

Online Consumer Media Company Optimizes Broadband Video

EXECUTIVE SUMMARY	
NAME	PureVideo Networks, Inc.
INDUSTRY	Video Content Publishing and Video Search Engine
BUSINESS CHALLENGE	<ul style="list-style-type: none"> Respond to fast-paced and changing business needs Reduce operational expense (OPEX) associated with application costs Provide a superior user experience that encourages repeat visits to sites Protect resources from unwanted Internet traffic
SOLUTION	Cisco Application Networking platform including: <ul style="list-style-type: none"> Cisco Catalyst 6500 Series Switches Cisco Application Control Engine (ACE) service modules Firewall Services Module (FWSM), Network Accounting Module, Intrusion Prevention Module
BUSINESS RESULTS	<ul style="list-style-type: none"> Ability to more quickly scale and support traffic growth thereby creating more opportunity for advertising revenues Increased capacity to handle more projected growth in traffic volume without forklift hardware upgrades Separation of content and functionality for increased server control and flexibility Traffic/stream statistics providing information about end users Secure, highly available infrastructure for excellent user experiences

PureVideo Networks Deploys Cisco ACE to reduce operating expense and accelerate video for optimized user experiences.

Business Challenge

Today's digital generation can choose between hundreds of cable and satellite channels, PC, mobile, and online games, and now an exploding number of online sites are competing for their attention. Appealing to this young demographic requires that digital video companies get it right the first time—slow downloads or poor video quality are instant turnoffs and can mean the overnight demise of what may have once been a top-ranked Website. In this fiercely competitive market, PureVideo Networks operates two of the most popular online addresses, StupidVideos.com (www.stupidvideos.com) and GrindTV.com (www.grindtv.com), as well as the recently launched PureVideo Search (www.purevideo.com), the first meta search engine for video. The company's StupidVideos.com provides a PG-13 environment for enthusiasts to find, watch, share, and create comedic videos. GrindTV.com provides a similar user experience geared towards action and extreme sports enthusiasts. The company currently streams approximately 60 million videos to more than 6

million unique users per month.

At PureVideo Networks, this success has not gone to their heads. "We know how quickly a site can fail if performance cannot keep up with growth," says Karina Kogan, general manager of StupidVideos.com and vice president of marketing at PureVideo Networks. "To take our company to the next level, we needed a long-term content delivery architecture."

The challenges related to growing the business came down to the abilities to:

- Handle unpredictable, sporadic growth rates in traffic on the sites. At any point in time, word of mouth can result in huge increases in site visits, and the application infrastructure needs to scale to meet dynamic demands.

- Control costs. Efficiently scaling applications across the available resources becomes more challenging as the server pools expand to accommodate growth. Increasing complexity in the infrastructure can translate into increased operating costs without a solution that effectively simplifies application delivery.
- Maintain non-stop availability of the content. When user viewing is interrupted or slowed due to failures in the infrastructure, today's digital generation does not wait around. They find another site that can deliver, and rarely, if ever, give a failed site a second chance.

“The Cisco solution is not anywhere near its limits, even though we are pushing a half-gig through it. We know that we can make the most of all of our opportunities without any risk of overwhelming our infrastructure.”

—Greg Morrow, president and co-founder, PureVideo Networks, Inc.

Application Delivery Network Solution

From the start, PureVideo Networks relied on a Cisco infrastructure to manage content efficiently, control video traffic flow to and from the server farms, and ultimately deliver on-demand streaming video fast enough to ensure superior user experiences.

To enable continued growth, PureVideo Networks turned to Data Systems Worldwide (DSW) to help design a cost-effective application delivery model. Besides addressing the previously listed challenges, the project requirements included:

- Scalability to accommodate a two- to three-times increase in their current traffic levels without significantly increasing their infrastructure resources.
- A flexible design that minimizes complexity and allows them to easily upgrade or expand the content delivery solution in the future.
- Maximizing speeds for data movement between the various pools of servers. PureVideo Networks allocates servers by function including Web, application, streaming, upload/download, and database servers. They also have encoding servers dedicated to translating video formats to accommodate a broad range of users.

