One of the World's Largest and Most Technologically Advanced Concert Halls Relies on KEMP VLMs to Provide a Fail-safe Online Ticket Store

medialine.ag
systems & services

Customer: Elbphilharmonie

Partner: Medialine AG

Partner Website: www.medialine.ag

Application: Web Services

Average No. of Active Users: 30,000

Business Need: To provide high availability and optimized performance levels for online ticket store

Solution: VLM-5000

Impact:

• Achieved high availability

• Provided seamless user experience for online ticket buyers, with no adverse disruption to ticket sales during peak demand

• Ease of administration with the ability to quickly distribute loads effectively to cater for spikes in usage

The Elbphilharmonie, a state of the art concert hall and iconic landmark located in Hamburg, Germany, required a virtual load balancing solution to provide high availability and a rapid response time during periods of peak demand for its online ticket store.

Challenge

The Elbphilharmonie was completed towards the end of 2016. It had been planned with the aim of creating a new landmark for the city and a "concert house for all to enjoy". The 360-foot building comprises a large concert hall with 2,100 seats and a smaller hall with 550 seats, as well as a hotel and 45 residential units. The Elbphilharmonie's sophisticated program includes classical concerts as well as festivals, presentations, and workshops for all ages.

Since its grand opening in January 2017, the concert hall has enjoyed unpreceded attendance levels at shows and concerts taking place in its state of the art facilities, welcoming over 480,000 guests in its first season. The upward curve has continued into the second season, with over 850,000 tickets expected to be sold and further plans announced to increase the number of shows on offer throughout the remainder of the year.

While the success of the Elbhilharmonie since its opening day has brought many benefits to the city of Hamburg, from a technology perspective, it has also provided many challenges. One such challenge is to provide a smooth user experience for guests when booking tickets online during periods of high demand.

Tasked with solving this challenge was Medialine AG, a full-service IT&C systems house responsible for hosting the Elbhilharmonie's servers and applications in its Frankfurt based data center, including the ticketing booking system, the website, and integrated checkout.

"As soon as advance ticket sales for Elbphilharmonie events begin, traffic on the website and the associated ticket shop sky-rockets. On some days, we have received over 30,000 enquiries at the same time," explains Knut Kopf, sales manager at Medialine.

To meet its SLA of not losing a single event-related enquiry from a potential customer, Medialine AG knew they required an intelligent load balancing solution to provide a seamless and non-disruptive ticketing experience for online customers.

"The importance of both the website and the online ticket shop being available around the clock and working reliably should not be underestimated. A server failure could do considerable damage to the image of such a renowned concert house. We therefore, began to look for load balancers which can process enquiries at peak times and at a reasonable cost," added Kopf.

Solution

As Medialine AG began their search for a load balancing solution, they came across KEMP. They were particularly impressed with the fact that KEMP was a specialist provider of application delivery controllers and could offer a range of advanced virtual ADCs, at a price point that represented a good return on investment in comparison to other leading vendors.

In early 2017, Medialine decided to order two Virtual LoadMaster 5000s, capable of individually delivering 5000 Mbps of throughput and 10,000 SSL TPS, an optimal solution for providing high availability in demanding enterprise application and e-commerce web deployments.

KEMP VLMs intelligently direct requests for client access automatically to the virtual servers in order to deliver high performance based on factors such as simultaneous connections, CPU load, and memory usage to avoid "bottlenecks" in the network. If then a server or application does not respond, the user is automatically redirected to another server that is up and running.

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Implementation

The VLMs were deployed within Medialine's infrastructure, consisting of 3 physical servers, all of which had been virtualized with Hyper-V. Running on the physical servers and a redundant storage environment were 80 virtual machines.

The VLMs were configured in a HA pair to manage client connections to the business critical applications, ensuring continuous uptime during peaks and troughs of usage. Thanks to the KEMP load balancers, the critical applications could be expanded or scaled with additional virtual machines whenever needed so that the required performance levels could be guaranteed at all times.

"The load distribution among the virtual servers fully meets our specifications in terms of functionality and performance. We have been able to get spontaneous configuration adjustments quickly whenever necessary to adapt the overall system to unforeseen load situations," said Hanns-Wolfgang Trippe, project manager at the Elbphilharmonie.

Results

Since deploying the pair of VLMs, they have done exactly what has been expected, distributing peak usage enquiries among the available scaled virtual servers of the website, ticketing system, and integrated checkout, thus ensuring high availability.

With the pair of KEMP VLMs sitting at the heart of Medialine's Hyper-V environment, they have been able to provide a seamless user experience for online ticket buyers and with no adverse disruption to ticket sales during peak demand. The Elbphilharmonie's goal of not losing a single event-related enquiry from a potential customer has therefore been achieved.

"We are very satisfied with how the project progressed. KEMP's German-language technical support assisted us splendidly, the price-performance ratio is outstanding, and the systems are running reliably. In addition, the installation effort is minimal," Kopf summarizes.

Due to the positive end result, Medialine intends to extend its cooperation with KEMP in the future, especially when it comes to larger customer environments where the load balancers can realize their full potential.

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About KEMP Technologies

With over 40,000 worldwide deployments and offices in America, Europe, Asia and South America, KEMP Technologies is the industry leader in advanced Layer 2 – 7 Application Delivery Controllers (ADC) and application-centric load balancing. Named one of the fastest growing technology companies in North America by Deloitte with a 499.1% growth rate, KEMP is changing the way modern enterprises and service providers are building cloud-enabled application delivery infrastructure.

Over the past decade, KEMP has been a consistent leader in innovation with a number of industry firsts, including high-performance ADC appliance virtualization, application-centric SDN and NFV integration, innovative pricing and licensing models and true platform ubiquity that can scale to support enterprises of every size and workload requirement.

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