



The Evolution of Indoor Networking for the Enterprise

Intro to Airvine

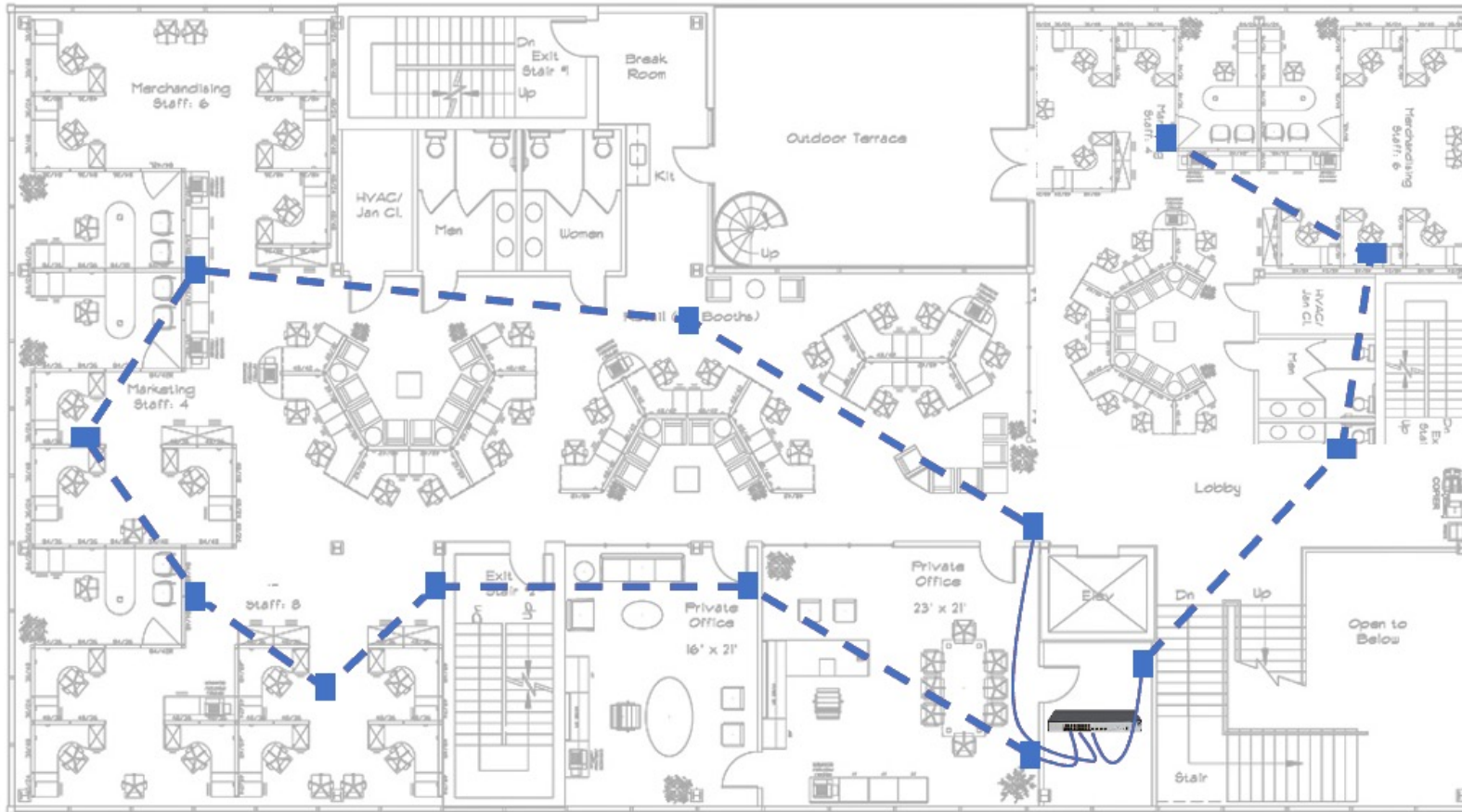
- Founded in 2018 in Santa Clara, CA
- World-class team of enterprise industry veterans
- Focused on indoor enterprise networking
- Developed WaveTunnel™ switching technology
- The most innovative indoor enterprise backhaul solution in decades
- General availability in mid-Q3 of 2022

The Airvine Solution

- Intelligent distributed switching with **wired** (GigE) and **wireless** ports
 - Multi-gigabit/sec data transfer rates on all ports
- Versatile platform that is quick and easy to deploy
- Enables a network that is as flexible and agile as the enterprise it supports
- Future-proof solution



