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| Description: C:\Users\Jane\Documents\Jane\Microsoft\istreamplanet\iStreamPlanet logo.jpg |  |  | Online Video Provider Streams Live Events and Live Linear to Connected Devices |
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| Overview  Country or Region: United States  Industry: Digital media  Customer Profile  iStreamPlanet provides live video streaming services for live streaming events, including Wimbledon and Sunday Night Football. The firm has offices in Las Vegas, Redmond, Washington, and London.  Business Situation  iStreamPlanet created a new software-based solution for managing live video streaming, but it needed a hosting environment for the solution that was scalable, flexible, and cost-effective.  Solution  The company chose to host its Aventus live video workflow management solution in a private cloud consisting of Windows Server 2012, Hyper-V, and Microsoft System Center 2012.  Benefits   * Trusted technology supports product success * Rich feature set enables optimal performance * Cost-effectiveness supports affordability and boosts revenues |  |  | “Running Aventus on a Microsoft private cloud gives us a solution that has been tested and is trusted by Fortune 100 companies.”  Robin Cole, Vice President of Products and Services, iStreamPlanet |
|  |  | iStreamPlanet is the live streaming provider behind some of the biggest live events in the world, including the London 2012 Olympics and Sunday Night Football. When viewers called for live access to events over the Internet, iStreamPlanet found itself mired in the capital- and people-intensive business of managing video streaming around the clock. It ingeniously developed a solution that automated the live video workflow using software—but it needed a scalable, flexible, cost-effective infrastructure for hosting the new service. iStreamPlanet turned to Microsoft. By running its solution in a Microsoft-based private cloud environment, iStreamPlanet gained increased trust from customers, which contributed to early product success. It also gained a rich monitoring and management environment and a cost-effective solution that increased its competitiveness. |
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Situation

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| “We were hitting scalability limits because of the hardware- intensiveness of live linear streaming.”  Robin Cole, Vice President of Products and Services, iStreamPlanet |

When NBC Sports, the US Olympic Committee, and corporations want to deliver live streaming media to millions of viewers around the world, they rely on iStreamPlanet. The Las Vegas, Nevada–based firm provides live video streaming services, which is the process of acquiring content and processing it for playback on a variety of devices, from connected televisions to PCs to smartphones. iStreamPlanet is the live streaming provider behind some of the biggest live and on-demand events around the world, including the London 2012 Olympics, Wimbledon, US Open, Tour de France, Sunday Night Football, and NASCAR. iStreamPlanet has 60 employees.

In 2012, iStreamPlanet noticed a trend: customers were moving beyond live streaming—delivering an event in real time. It wanted to evolve its business from live event to live linear streaming—making content continuously available over the Internet for anytime consumption on any IP-connected device. “In addition to content delivered through a cable or satellite box, live linear streaming is delivered over IP to devices, which means continuous video streaming,” says Robin Cole, Vice President of Products and Services at iStreamPlanet. “This requires round-the-clock work on our part to acquire signals, process and package the video stream, and monitor the health of the live linear stream.”

Live linear streaming was an expensive activity that involved costly hardware encoders and a great deal of labor to manage the continuous media processing and packaging workflows. Each encoder cost between US$20,000 and $50,000 and could handle only one to four video channels. “We were hitting scalability limits because of the hardware-intensiveness of live linear streaming,” Cole says. “There were only so many events we could pick up, because each required lots of dedicated hardware. When these encoders were not in use, they sat idle. It was a very capital-intensive business, and the return on investment and ability to scale to meet business demand just wasn’t there.”

This problem was originally identified when iStreamPlanet, in partnership with Microsoft and NBC Sports, streamed the Vancouver 2010 Olympics. iStreamPlanet Chief Executive Officer Mio Babic realized that to handle all the work involved in live streaming this event, he needed 40 to 50 people—and he had 4. “Mio knew that we needed to come up with an automated workflow solution to manage live linear streaming—and a cheaper way to handle the encoding,” Cole says. “And it occurred to him that if we needed this to grow our business, other companies did too.”

