issues arise, one of the most time-consuming steps in resolving them is the first one: identifying the problem and its source.

© 2012 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

For Human Kinetics, a publishing company that focuses on physical activity and health, it was essential for the IT team to have a unified view of what was going on with traffic flows across the network and avoid the more common, yet unacceptable, experience of having only fragmented visibility. Human Kinetics conducts online certification courses and tests for health and fitness professionals, and offers print and multimedia content such as videos, ebooks, apps on tablets, and other downloadable material, as well as traditional paper books. Network performance, security, and availability are mission critical.

“We needed comprehensive information about our network to keep our content protected, secure our site against disruption, and deliver excellent, reliable performance,” says Brad Trankina, director of network and information systems at Human Kinetics. “That’s why we were eager to look at the Cisco NetFlow Generation Appliance (NGA).”

Data Center Solution

Today in Human Kinetics’ data center, a Cisco Unified Computing System™ (UCS™) infrastructure includes two chassis with six Cisco® B200 blade servers each. Cisco Catalyst® 6513 and Nexus® 5010 Switches form the backbone for its 10 GB network and 70 MB connection to the Internet. The company stores about 60 TB of data in EMC storage systems and runs 170 virtual machines on a platform of eight VMware ESXi hosts. Various network and security devices round out the company’s Cisco infrastructure.

> “Comparing Cisco NGA to what we had just a few months ago is like comparing our network today to the 3Com hubs we had ten years ago. It’s beyond a night-and-day difference.”
> **— Brad Trankina, Director of Network and Information Systems, Human Kinetics**

Everything that has a packet goes through Cisco equipment. The network runs Microsoft Exchange, Microsoft SQL server databases, and web application servers based on ColdFusion. It also supports an internal data management product based on MarkLogic, file access, and streaming videos off web servers.

For the Human Kinetics IT team, Cisco NGA delivers a consistent, granular level of detail about network traffic flowing through every device. It gathers raw traffic information, normalizing it into a NetFlow record, and then forwards it to a collector, such as the Cisco Prime™ Assurance Manager application, for reporting. Since beta testing Cisco NGA, Human Kinetics has had the welcome experience of being able to see the complete story of every packet, from where it starts to where it goes.

Ten staff members manage Human Kinetics’ network, three of whom work on the help desk. The NGA allows staff to see trends and statistics in minutes, speeding resolution of immediate problems and providing comprehensive information that the team previously could not get. “Comparing Cisco NGA to what we had just a few months ago is like comparing our network today to the 3Com hubs we had ten years ago,” says Trankina. “It’s beyond a night-and-day difference.”

© 2012 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Business Results

Troubleshooting network issues faster for increased productivity and performance

Previously, troubleshooting was solely based on portable packet analysis tools, but with 170 virtual machines, IT staff tried to avoid it. “We are very heavily trunked, and that means we need to do a lot of filtering,” says Stuart Lyons, security engineer at Human Kinetics. “Getting to the bottom of an issue often took a lot of time. Once I spent almost a month trying to track down a problem. Cisco NGA pinpointed a similar issue in less than an hour.” With Cisco NGA, Lyons estimates he has eliminated 95 percent of time-consuming packet analyzer deployments. “I’d say Cisco NGA saves us at least ten hours a month, and some months it saves 80 hours or more,” he says.

> “Recently, I was looking at NGA data and noticed some statistics for an education and testing server were way off, so I investigated and found a university was trying to screen-scrape all our test questions. We were able to put a stop to that right away. Before Cisco NGA, I doubt we would have even noticed.”
>
> **— Stuart Lyons, Security Engineer, Human Kinetics**

Now, when a call comes in to the helpdesk, whether it is about poor quality on a phone accessing the wireless network or slow response on a website, staff can resolve it using Cisco NGA in a fraction of the time that it used to take. This efficiency increases customer satisfaction and boosts employee productivity. Programmers, for example, often wonder whether an issue is being caused by their program or by the network. NGA can help answer that question within minutes, even when the issues are complex.

“Recently the helpdesk asked us to use Cisco NGA to figure out why a particular PC was taking forever to boot,” says Trankina. “Cisco NGA immediately showed us the source of the trouble, which saved our helpdesk staff from rebuilding a machine, and alerted us to a potential problem.”

Understanding load and anticipating growth

Human Kinetics has grown steadily over the past five years, with significant storage growth each year, and that is only going to intensify, with cameras now taking 15 MB images instead of 2 MB images, and video moving from standard to high definition, plus the growth of the company’s content management system and the creation of even more books and journals. The company is used to rapid growth, but has learned that accurately anticipating demands on the network is difficult. IT team members used to set up packet analyzers to guess at traffic levels, but now, with Cisco NGA, the team has complete visibility on a granular level, making it easy to identify stress points, measure traffic precisely, and preempt problems.

© 2012 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Recently, for example, data from NGA revealed that the company's VLANs are handling more traffic than expected. As a result, the team will be able to change the packet flow routing before network performance experiences an impact. NGA also lets the team know when they need to expand a server or augment it to keep performance levels high for customers.

Because Cisco NGA helps reveal bottlenecks before they become a problem and highlights areas of rapid traffic growth, the team can use the data to be proactive about upgrading or replacing equipment, and can make a convincing case for the investment using hard data instead of guesses and projections. "It's much more effective when I can demonstrate the traffic levels and growth to management," says Trankina. "When the need is spelled out like that, they're more likely to approve the investment."

> "NGA has the power and flexibility to give us all the information we need to make the right decisions. It just blew us away."
> **— Brad Trankina, Director of Network and Information Systems, Human Kinetics**

Detecting and preventing security problems

NGA is a powerful tool in helping protect the network. "As a security person, I don't always know what I'm looking for until I find it," says Lyons. "Recently, I was looking at NGA data and noticed some statistics for an education and testing server were way off, so I investigated and found a university was trying to screen-scrape all our test questions. We were able to put a stop to that right away. Before Cisco NGA, I doubt we would have even noticed." Lyons has also been able to detect, and deflect, a potential DDoS and other attacks.

With Cisco NGA, the team can see in front of the primary router, between the telcos and the router, and between Human Kinetics' systems and the router, and the private and public interfaces of the firewall. "Some things we just couldn't see or know before," says Lyons. "Now, with Cisco NGA, I don't care what interface is involved or where users are; we can see the activity."

PRODUCT LIST

Network Management
- Cisco Netflow Generation Appliance (NGA)

Data Center
- Cisco UCS B200 Blade Servers
- Cisco Catalyst 6513 Switches
- Cisco Nexus 5010 Switches

Adds Trankina, "Cisco NGA is hugely valuable to us now and will only get more so over time, as it provides data that can be used to plot historical trends. These days, we don't have to worry about which interface to enable or how to move data from point A to point B. NGA has the power and flexibility to give us all the information we need to make the right decisions. It just blew us away."

For More Information

To find out more about the Cisco Netflow Generation Appliance, go to: http://www.cisco.com/go/nga.

To find out more about Cisco Prime Assurance Manager, go to: http://www.cisco.com/go/pam.

To find out more about Human Kinetics, go to: http://www.humankinetics.com.

© 2012 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA C36-706543-00 05/12

© 2012 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.