Typical Application



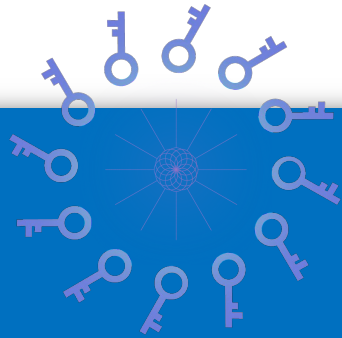
- **Each WaveTunnel switch has two radios**
 - One pointed upstream and the other downstream
- **Allows for flexible network topologies**
- **Can add/drop or relay traffic**
- **Ideal for Wi-Fi 6/6E AP's**

The Legacy Solution

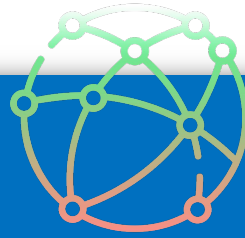
- The legacy solution (wire) is very rigid with no ability to rapidly adapt to the dynamic needs of the modern enterprise
- *Airvine changes all of that with WaveTunnel technology*



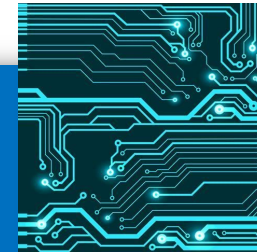
Quick, Do-It-yourself Installs with Smart APP



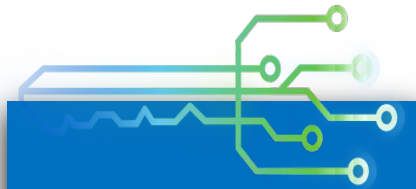
Easy moves, adds, and changes



Fiber-like speed and reliability



Can eliminate wiring closets and IDF's



No business disruptions during installs

Any Building, Any Architecture
Pay-as-you-go





Why Airvine

- Need FAST installs and even FASTER moves, adds, and changes
- When it's too difficult OR disruptive to pull wire
- Backhaul multiple access networks (IoT, xR, and eventually private 5G)
- Secure segmentation of multiple access networks
- Immediate (or temporary) connectivity
- Broadband support for Wi-Fi 6/6E
- Avoids the sunk cost of pulling wire

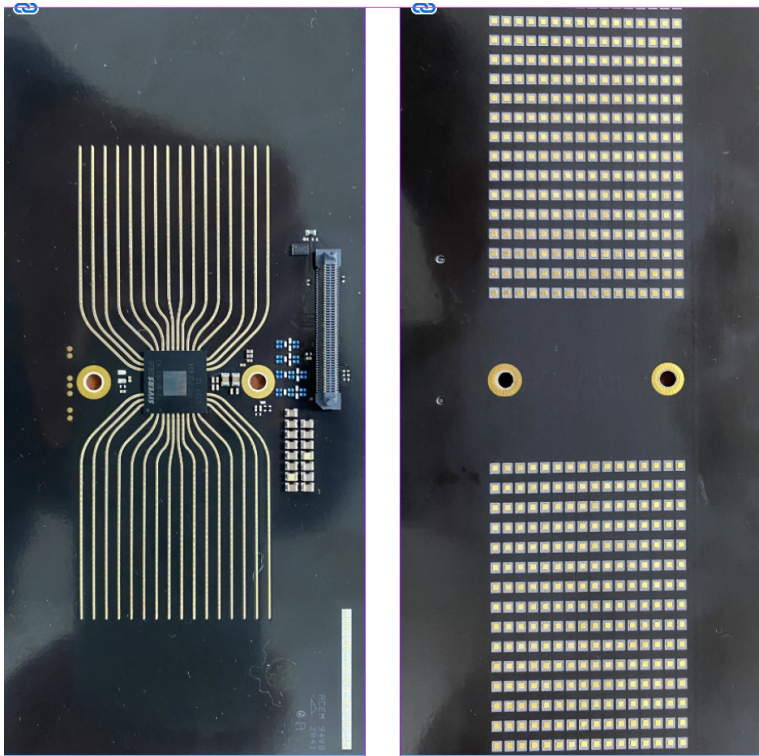


Use Cases

- Public venues (large areas, dynamic environment, high capacity)
- Higher education (Auditoriums, tents, older buildings)
- MDUs (managed services)
- Hospitality (high-performance, 24 by 7 operation)
- Office buildings
- Factories and warehouses (large areas, dynamic environment, 24 by 7 operation)