After returning from the Vancouver Olympics, iStreamPlanet got to work and developed Aventus, a scalable, flexible, cost-effective solution for live video workflow management in the cloud. Aventus became the first software-based live video workflow solution built from the ground up for the cloud. And by running this software on commodity servers, the company could more quickly and less expensively provision media processing resources as needed.

iStreamPlanet wanted to put Aventus to work in its own business and also market it to other broadcast companies. For both purposes, iStreamPlanet needed a cost-effective, scalable, reliable infrastructure on which to host the service.

Solution

iStreamPlanet had long worked with Microsoft, both as a user of Microsoft software and as a streaming provider helping Microsoft deliver multiple large broadcast events. “In trying to come up with the best platform for delivering Aventus, we looked first to Microsoft,” says Jennifer Baisch, Senior Director of Product Marketing and Services for iStreamPlanet. “Microsoft’s strong reputation was key for us. We knew that we wouldn’t be able to persuade people who had used only dedicated encoding boxes to switch to a software-based solution unless the environment was really trusted. People have to believe in it, and we were banking on Microsoft’s status as a trusted software company.”

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| “Being able to start out hosting the service internally and then migrate the whole infrastructure to Windows Azure down the road gave us a lot of flexibility in delivering this new service.”  Jennifer Baisch, Senior Director of Product Marketing and Services, iStreamPlanet |

iStreamPlanet knew that it could also meet its scalability and reliability goals with Microsoft. “Being able to start out hosting the service internally and then migrate the whole infrastructure to Windows Azure down the road gave us a lot of flexibility in delivering this new service,” Baisch says. Windows Azure is the cloud operating system that provides the compute, storage, hosting, and management services for hosting customer-developed applications and services.

iStreamPlanet looked briefly at using VMware to virtualize its Aventus environment but realized that the Hyper-V technology in the Windows Server 2012 operating system was “just as functional and a lot more cost-effective than VMware,” Cole says. “We knew that we could pass along Hyper-V cost savings to our customers and make our solution more affordable.”

Building the Scalable Cloud Environment

In partnership with SwitchSuperNAP, a large data center based in Las Vegas, iStreamPlanet used Windows Server 2012 to create a private cloud environment, an internal cloud infrastructure with virtualized compute and storage resources that are managed centrally and reconfigured automatically on demand. The company began with 18 host servers and 36 virtual machines, but it plans to begin shifting virtual machines to Windows Azure in late 2013 and have up to 10,000 virtual machines running in a hybrid-cloud environment by early 2014. The various video workflow tasks can be spread across multiple virtual machines, so the company will be able to accommodate thousands of channels in this flexible infrastructure.

In its on-premises private cloud, iStreamPlanet uses commodity Intel-based servers, each of which contains 16 Intel Xeon processor cores, multiplied to 32 virtual cores through the use of Intel Hyper-Threading Technology. All of the virtual machines in the cloud are continuously running and looking for processing tasks; this means that memory-intensive and processor-intensive tasks automatically receive the resources that they require. iStreamPlanet uses the Network Load Balancing feature of Windows Server to keep all virtual machines and host services running at maximum efficiency.

The company uses the Remote Desktop Gateway feature to enable remote employees to connect to the private cloud, and Internet Information Services to host a customer portal and customer application programming interface. iStreamPlanet also uses routing and remote access to manage high-bandwidth streams in the environment and relies completely on the Windows PowerShell command-line interface and scripting language for automation and deployment in running Hyper-V for all host operating systems.

Monitoring the Hybrid Cloud

Initially, iStreamPlanet used a video monitoring tool called SolarWinds, but soon realized that it needed something more comprehensive to monitor all the components and tasks going on in a private cloud. iStreamPlanet now uses Microsoft System Center 2012 to monitor its private cloud and will use the same tools to manage workloads as they shift to Windows Azure.

iStreamPlanet uses the Operations Manager component of System Center 2012 to monitor the performance and health of all physical and virtual servers. It uses the Virtual Machine Manager component to automate the creation and management of all virtual machines. And it uses the Configuration Manager component to deploy new software builds and create new customer environments in the cloud.

