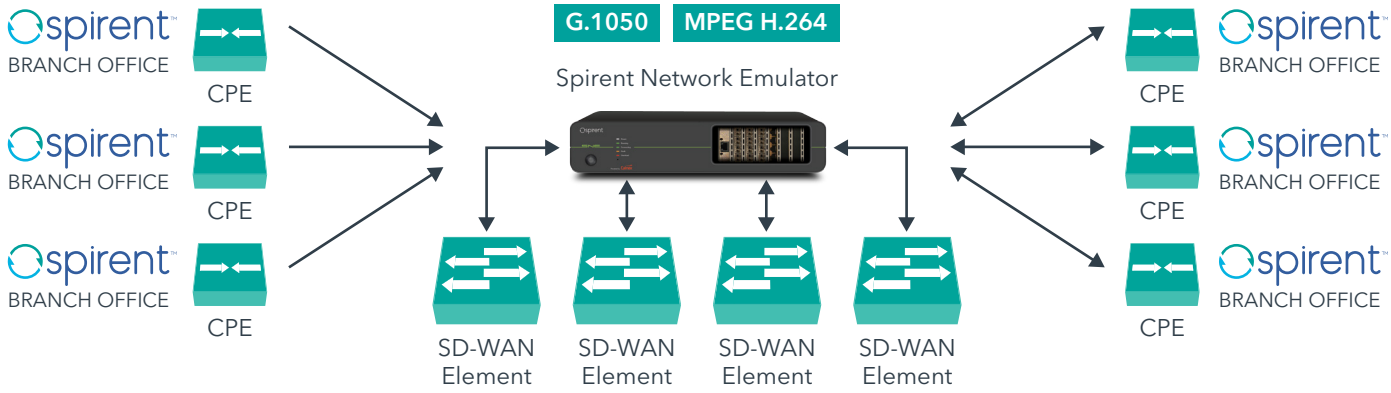
Application Note

Measuring SD-WAN Content Routing Scale under SLA with G.1050 WAN model

Stress testing SD-WAN scale and Service-Level Agreement (SLA) under realistic conditions



Test Components

- Spirent Network Emulator G.1050 and MPEG H.264 Corruptor options
- Spirent CyberFlood with Test Cloud content subscription
- Spirent CFV – CyberFlood Virtual test instances

Use Case Steps

1. The defined Device Under Test (DUT) is the SD-WAN infrastructure.
2. Deploy CyberFlood Virtual instances representing SD-WAN Customer Branch Offices. Place customers in different SLA silos.
3. Place Spirent Network Emulator inline between each hop in the SD-WAN in an in-and-out fashion.
4. For each emulated customer, build a representative eMix of Application Traffic.
5. Configure Spirent Network Emulator G.1050 WAN impairment model to represent a long-term impairment model.
6. Configure MPEG G.1050 corruptor maintained to 1% of video traffic across all SD-WAN customer domains.
7. Generate 72 hours of traffic.
8. Validate that SLA policies were by customer for the full 72-hour duration, and that there was no bleed over of traffic from one SD-WAN customer domain to another.
9. Scale up Customer Branch Offices by a factor of 2 and retest.

Benefits

- Real-World Application traffic allows the SD-WAN content filter to be fully stress tested and engaged.
- G.1050 WAN impairment tests real-world conditions by changing key impairments over time by service level over a long duration, realistically testing not only impairments over time, but variable service levels.
- MPEG H.264 corruptor will simulate the behavior of rogue corrupted encoders/decoders, or corrupted video streams in the network, forcing the SD-WAN content inspection service to correct or reject content.
- Long duration root cause analysis and trending show behavior degradation pattern over very long-term test iterations for all key metrics of performance.
- Allows the user to scale up customers in the SD-WAN to find the fault point.