Airvine Technology



- Uses unlicensed spectrum from 57-71 GHz
- Multi-gigabit/sec data transfer rates
- Electronic beam steering $\pm 45^\circ$
- High-gain ($\sim 30\text{dBi}$) beamforming antenna
- Intelligent switching across wired and wireless ports
- Indoor distances of up to 100-meters
- Reliable and Secure

WaveTunnel Unit



The Antenna:

- 2.15 GHz channels
- 256 element array
- Extremely narrow beam
- Very high spectral reuse
- RF signal can punch through most interior walls

The Node:

- A switch with wireless ports
- Configurable from a Smartphone APP
- Multi-gigabit/sec data rates
- Add/drop or relay traffic

The Software:

- Supports ring or spur configurations
- Dual counter-rotating wireless ring supports automatic failover
- Data is encrypted
- ZERO RF knowledge required to install

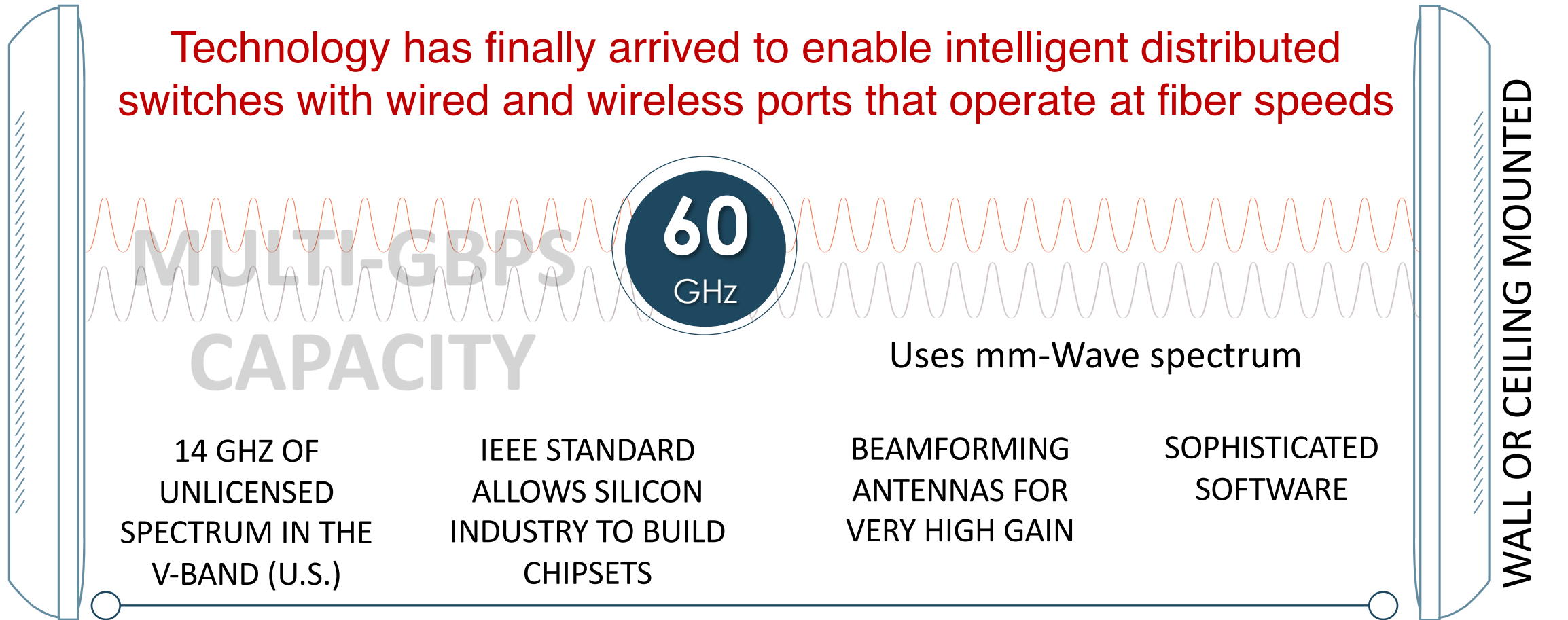
Feeds and Speeds:

- Multi-Gbps per node
- <50 usec of latency per node
- Four Gig Ethernet I/O ports
- POE-in and POE-out
- 100-meter indoor range and can relay for greater range

Sophistication broadband wireless technology that installs in minutes with absolutely **NO RF expertise required**

WaveTunnel Magic

Technology has finally arrived to enable intelligent distributed switches with wired and wireless ports that operate at fiber speeds





