



DIGITAL MARKETING LEADER SEMRUSH SEARCHES OUT AUTOMATED JUNIPER INFRASTRUCTURE FOR RAPID INNOVATION

Summary

Company:
SEMrush

Industry:
Web Services

Business Challenges:
Sustain innovation of digital marketing platform and accelerate growth while controlling operational costs.

- Technology Solution:**
- MX10003 Universal Routing Platform
 - QFX10008 and QFX5120 Switches
 - Contrail Enterprise Multicloud

- Business Results:**
- Built scale-out data center to power digital marketing and analytics platform
 - Empowered developers with selfservice infrastructure services
 - Provisioned VLANs in less than five minutes using automation
 - Reduced OpEx significantly by insourcing data center services
 - Improved service reliability with greater network uptime

More than 400,000 active accounts rely on SEMrush for online visibility and content marketing. Begun as a search marketing boutique, SEMrush has grown into one of the world's top competitive research services for online marketing. Strong market demand and rapid innovation have propelled its business forward. To support that growth, the company decided to insource data center services and built a state-of-the-art cloud data center based on Juniper routing, switching, and orchestration. Empowering development teams with self-service infrastructure has enabled the company to innovate faster.

Data-driven marketing helps companies reach the right person at the right time with the right offer. Marketers use the SEMrush platform to optimize their visibility across key digital channels and create engaging content for their prospects and customers. Marketers can discover growth opportunities, continuously experiment and tune marketing programs, and measure results. The Software as a Service (SaaS) platform consists of more than 30 tools and collects search data for 140 countries.

"Our mission is to make online marketing better," says Stepan Shirokikh, VP of infrastructure and general manager of the company's operations in Czech Republic. "We want every customer to be able to improve their marketing by using our tools to achieve online visibility and keep experimenting."

Scaling to Meet Digital Demand

SEMrush has grown rapidly since its inception in 2008. Global spending on digital advertising is growing by leaps and bounds, and is expected to reach \$322 billion in 2020 and double to \$640 billion by 2027.

SEMrush wanted to innovate rapidly, with development teams creating new features and products for its digital marketing platform. The company also wanted to control costs as it grew. Relying on a data center provider had provided agility at first, but over time, the slower processes of their old data center model threatened the company's speed of innovation. For instance, when developers needed to make a network modification, such as create a VLAN, they might have to wait an entire day for the data center provider to make the change.

"We reduced our operations budget significantly by building our own data center using Juniper switching."

- Stepan Shirokikh, VP of infrastructure, SEMrush

Before, we would have to open a ticket, wait for the data center provider to make the change, and then check the result," Shirokikh says. "It took too many people to work the tickets."

Also, recurring costs paid to the data center provider were increasing as data volumes grew.

"Our applications are data-intensive, so it is financially preferable for us to host our applications on premises," Shirokikh says.

Empower Dev Teams with Self-Service Infrastructure

SEMrush took action and built a cloud-scale data center in Ashburn, VA, perfectly suited to the demands of fast-moving digital marketing.

"We wanted each development team to have their own resources while maintaining cross-team access to shared resources," Shirokikh says.

To empower developers with self-service infrastructure, SEMrush chose Juniper routing, switching, and orchestration for its new data center. A building-block approach, with a Juniper IP fabric at the core, delivers simplicity and enables automation.

"Our new Juniper network should serve us for the next five years and allow our business to more effectively deliver on customers' data analytics needs."

- Stepan Shirokikh, VP of infrastructure, SEMrush

SEMrush's 100 Gbps data center fabric consists of Juniper Networks® QFX10008 Switch for the spine and Juniper Networks QFX5120 Switch for leaf nodes in the underlay network. Juniper Networks MX10003 Universal Routing Platform serves at the data center edge.

Contrail® Enterprise Multicloud is used to deploy and manage the Ethernet VPN-Virtual Extensible LAN (EVPN-VXLAN) overlay network. With Contrail Enterprise Multicloud, SEMrush can run any workload on any cloud and on any deployment, including in its private data center or its Google Cloud Provider and Google Kubernetes Engine instances. It can also manage its resources as a single, cohesive interface.

A Juniper IP fabric has improved service availability and delivered OpEx efficiencies.

"We reduced our operations budget significantly by building our own data center using Juniper switching," Shirokikh says.

Agility Speeds Innovation

"We need to move even faster," Shirokikh says. "We can't afford for our developers to wait a day or a week for a ticket to be closed. With our self-service infrastructure approach, they can make changes and move ahead."

Automating infrastructure changes helps keep SEMrush nimble and able to react quickly to customer needs and market dynamics.

"With self-service infrastructure, development teams can introduce changes to the configuration, have those changes be automatically checked against rules, and then our engineers can approve or reject the change," Shirokikh says.

"A common task was to create a new VLAN and connect it to another VLAN. It used to take a day to create the VLAN and allow data to be passed. Now, the developers can edit one file and the task is complete in one to five minutes."

Contrail Enterprise Multicloud enables the creation of customized workspaces to deploy the fabric for the underlay and work environments. "Developers can make changes using a few commands to the Contrail system, and that's it," Shirokikh says.

"Contrail is a transparent, reliable solution for us," Shirokikh says. "Other vendors' systems look more like a black box and we can't control anything directly. So, if something happens, we don't always have enough visibility to fix the problem ourselves."

Scaling Business Growth

SEMrush counts companies like Disney, Forbes, Booking.com, and Vodafone among its customers.

"Online marketing tools is quite a competitive business," Shirokikh says. "We need to run fast in order to invent new products and experiment."

SEMrush's data on search volume, correlation, website traffic, and digital trends is massive—measured in petabytes—and constantly changing. A single customer report could be 20 GB.

"The amount of data is growing exponentially," Shirokikh says. "With Juniper, we have a reliable network to allow data to move back and forth to customers."

SEMrush's new data center is ready for the heavy demands of marketing analytics today and in the future.

"Our new Juniper network should serve us for the next five years and allow our business to more effectively deliver on customers' data analytics needs," Shirokikh says.

A Trusted Partnership

The SEMrush infrastructure team had previously used Juniper Networks SRX Series Services Gateways for its firewalls, and expanding the relationship to include data center routing, switching, and orchestration was smooth.

Juniper and SEMrush worked closely together on a proof-of-concept test to validate the data center fabric design and ensure a positive business outcome.

“It’s really easy and pleasant to work with Juniper,” Shirokikh says. “The Juniper team worked to understand what was happening inside our business to make sure we had the best solution.”

In a little more than a decade, SEMrush has grown from a handful of employees in St. Petersburg, Russia, to more than 900 people around the world working to help marketers discover growth opportunities through search marketing, social media, content marketing, and market research.

“We’re still at the beginning of our journey,” Shirokikh says. “We have a lot of work to do.”

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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