



WI-FI'S ROLE IN THE NEXT ERA OF NETWORKING

WGC Americas

May 2026

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An aerial night view of a bustling city intersection, likely in Japan, characterized by numerous large, brightly lit digital billboards and advertisements on the surrounding buildings. The scene captures a dense crowd of pedestrians crossing the wide streets, which are marked with white zebra crossings. The billboards display various commercial messages, including 'NETFLIX', 'Hisamitsu', 'Salonpas', 'DHC', and 'TSUTAYA'. The overall atmosphere is one of high-tech urban activity and constant connectivity.

Expectations are outpacing legacy technologies

It's a Multi-Access World

Today Wi-Fi is inevitably part of a multi-access infrastructure model.



**Carrier Cellular
Networks**



Wi-Fi



**Private 5G
Networks**

Identity Capture

Much of what gets labeled a Wi-Fi problem is more accurately an onboarding issue.

For Wi-Fi and cellular to feel unified, the network needs to know who it's serving, securely and without friction.

OpenRoaming Snapshot

Today

Primarily federates secure, automatic Wi-Fi network access.

- SIM/eSIM
- Certificates

Future

Extend federation to presence, proximity, authorization and device identity.

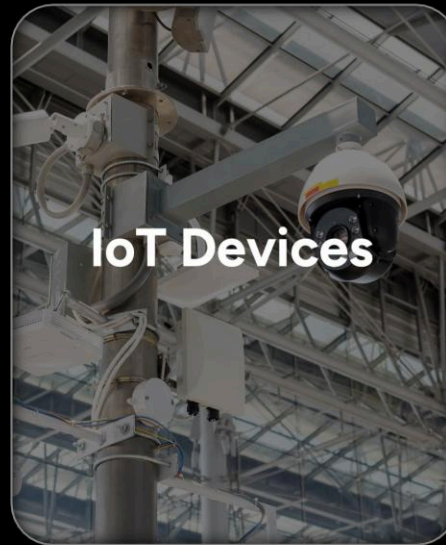
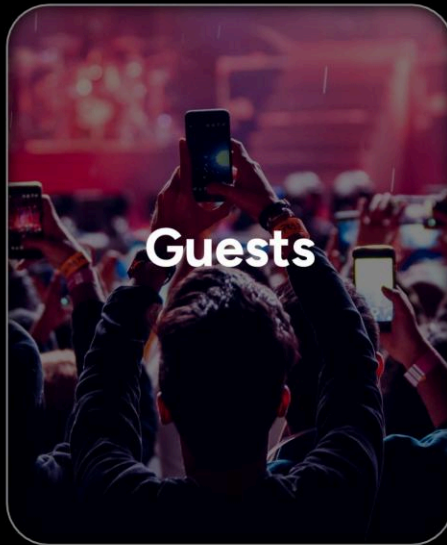
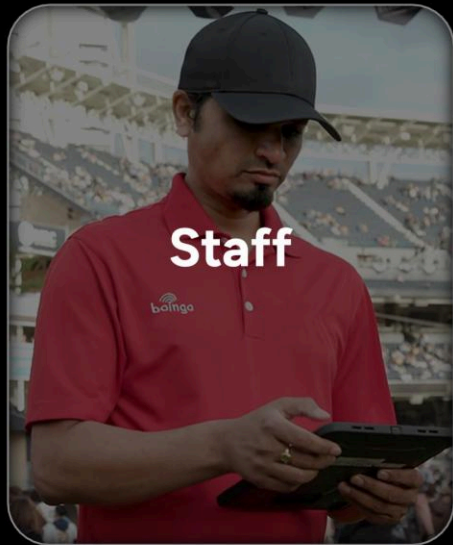
Asking “who are you, where are you and what are you allowed to do?”

UBE/BLE/IoT are identity signals that augment SIM/certs, not replace it.



Mixed-Trust Environments

In large venues, four core populations share the network environment. Each has a different access, security and policy profile.



Network Challenges

Peak Moments Expose Your Gaps

Peak moments expose points of login friction, policy confusion and support overload.

Maintaining Operations

Big venues often have limited maintenance windows, aging equipment and multi-vendor environments.

Securing Multi-Trust Environments

With guests, staff, payment systems and a growing number of IoT devices, security can become a complex, time-consuming layer.

Boingo's Network Pillars



**Design for the Experience
and Desired Outcome**



Identity Based Access



Built-In Security



Operational Maturity

1

PILLAR



Design for the Experience

Design for the end user experience and the venue's desired outcome, not for speed test results alone.

- Capacity planning over peak throughput
- Define success in outcomes people understand
- Engineer for the busiest moments

2

PILLAR



Identity Based Access

Identity based access reduces friction and increases security.

- Seamless onboarding
- Strong authentication without user effort
- Consistent policy across venues and partners

3

PILLAR



Built-In Security

Security should be automatic, not heroic.

- Safer defaults for guests
- Protection and monitoring
- Segmentation by role and device

4

PILLAR



Operational Maturity

Operate Wi-Fi like critical infrastructure.

- 24x7 visibility and response
- Safe change control over time
- Shared playbooks across teams and vendors



The Next Evolution of OpenRoaming

Establishing OpenRoaming as the venue trust fabric.

Identity Signals

A policy model for people and machines.

SIM / Certificates

Root identity (who are you)

IoT Certificates / eSIM

What device is being used

BLE

Presence (known device nearby)

UWB

Proximity (high-confidence location)

OpenRoaming

Federation + policy decisions

**Interoperability is
how we scale.**



Looking Ahead

Build networks that users don't have to think about.

Operators

Treat Wi-Fi as core infrastructure integrated with identity.

Venues

Demand outcomes (reliability and security).

Vendors

Build for lifecycle and operability.

Standards

Make secure, scalable onboarding the default.

THE FUTURE NETWORK ISN'T WI-FI OR CELLULAR ALONE.

**It's trusted connectivity,
everywhere – working together.**



Thank You

Let's connect

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Venue Network Model



Services

Guests, staff and
payment solutions



Trust/Identity

Federation and policy



Access

Wi-Fi, cellular, wired
and IoT