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Matt Conwell
PDXLAN Event Organizer

PDXLAN 6 Cuts Monthly Bandwidth Bills; Reduces Setup and Ongoing Maintenance Costs By Over \$12,000 Using F5’s BIG-IP.

Industry:

Gaming/Events

Challenges:

- Ensure a successful gaming event
- Reduce bandwidth costs
- Reduce setup and maintenance costs

Solution:

F5 BIG-IP® Link Controller

Benefits:

- Cut research, setup and maintenance costs by \$12,000
- Cut bandwidth costs by aggregating multiple low cost connections into a bigger pipe
- Helped ensure a successful event with full redundancy and availability

PDXLAN

Overview

Computer gaming enthusiasts bring their computers to gaming conventions and connect them together, forming a LAN (Local Area Network). This LAN enables the attendees to compete against each other in real-time computer games at high speeds. One of the biggest LAN parties in North America is PDXLAN. It’s all for fun, but it’s also serious business – and obviously, if you have a bad network experience, more than a just few people aren’t going to be very happy with the event they paid to participate in. PDXLAN employs F5’s BIG-IP® Link Controller to manage both incoming and outgoing traffic, to direct users over the best link, and to ensure that gamers at PDXLAN events have the best experience possible.

Challenge

PDXLAN coordinates and produces some of the largest and most popular LAN parties, gaming events and tournaments in North America, where contestants compete for prizes worth up to \$100,000. Gamers from across the country and around the world gather at PDXLAN events to play just about any computer game imaginable in an intense, professional and always fun atmosphere.

The complexity of holding a major tournament for 500 gamers playing

24-7 for up to four days straight is not to be underestimated. For the coordinators of the sold-out PDXLAN 6 event, the challenges included the assurance that everyone had Internet access, everyone always stayed connected, and that game play went smoothly.

To give the participants all the performance they required, PDXLAN decided to take multiple low-cost modem connections and aggregate them into a bigger, high performance pipe. PDXLAN also wanted full redundancy between the cable lines – if one line went down, redundancy and failover would be immediate, and game play would continue without gamers ever knowing what had happened.

To achieve all of this, PDXLAN first considered building-out a Linux box that would act as a load balancer between multiple lines. If this was to be done, a third party engineer would need to be hired to research this alternative and design a solution, but the costs quickly made doing so prohibitive.

“You’re looking at fifty dollars an hour to hire a Linux guru full-time (for that type of solution),” said Matt Conwell, PDXLAN Event Organizer. “It would have taken a couple months of work, full-time, and probably another couple of weeks to implement. We would have spent



around \$12,000 for that type solution just in research alone. And then we'd need a specialist to maintain it."

A second alternative involved having only a single cable modem for the approximately 500 gamers planning to attend the event – not an alternative PDXLAN wished to risk.

"With only one link, there wouldn't be any redundancy," said Conwell. "As an event organizer, that's huge for me, because if the Internet goes down, it's possibly a show stopper."

"A lot of games now have to go through Internet verification before play can begin," added Daaniël van Siereveld, a network engineer for PDXLAN. "And without that consistent access, you're not going to have satisfied customers or a good experience, which reflects poorly on your event."

PDXLAN needed a solution that would not only be easy to implement and maintain, but would provide solid, consistent redundancy between cable modem lines and also deliver the bandwidth required at a reasonable cost. As with previous years, PDXLAN used the BIG-IP Link Controller, from F5.

Solution

The BIG-IP Link Controller is an integrated load balancing product that replaces legacy routing protocols with faster, more intelligent switching technology.

PDXLAN deployed the BIG-IP Link Controller to manage both incoming and outgoing traffic, and to direct users over the best link.

"It was easy to use," said van Siereveld. "Just perform the initial setup which takes less than 30 minutes, and you can walk away and never have to look at it again."

Deployed between their firewalls and routers, the product regularly measures the health and capacity of each connection. Bandwidth, performance and health of each ISP link were automatically measured; each user was then directed down the best possible link.

The BIG-IP Link Controller provided:

- **Bandwidth control** that solved bandwidth scalability problems
- **High availability** to assure users stayed connected with immediate ISP failover
- **Improved performance** by directing users across the fastest link to avoid congested bandwidth
- **Reduced management and support** by providing a greatly simplified multi-homing architecture
- **Bandwidth Cost Savings** by aggregating multiple low cost connections into a bigger pipe

The BIG-IP Link Controller not only ensured that customers were connected, but it allowed PDXLAN to increase user performance and ensure that their bandwidth investments were maximized to their fullest extent during the event.

"Some of the numbers I achieved from each link I had established with BIG-IP were pretty impressive," said van Siereveld. "Gamers had downloaded over 30 gigs in about seven hours. Plus, they were telling us that the network was great – extremely fast with no downtime at all."

"I think the main benefit is the cost savings we achieved with BIG-IP," said Conwell. "We were able use cheap connections – about \$40 a month for each cable modem, about \$240 a month total, for 30 megabits per second download

speeds, 12 megabits upload – that's pretty incredible."

Conwell added that a T1 line would have been more expensive to buy, and wouldn't have provided nearly the same bandwidth performance.

"With BIG-IP, you can add 16 cable modems to it, and have them all work, and have them all be redundant, and you're saving a ton of bandwidth costs at the same time while running about twenty times faster," said Conwell.

"Bandwidth today is not cheap," said van Siereveld. "If you can effectively load balance bandwidth, and do more with less, that's huge. And that's why BIG-IP is so important."

BIG-IP Link Controller proved its mettle in other ways at the event, in terms of performance and redundancy.

"During the event we were able to provide live video streaming as well," said Conwell. "So people could log onto our website and see in real-time what was going on at the event. Capabilities like that make the event much more dynamic, and help us stand out as well."

"The redundancy we obtained between the fixed links was great," said Conwell. "During a previous event I watched Daaniël walk over and unplug a cable modem, and nothing happened. The attendees didn't even notice. If that had been one cable connection and you unplugged it, everyone in the room would have been after you. BIG-IP gives us the stable environment we required."

Both Conwell and van Siereveld noted the ability for them to quickly switch ISPs as being another key benefit of the BIG-IP Link Controller. "If one ISP decides to raise their rates, I can quickly transition to



another through BIG-IP,” said Conwell. “I don’t have to wait for a \$50 dollar-an-hour engineer from the ISP to come in and do the switch, either – I can do it myself, and end user won’t even notice. BIG-IP takes care of it automatically.”

But overall, it was the smooth, consistent behind-the-scenes operation of BIG-IP that resonated most with Conwell and van Siereveld – and with the participants at the event.

“We received a lot of positive feedback about the network at our event,” said Conwell. “People commented that it was the most well run and professional event they’d ever been to, that the network was nice and stable, and that everything worked flawlessly. I have to give BIG-IP most of the credit for that.”

“I had one attendee come up to me on stage (during the event),” said van Siereveld. “He asked if I was the network person. I hesitated, thinking something might be wrong, but nevertheless I answered yes. He shook my hand and said that it was best network he’d ever seen.”

“It’s a great product, and F5 delivered an overall great experience for us and the participants,” he added. “I kept walking around the room looking at all the people playing the online games and asking them what their connection times were like (ping times) and nobody ever complained, they said it was just like playing on their home connection. With that many people playing online all at once I think that is a very good accomplishment to reach such good speeds.”

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