



Network Services Report

November 17, 2023

Event: IEEE 802 Plenary Session

Venue: Hilton Hawaiian Village, Honolulu, HI

Dates: November 13-17, 2023

SUMMARY

Linespeed Events, LLC is providing comprehensive wired and wireless network services in 21 meeting rooms, ballroom foyer and offices at the Hilton Hawaiian Village. Linespeed deployed redundant routers configured to failover in case of equipment failure. Linespeed is also providing a landing page information portal (ieee802.linespeed.com) and local document server synchronized in near real time with mentor.ieee.org.

The local area network (LAN) supporting the meeting space is comprised of a main distribution frame (MDF) and five intermediate distribution frames (IDFs). Linespeed's wireless local area network (WLAN), comprised of 39 IEEE 802.11 a/g/n/ac/ax compliant WiFi 6 access points is currently providing Wi-Fi connectivity to 1422 unique mac addresses (including laptops, tablets, smartphones, smartwatches, etc.) at this session (Figure 1.)

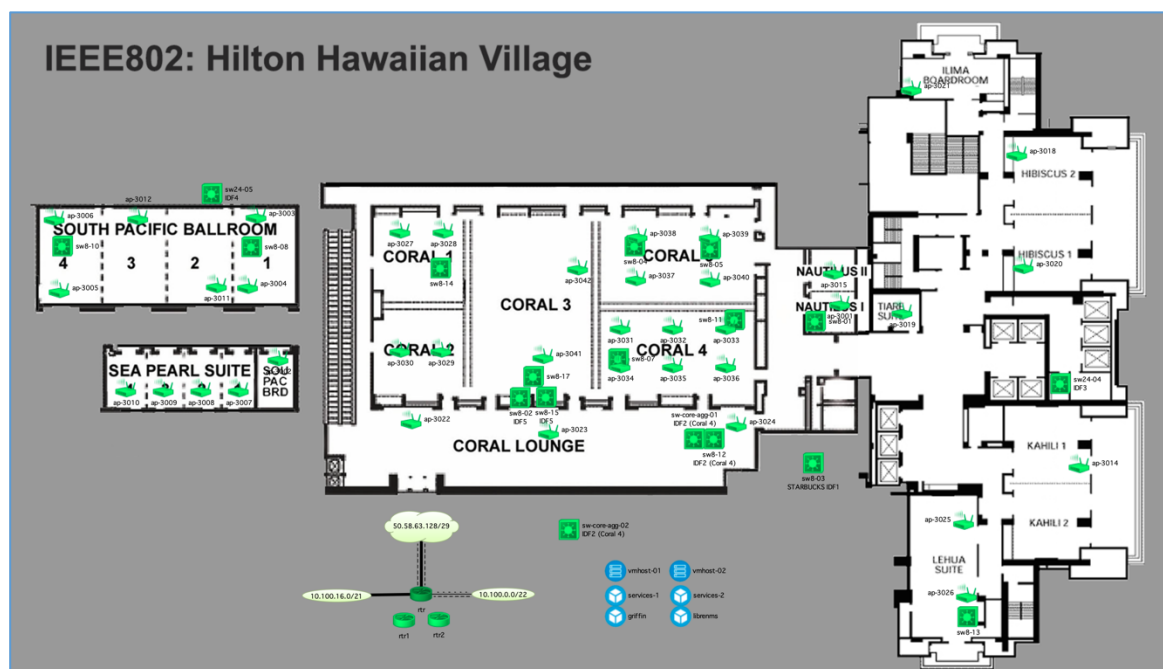
Hilton Hawaiian Village provided IEEE 802 with a shared symmetrical 1Gb/s Internet circuit and a /30 CIDR block of public routable IPv4 address space for this event.

Bandwidth utilization graphs for the week, a 48 hour period and a 24 hour period are represented in Figures 2-4.

On three separate occasions during the week we encountered a layer 2 outage that resulted in a loss of connectivity for most wireless users (Monday 17:00, Tuesday 18:45, Friday 09:45). It appears that a bridge or loop was created in part of our switch infrastructure that we've as yet been unable to identify. We will continue to study what forensic data we've been able to collect and take corrective actions. We'll issue a report after we are confident that the problem has been mitigated or corrected.

WLAN DEPLOYMENT

Figure 1. Thirty-nine access points were deployed throughout the meeting space.



FINAL STATISTICS (as of 1PM 7/14/23)

- Total Internet data: 5.12 TB
- Total Internet data inbound: 3.87 TB
- Total Internet data outbound: 1.25 TB
- Inbound Internet bandwidth utilization
 - Peak: 616.21 Mb/s
 - 95th Percentile: 254.40 Mb/s
- Outbound Internet bandwidth utilization
 - Peak: 207.87Mb/s
 - 95th Percentile: 100.70 Mb/s
- Wireless network associations: 1422 unique mac addresses

