



# Cisco Cloud Services Router 1000V and Amazon Web Services

CASE STUDY |  Adobe



## About Adobe

Adobe Systems provides digital media and marketing solutions to customers around the world including individual consumers, enterprises, and government agencies. They were recently named the “#1 Computer Software Company” on FORTUNE Magazine’s list of the “World’s Most Admired Companies”. Through their creative, marketing, and document solutions, Adobe seeks to empower all users to bring their digital creations to life and deliver them to the appropriate audience in a timely manner. Adobe takes pride in inspiring creativity around education, sustainability, and community and to do so, they need to deliver a quality product that every customer, from individual users to global companies, can easily access. The solutions that Adobe offers help solve the marketing needs for a variety of industries, from data-driven marketing to programmatic advertising. To enable them to deliver high quality products, Adobe focuses on maintaining a large community of customers, partners, and employees with experience in content development and optimization.

To support their vast customer base, Adobe’s digital marketing department has 13 private datacenters which are spread across the globe, and is looking to expand that infrastructure footprint in the future. Their applications are offered as Software-as-a-Service (SaaS) through an innovative, secure cloud platform.

## The Challenge

Adobe was already a large Amazon Web Services (AWS) customer, with 700+ accounts and Virtual Private Clouds (VPCs) deployed in multiple regions. A key requirement for Adobe was the ability for VPCs to be able to communicate and share data with one another. To achieve this functionality, they were searching for a solution that would allow them to implement transit VPCs that made it easier share data and workloads between their VPCs and private data centers.

Another challenge Adobe faced was ease of production. Previously, to get into the production environments, users would have to jump through multiple security control points sitting within Adobe’s private data centers, which limited productivity. They needed the ability to enforce perimeter security policies with Zone-Based Firewalls to protect their various security zones, without creating a cumbersome experience for their users.

In addition to security, Adobe required an infrastructure that offered both high-performance and cost-effectiveness, as these characteristics were critical to their end-offering. Adobe preferred to use a product with the same configuration and support as their current routing solution, the Cisco Aggregation Services Router (ASR 1000) series.



## Why Cisco on AWS

When the time came to choose a virtual router for their AWS workloads, the familiarity that Adobe had with Cisco networking solutions made the choice easier. Adobe was already using the Cisco ASR 1000 series in their on-premises data centers, so transitioning to the CSR 1000V was a natural fit as this system is based on the same operating system software that the ASR 1000V uses. Adobe was pleased with their experience with ASR 1000V and wanted a solution that had the same features, capabilities, and look and feel, but with the capability to operate within a public cloud. This included Multiprotocol Label Switching (MPLS) Virtual Private Networks (VPNs) for tenant isolation, routing policy to control reach between secure and open environments, transit connectivity between VPCs within an AWS Region, and dedicated circuit access between their private data centers and AWS over Direct Connect.

## Launching Cisco CSR 1000V

A key step in deploying the solution was ensuring that they landed on a configuration that would work with the systems Adobe already had in place. Cisco supported Adobe's journey by providing help every step of the way. For starters, the security team at Cisco worked closely with Adobe to ensure proper controls were put in place to protect their data throughout the migration process. "Cisco has been great to work with," said Matt McBride, Sr. Manager of Network Engineering for Adobe. "The CSR 1000V is key for this entire piece to work for us." CSR 1000V has a similar look and feel to ASR 1000, making it quicker for the teams to learn than comparable solutions.



Adobe's engineers were able to learn CSR 1000V quickly because of their familiarity with ASR 1000V and to make the tools used in their private data centers work across both environments, but with the agility and cost-effectiveness of the AWS Cloud. They've also been able to implement the same security policies across both their private data centers and AWS environment by leveraging AWS Identity and Access Management. This has allowed them to maintain a strong security posture, while eliminating the need for their team to learn and implement new policies or use new credentials. In addition to IAM, Adobe leverages Amazon CloudWatch to collect and track metrics on their AWS environment, which allows them to understand where they can operate with greater performance, security, or cost-effectiveness.

*"The CSR1000V allows Adobe to literally extend data center services from private cloud to AWS over a dynamic, routed solution with MPLS multi-tenant security segmentation. This enables Adobe to apply security policy and compliance practices in both environments. To my knowledge other options to do the same simply don't exist today. Cisco coupled with AWS is leading the effort on this frontier."*

**Matt McBride**

Sr. Manager of Network Engineering, Adobe

*"CSR [1000v] was the perfect fit for us as we expanded into AWS... Basically it's an extension of our data center."*

**Matt McBride**

Sr. Manager of Network Engineering, Adobe

## Benefits

Although still in the initial onboarding process for the first round of customers, Adobe has already realized several benefits from implementing CSR 1000V.

Because it offers the functionality to create an overlay routing fabric on top of AWS, it has also enabled the inter-VPC communication that Adobe requires. With AWS Identity and Access Management, they can ensure that users can access production environments quickly and securely, allowing them to maximize employee productivity and satisfaction without putting their critical systems at risk.

Since making the switch, Adobe has significantly reduced the cost of acquiring additional IT resources. By replacing the slow, manual processes of hardware procurement and deployment with simply spinning up new Amazon Elastic Compute Cloud (Amazon EC2) instances, Adobe can move much more quickly and cost-effectively.

Adobe's customers, especially those utilizing their digital marketing solutions, require smooth and scalable connectivity for their applications to work correctly. With the implementation of CSR 1000V, Adobe can provide their customers with that connectivity in a secure environment. It has also allowed Adobe to make data more easily available to customers.

By using the CSR 1000V on AWS, they have streamlined their operations and using an architecture that supports their dynamic workloads across both AWS and their private data centers, giving Adobe the redundancy and high availability they need to deliver great experiences for their customers. CSR 1000V was critical to Adobe delivering against their new vision for meeting customer needs. Given how familiar the company was with Cisco's products prior to the switch, the process would have taken longer and required much more effort had Adobe chosen to implement a comparable solution from another vendor.

*"The CSR 1000V provides a cost-effective solution for hybrid cloud integration. OAM costs are low because Adobe doesn't have to train engineers on a new platform since the CSR acts and behaves just like an ASR router. Zero lead time to spin up CSR instances through scripts and APIs ensures Adobe remains agile on the services it provides."*

**Matt McBride**

Sr. Manager of Network Engineering, Adobe



## About AWS

For 10 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 70 fully featured services for compute, storage, databases, analytics, mobile, Internet of Things (IoT) and enterprise applications from 35 Availability Zones (AZs) across 13 geographic regions in the U.S., Australia, Brazil, China, Germany, Ireland, Japan, Korea, Singapore, and India. AWS services are trusted by more than a million active customers around the world – including the fastest growing startups, largest enterprises, and leading government agencies – to power their infrastructure, make them more agile, and lower costs. To learn more about AWS, visit [aws.amazon.com](http://aws.amazon.com).

## Next Steps

Adobe is in the process of onboarding the first round of customers to their new system. Within the next year and a half, they are looking to scale into other regions and move more of their customers to the public cloud, thereby shrinking their private data center footprint and its associated costs. Their big data processing will continue to run within their private data center, but they are looking to shift it over to AWS as well.



### Americas Headquarters

Cisco Systems, Inc.  
San Jose, CA

### Asia Pacific Headquarters

Cisco Systems (USA) Pte. Ltd.  
Singapore

### Europe Headquarters

Cisco Systems International BV Amsterdam,  
The Netherlands

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