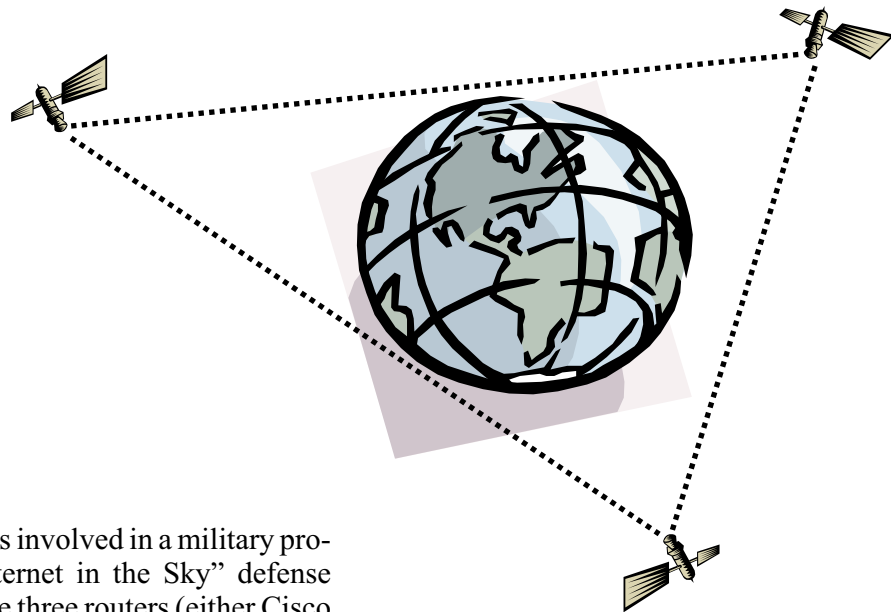


Military Satellite Contractor

Testing for delay and Doppler shift effects in 10Gbps satellite-to-satellite network



A large DoD contractor is involved in a military project to launch an “Internet in the Sky” defense shield. They need to simulate three routers (either Cisco 15454 or Juniper M320) as geo-stationary “satellites”. They need to test for the effects of latency and Doppler shifting in 10Gbps OC192 links.

The contractor is using ANUE’s “H” Series Systems to simulate satellites moving in relation to each other by dynamically varying delay times. With ANUE’s system, the satellite communication engineer can automatically increase and/or decrease the delay time injected in increments as small as one part per million (ppm).

After the initial test setup is verified, the contractor plans to add LEO satellites to its test bed and, after that, simulated ground-based communication stations. The total number of links is expected to grow to thousands, and data rates, protocols, and requirements between the different nodes will vary. The result of these multi-year tests will be a thoroughly validated communications system that can then be incorporated into actual satellite and ground station equipment.

LABORATORY SIMULATION

Simultaneous test of three satellite links

