



INSIGHTS | **TECH BRIEF**

Wi-Fi 7: The Foundation for Enterprise Connectivity

The New Mandate For Network Modernization

Enterprise networks now underpin every digital initiative. Hybrid work, IoT, edge analytics, and AI workloads depend on consistent wireless performance. Yet most infrastructures built on Wi-Fi 5 cannot deliver the multigigabit throughput or deterministic quality that today's users expect.

According to HPE Juniper Networking, Wi-Fi 7 delivers **up to 36 Gbps aggregate throughput**—over three times faster than Wi-Fi 6—through **320 MHz channels** and **4K QAM modulation**.¹ Combined with Multi-Link Operation (MLO) for simultaneous tri-band transmissions, Wi-Fi 7 provides both speed and reliability that legacy systems cannot match.

For IT leaders focused on uptime and ROI, the shift is measurable. Enterprises adopting AI-managed Wi-Fi 7 can expect **up to 90% fewer trouble tickets** and **80% fewer site visits**, freeing staff for strategic projects.

Wi-Fi 7 + Mist AI: A Performance Foundation

The Juniper AP37, AP36, and AP66 Series Access Points define a new performance tier for campus and enterprise networks.

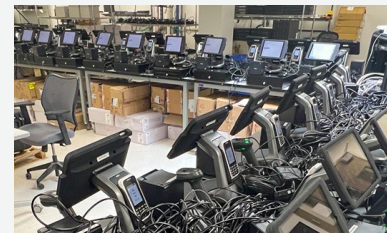
- **AP37 Series:** Three data-serving radios (2.4, 5, 6 GHz) plus a dedicated scanning radio for continuous RF optimization and threat detection. Integrated **virtual BLE (vBLE)** enables precise indoor location and asset-tracking.
- **AP36 Series:** High-performance Wi-Fi 7 without vBLE. The AP36M variant adds **software-defined directional antennas** and **external-antenna** options for flexible coverage designs.
- **AP66 Series:** Ruggedized, IP67-rated models for harsh indoor or outdoor sites, featuring dual 802.15.4 IoT radios, BLE 5.4, and GNSS/GPS for positioning accuracy.

Operationally, the 320 MHz channels reduce contention and deliver lower latency for real-time applications such as Microsoft Teams, Zoom, and AR/VR collaboration. MLO enables seamless roaming between bands, maintaining throughput even in congested areas.

Innovation Lives At WEI

From our cutting-edge labs to our seamless implementation processes, WEI goes above and beyond to empower our clients, ensuring measurable success from start to finish.

Our unique approach makes us more than just an IT provider—we're your trusted advisor in IT excellence.



*Wi-Fi Upgrade
Discovery Checklist*

HPE

At the platform level, **Mist AI** turns telemetry from every AP into actionable insights using **Service Level Expectations (SLEs)** that quantify the user experience. Unlike AI-enhanced overlays that simply analyze logs, Mist AI is **AI-native**—built in the cloud with real-time feedback loops that automatically detect anomalies and optimize configuration before users notice issues.

This model delivers **up to 9× faster deployments**, continuous self-healing, and a measurable reduction in operational overhead.

The Edge Reimagined With Mist Edge ME-X2-M

Cloud management provides scale, but some environments such as large campuses, retail hubs, hospitals, or industrial sites require local resiliency and compliance control.

The **Juniper Mist Edge ME-X2-M** extends the Mist AI architecture to the campus edge, removing the need for legacy wireless controllers. It locally processes and tunnels traffic for latency-sensitive or policy-restricted applications while staying orchestrated through the Mist cloud.²

If a WAN link fails, the ME-X2-M maintains local authentication, guest access, and policy enforcement so operations continue without interruption. The result is **business continuity without idle hardware**—a practical safeguard that pays for itself the first time an upstream outage occurs.

Benefits include:

- **Resilient operations:** Continuous service during cloud or WAN disruptions.
- **Productivity at the edge:** Local data processing for faster response.
- **Simplicity:** Unified management through Mist cloud with scalable licensing.
- **Compliance:** Local policy control for regulated or guest networks.

Mist Edge transforms the edge from a point of failure into an intelligent, self-healing extension of enterprise infrastructure.

From Plan To Performance: The WEI Deployment Advantage

Migrating to Wi-Fi 7 is an architectural evolution, not just an equipment refresh. WEI provides the bridge from planning to live production through a proven lifecycle process that reduces risk and accelerates value realization.

WEI's engineers hold advanced Juniper certifications including JNCIA-Junos, JNCIS-ENT, JNCIS-Mist AI-Wired/Wireless, JNCIS-DC, and JNCIS-SP, ensuring end-to-end design proficiency.

From Assessment to Implementation:

1. **Assess and Plan:** Conduct wireless health and spectrum assessments to confirm 6 GHz readiness, WPA3 compatibility, and PoE++ capacity.
2. **Design and Optimize:** Perform site surveys, predictive modeling, and interference mapping to ensure optimal AP placement and signal-to-noise ratios.
3. **Deploy Securely:** Migrate to **WPA3-Enterprise (128-bit AES)** for compliance and eliminate WPA2 dependencies.
4. **Automate and Assure:** Integrate Mist AI for automated troubleshooting, anomaly detection, and continuous optimization.

Wi-Fi 7 Readiness Checklist

- Inventory existing APs and confirm MGig switch support.
- Verify WPA3-Enterprise compatibility for all client devices.
- Plan 6 GHz coverage and backhaul upgrades.
- Update firmware and controller retirement strategy.
- Perform spectrum and site surveys to mitigate interference.
- Implement AI-native monitoring with Mist AI.
- Execute a phased deployment with controlled user testing.



Talk to WEI Today

Schedule your **Wi-Fi 7 Readiness Assessment** with WEI today. Our engineering team will evaluate coverage design, security configuration, and cloud integration to help you realize the full potential of Juniper's AI-Native Networking Platform. Early assessment participants gain priority access to WEI's Proof-of-Concept Lab and customized deployment roadmap.

Sources:

1. Juniper Networks, Four Essential Steps to Maximize Performance and Be Ready for Future Demands, 2025
2. Juniper Networks, Let's Build a Wireless Portfolio that Empowers Your Business, 2025

About WEI

WEI is an innovative, full service, customer centric IT solutions provider.

Why WEI? Because we care. We go further.

WEI is an expert in business technology improvement, helping clients optimize their technology environments and work efficiently. WEI works with clients to understand goals, integrate strategy with technology solutions, and leverage their current IT environment into one company-wide model to increase utilization and efficiencies around their unique business processes.