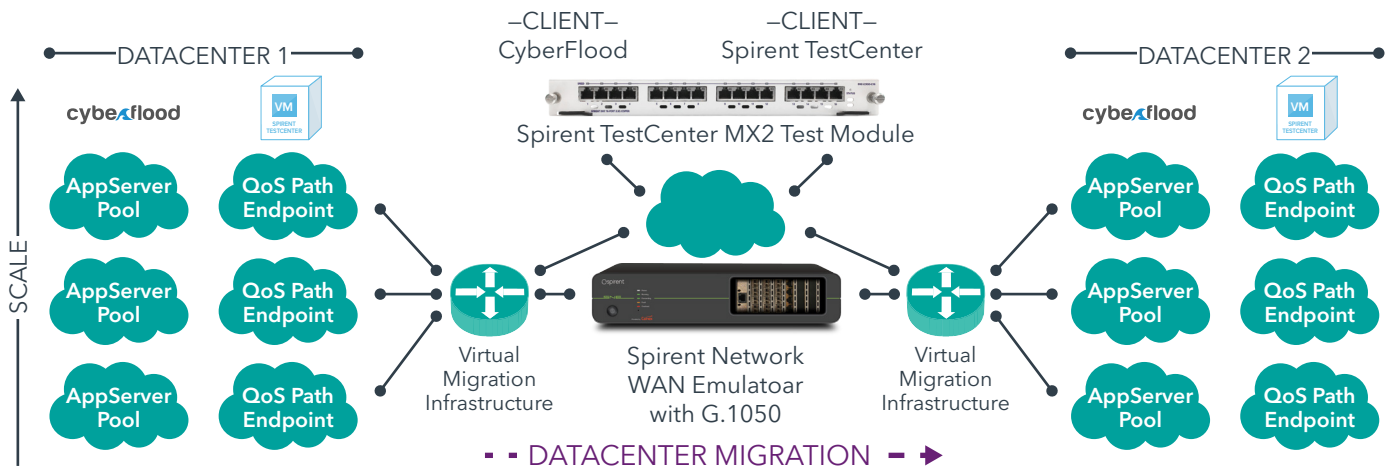


# Measure Host Migration Between Datacenters for Performance under Real-World conditions

Determining scale of parallel migration of hosts between datacenters and effects of host scale on perceived impact of application flows



## Test Components

- Spirent Network Emulator and G.1050 Impairment model option
- Spirent TestCenter Virtual endpoint
- Spirent CyberFlood Virtual instance
- Spirent TestCenter MX2 test interface

## Use Case Steps

1. The defined Device under Test (DUT) is the virtual migration infrastructure.
2. Deploy Spirent Network Emulator between Datacenter domains with G.1050 Impairment model running.
3. Begin with one instance of CyberFlood Virtual and Spirent TestCenter Virtual endpoints as server endpoints.
4. Deploy Spirent TestCenter MX2 Physical NIC in a routed network as client traffic emulation sources. Use one model for Spirent TestCenter and another MX2 module for a Queue member in Spirent CyberFlood.
5. Establish a meaningful Application Mix between the MX2 interface and CyberFlood Virtual instances in the primary Datacenter. Measure Application throughput and latency.
6. Establish L3 streams traffic between TestCenter Virtual and MX2 interfaces bi-directional traffic to measure pathway QoS.
7. Application traffic and Pathways QoS Traffic measured to DataCenter 1 will act as a baseline.
8. While client requests are being Generated for L3 and Application traffic, begin the host migration process to emulated Datacenter 2. IP routing (I.e. BGP with BFD) should detect failure of Datacenter and begin to route traffic to backup routes to Datacenter 2.
9. Measure the migration time by effects of QoS Metrics such as sequence errors, latency and Jitter for L3 QoS pathway metrics and impact of Quality of Experience on application traffic in decreased bandwidth and increasing TCP times as well as TCP timeouts. Start measurement when migration begins and stop measurement only when Datacenter 2 results match Datacenter 1 baseline. This is the true migration time for this instance count.
10. Now Scale up the number of virtual hosts and rerun the test.
11. Analyze virtual host count to migrate vs host count. Draw a trend line and annotate any datapoint that fall above the trend line.

## Benefits

- Measures true, real world migration time for datacenters.
- Determines if virtual host count migration time diverges from linear trend lines.