DSW recommended a solution based on the Cisco[®] Catalyst[®] 6500 Series Switches with the Cisco Application Control Engine (ACE) service modules. Two switches, each configured with the Cisco ACE blade, provide the capacity to control and optimize content and application delivery, providing them a scalable, highly available solution that easily integrated into their existing infrastructure. Michael Bell, director of information technology at PureVideo Networks, explains, “The Cisco [Catalyst] 6500 gives us the fastest backplane available in today's enterprise market—16 G of throughput for moving data. And the Cisco ACE blades have accelerated the applications and content delivery to the point where we were immediately able to push 400 M from the Internet as soon as we deployed the solution. We have gained control of our content delivery, can more easily manage our server resources, and have also accelerated our internal processes. In the future, we can easily add more routers and blades on the fly, so we are essentially unlimited in our ability to rapidly respond to demand increases.”

Cisco ACE service modules give PureVideo Networks increased control of its operations. Virtual partitions let them easily split resources into as many as 250 logical groups. Access control elements permit both front-end scalability of users and back-end scalability of all three tiers: Web,

application, and database. Role Based Access Control (RBAC) enables centralized control of the system while also providing decentralized management out to functional groups such as applications, server, security, and network operations. Roles can be assigned to separate virtual partitions or to cross partitions, enabling the system to mirror IT operations and further drive operational efficiency. Cisco ACE modules deliver the industry's highest application performance with up to 345,000 Layer 4 connections per second per module and software license-enablement for 4, 8, and 16 Gbps of total throughput. With this built-in capacity, the Cisco ACE modules eliminate the need for forklift upgrades. Similar software licensing is available for virtual partitions and SSL termination, making the Cisco ACE module the most flexible and scalable application delivery platform on the market today. This speed, combined with virtual partitioning, gives PureVideo Networks the ability to scale its operations cost-effectively, without introducing complexity that would otherwise increase operating expenses.

PRODUCT LIST

Cisco Application Networking:
High Availability, Scalability, SSL Offloading, and Compression

- Cisco Catalyst 6500 Series
- Cisco Application Control Engine (ACE) service modules

Business Results

After setting up the new equipment in the DSW lab, PureVideo Networks went live with the solution during the week that they introduced a new co-location data center. Without a hitch, the new application delivery platform has taken over all of the content serving traffic. The go-live was timed to be ready for the “back-to-school” increase in online

traffic. The introduction of the new co-location facility has also increased the capacity of the operations, and the Cisco ACE is handling twice the load compared to the previous infrastructure with capacity to spare.

“We have been moving away from a multivendor environment, and this latest solution further simplifies our operations,” says Bell. “Compared to an all-Cisco network, the price was higher and required multiple skill sets among our engineers. This new application and content delivery solution is part of our initiative to simplify operations, lower costs, and end up with a tightly integrated, optimized foundation for future growth. Cisco ACE gives us the ability to centrally manage our servers, firewalls, and other security appliances—it is a great platform for accommodating IT best practices.”

The application delivery solution not only meets the approval of the IT team that supports it, but has allowed PureVideo Networks' management team to confidently take the business forward. “If we were a radio station, this deployment would be like building our radio broadcast tower of the future,” says Greg Morrow, president and co-founder of PureVideo Networks. “We are going to be able to reach more users, and we know we are ready to handle the huge increases in traffic that come with success in our business. The Cisco solution is not anywhere near its limits, even though we are pushing a half-gig through it. We know that we can make the most of all of our opportunities without any risk of overwhelming our infrastructure.”

For More Information

To find out more about the Cisco Data Center Solutions including Cisco Application Networking, go to: www.cisco.com/go/applicationservices.

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