The Install

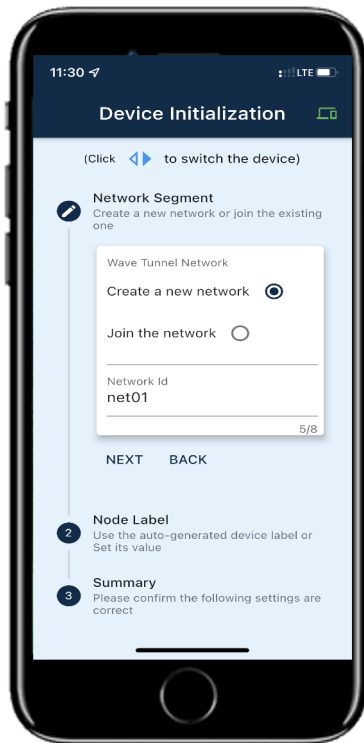
- Screw bracket into ceiling
- Snap the WaveTunnel unit onto the bracket
- Plug unit into power (AC or POE-in)
- Configure nodes using the Airvine APP that runs on Android or Apple devices
- Connect Ethernet cable from the local Wi-Fi AP or other access network
- Done!

Simple Configuration With Smartphones

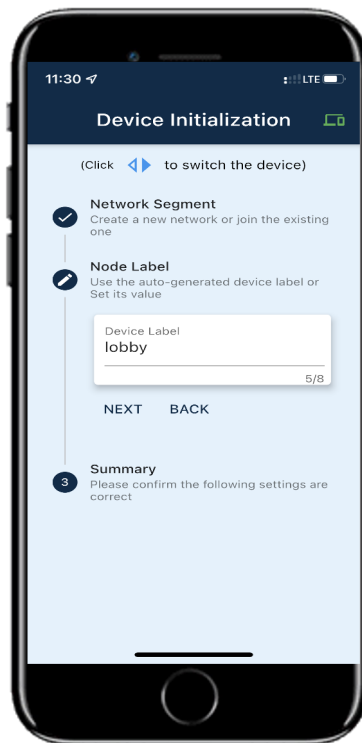


3-Step Easy Deployment

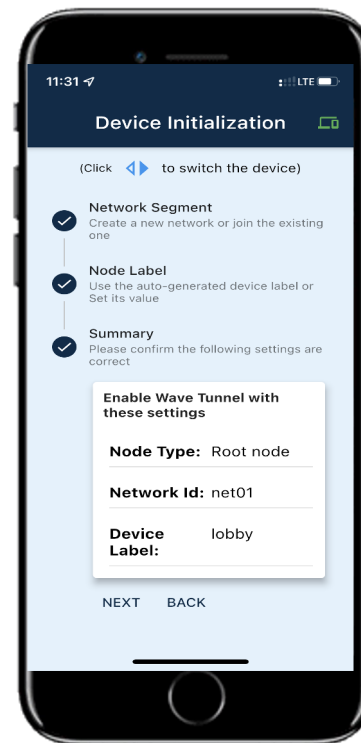
Android and iOS Based WaveTunnel Smart APP



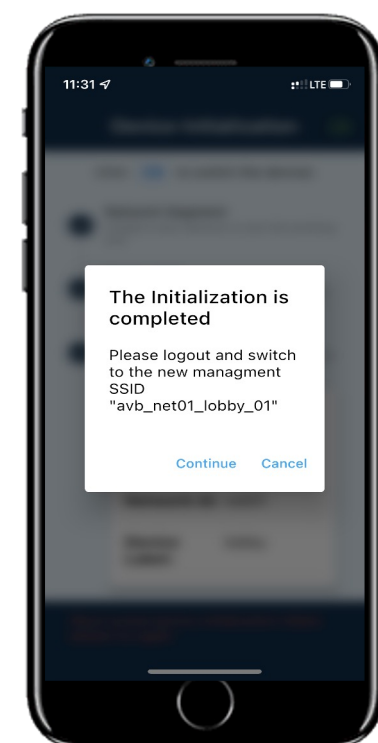
Create new network



Label the device



Confirm the settings



Finish Set-up

Airvine: The Future of Indoor Enterprise Networking

Greatly
Increased
Business Agility,
Flexibility, and
Adaptability

10 to 100X faster to install

10 to 100X faster for moves
adds and changes

No business disruptions
during installs

Multi-gigabit/sec data
transfer rates

Do-it-yourself (DIY) installs

