Building Disaster Recovery and Active-Active Data Centers

Every major networking vendor offers a workload migration solution that supposedly helps you seamlessly migrate workloads between data centers. Some of them offer cloudbursting solutions to do the same between your data center and public cloud. Are these solutions worth considering? Would they work in real life? Can we use software-defined data center technologies like overlay virtual networks and network function virtualization to easily move workloads across geographic locations and between private and public clouds? This workshop will help you find the answers to these questions.

We'll start with an application-centric view of the problem, analyze typical application requirements, and identify bottlenecks, challenges and roadblocks on the way to mobile workloads deployed in multiple data centers. We'll also touch on application designs that have been proven to work in active/active data center scenarios and across the private/public cloud boundaries.

Topics Covered

The workshop covers these topics:

- Understanding the requirements of disaster recovery, disaster avoidance, workload migration and inter-data center load balancing;
- Obstacles to application workload migration: bandwidth, latency, data gravity and lack of continuous testing;
- Obstacles to live VM migration: bandwidth, connectivity, ingress and egress traffic flows, and in-path stateful services;
- Surviving the failures, from link and node failure to data center failure;
- The right way of doing things: scale-out architecture, minimal state, eventually-consistent datastores and read-only database replicas;
- Typical real-life designs, from distributed data centers with scale-out application architecture to stretched layer-2 designs and cloudbursting.

Key Takeaways:

After attending this workshop you'll be able to:

- Help the application development teams decide whether it makes sense to split an application stack across multiple geographical locations or between private data center and public cloud
- Identify the potential bottlenecks that hamper workload migrations
- Evaluate how overlay virtual networks and network function virtualization simplify workload migrations
- Select the optimal solution for your private or hybrid cloud deployments

Availability

Building Active-Active and Disaster Recovery Data Centers is a one day on-site workshop. The workshop can be extended by in-depth technical details or discussions of customer's specific design challenges.

Who Should Attend

This workshop targets network architects, designers and deployment or operations engineers who are planning, designing or building next-generation data centers supporting private or public cloud services. It will also help virtualization and server engineers understand the limitations of traditional data center designs and the options made available with the emerging virtual networking and SDN technologies.

About the Author

Ivan Pepelnjak, CCIE#1354 Emeritus, is an independent network architect, book author, blogger and regular speaker at industry events like Interop, RIPE and regional NOG meetings. He has been designing and implementing large-scale service provider and enterprise networks since 1990, and is currently using his expertise to help multinational enterprises and large cloud- and service providers design next-generation data center and cloud infrastructure using Software-Defined Networking (SDN) and Network Function Virtualization (NFV) approaches and technologies.

Ivan is the author of several books covering data center technologies, highly praised webinars, and dozens of data center and cloud-related technical articles published on his blog.