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| “With System Center 2012, we’ve been able to monitor many moving parts and to design and automate many sophisticated IT processes.”  Robin Cole, Vice President of Products and Services, iStreamPlanet |

Early Adoption and Testing

iStreamPlanet has a handful of early-adopter customers, including online video providers and content owners and distributors, running in its nascent cloud environment. iStreamPlanet announced its early adopter program in early 2013 at the National Association of Broadcasters, and the announcement included key partners Ooyala, thePlatform (an online video management and publishing company), and Turner Broadcasting. iStreamPlanet intends to expand to 100 customers and partners by the first quarter of 2014.

Benefits

By running its Aventus video workflow solution in a Microsoft-based private cloud environment, eventually moving to a hybrid-cloud environment, iStreamPlanet gained increased trust from customers, a critical component for one Fortune 100 media enterprise customer. It also gained a rich monitoring and management environment that helps it optimize performance and resolve issues before they become problems. Finally, because the solution is more cost-effective than other alternatives, iStreamPlanet can pass savings along to customers.

Trusted Technology Supports Product Success

The Microsoft name has been invaluable in gaining customer trust. “Running Aventus on a Microsoft private cloud gives us a solution that has been tested and is trusted by Fortune 100 companies,” Cole says. “This was critical for gaining success with a new product that took a new approach to solving an industry problem. We’ve been able to approach some of the biggest names in broadcasting and gain instant credibility and respect for our new offering.”

Rich Feature Set Enables Optimal Performance

The Microsoft solution delivered the functionality and reliability that iStreamPlanet needed to be successful with a new product launch. “Windows Server 2012 and System Center 2012 contained the flexibility, security, and reliability features that we needed, before we even knew that we needed them,” Cole says.

During its early adopter program, iStreamPlanet learned from System Center that one of its customers had not accessed the Aventus server in four days. iStreamPlanet called and asked if there was a problem. There was indeed, and the customer was busy trying to solve it. Using the data that System Center provided, iStreamPlanet already knew what the problem was and was able to fix it immediately and return the customer to action. This impressed the customer and saved a great deal of time.

“With System Center 2012, we’ve been able to monitor many moving parts and to design and automate many sophisticated IT processes,” Cole says. “We actually used it to improve our product during development. During our early adopter program, we used System Center to gather a wealth of insights about who was using the service, how they were using it, what video they were pushing through, and where the failure points were—information that even customers couldn’t see.”

Cost-Effectiveness Supports Affordability, Boosts Revenues

When launching a hosted service such as Aventus, it’s important to keep operating costs low in order to keep pricing competitive. iStreamPlanet has been able to eliminate its third-party management software and handle a wide range of tasks with System Center 2012. The company can use this one management tool set across both private cloud and Windows Azure cloud.

“Microsoft solutions were the most cost-effective out there,” Cole says. “They met our needs and did it in a way that saved money, both on licensing fees and in support costs. We can pass these savings on to our customers.”

Transform the data center

The hybrid cloud from Microsoft transforms the data center by extending existing investments in skills and technology with public cloud services and a common set of management tools. With an on-premises infrastructure connected to the Windows Azure platform, you can deliver services faster and scale up or down quickly to meet changing needs.

For more information about transforming the data center, go to:

[www.microsoft.com/en-us/server-cloud/cloud-os/modern-data-center.aspx](http://www.microsoft.com/en-us/server-cloud/cloud-os/modern-data-center.aspx)

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| Software and Services   * Microsoft Server Product Portfolio * Windows Server 2012 Datacenter * Microsoft System Center 2012 * Windows Azure | * Technologies * Hyper-V * Remote Desktop Services   Hardware   * Intel-based servers |

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For more information about iStreamPlanet products and services, call (702) 492-5900 or visit the website at: [www.istreamplanet.com](http://www.istreamplanet.com)