BANDWIDTH UTILIZATION

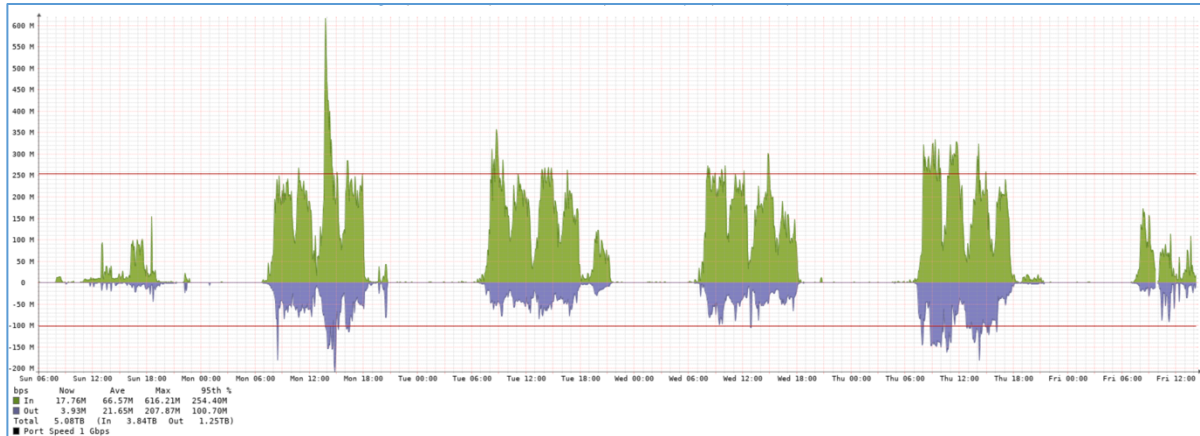


Figure 2. External Bandwidth: meeting week.

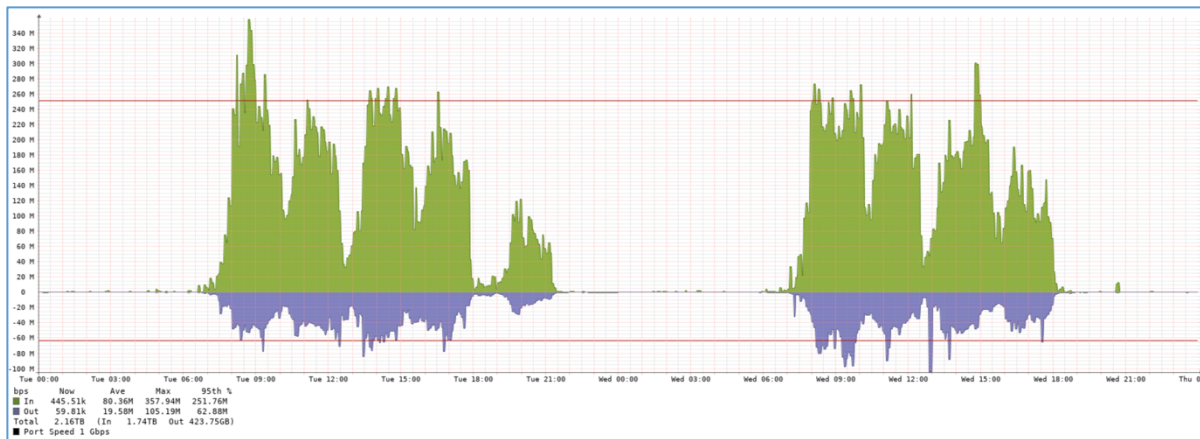


Figure 3. External Bandwidth: 48 hours.

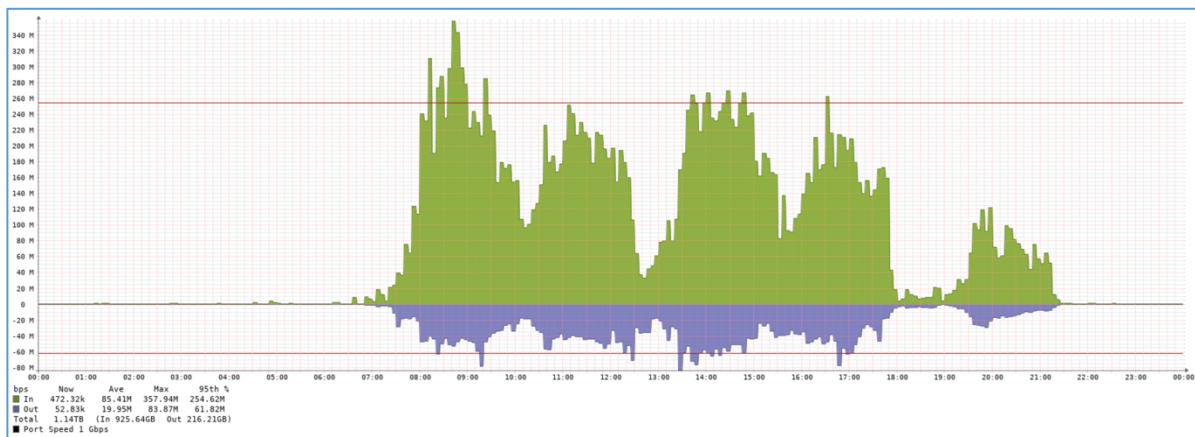


Figure 4. External Bandwidth: 24 hours.