



Networks Without Wires®

## Mesh Architecture

Vs. WLAN Switch + AP  
Hub + Spoke Architecture

### Access/One™ Network

#### Mesh Topology

- Next generation in the evolution, beyond Wireless LAN Switch + AP
- Self-configuring
- Self-healing
- Scalable

#### Overcomes WLAN Switch + AP Limitations of:

- Single point of failure
- Bottleneck of all traffic having to pass through one switch
- Rigid structure
- Demanding planning requirements
- AP installation or relocation may necessitate wiring modifications to Switch in Server Room

#### Grows Proportionately

- Drop Network Nodes into place with minimal preparation
- Provides reliable redundant system that can be extended throughout thousands of square feet
- Provides connections for thousands of wireless devices

#### Simplifies Installation

- Installs in hours, not weeks
- Doesn't require sophisticated planning and site mapping to achieve reliable communications
- Simply moving a Network Node, or dropping another Node into place fixes a weak or dead zone.

### Distributed Control

Distributed intelligence results from a mesh topology. The control of the wireless network is distributed throughout, allowing intelligent Nodes to communicate directly with other Nodes, without having to be routed through a central control point. Decision-making is localized, such as the decision to route traffic destined for a neighbor Node, to that neighbor Node only, rather than broadcast the traffic unnecessarily through a centralized switch, and back out to the entire network. Problems can also be isolated in the system faster. Problems can usually be diagnosed back to a single Node or cluster, allowing managers to focus attention on one area of the system, rather than all Access Points. Fast problem solving means less downtime. Modular Nodes can be replaced without affecting the entire system. These factors make the system much less expensive and easier to operate.

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### A Self-Configuring, Self-Healing Network

A network shouldn't need a system administrator to tell it how to get a message to its destination. A mesh network is self-organizing and doesn't require manual configuration. Because of this, adding a new Network Node or relocating an existing Network Node is as simple as mounting it and turning it on. The network discovers the new Node and automatically incorporates it into the existing system.

A mesh network is not only inherently reliable, it's also highly adaptable. It functions similar to the Internet, in that if one router goes down, messages are sent around it via other devices. Loss of one or more nodes doesn't necessarily affect the network's operation. A mesh network is self-healing because human intervention is not necessary for re-routing of messages.

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### Functions as a Router

Network Nodes can send and receive messages, and in a mesh network, a Network Node also functions as a router and can relay messages for its neighbors. Through the relaying process, a packet of wireless data will find its way to its destination, passing through intermediate nodes with reliable communication links. A mesh network offers multiple redundant communications paths throughout the network. If one link fails for any reason, the network automatically routes messages through alternate paths. In a mesh network, you can extend the reach, add redundancy, and improve the general reliability of the network simply by adding more Nodes.

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### Redundancy and Scalability

In a mesh network, the degree of redundancy is essentially a function of Network Node density. A network can be deliberately over-designed for reliability simply by adding extra Nodes, so each device has two or more paths for sending data. A mesh network is also scalable and can handle hundreds or even thousands of Nodes. Because the network's operation doesn't depend on a central control point, adding multiple Nodes or Network Servers is convenient. Mesh networks are inherently reliable, adapt easily to environmental or architectural constraints, and can scale to handle thousands of Network Node end points.

## Strix Systems Access/One™ Network

The Access/One Network from Strix Systems is a highly secure, flexible and scalable networking system that allows a robust and fully functional enterprise network to be formed using an entirely wireless infrastructure.

Access/One Network provides Networks Without Wires™ from several basic categories of modular building blocks. Each building block contains a choice of modules that are individually selected and assembled to form a single network element called a Network Node.

Each Network Node provides localized connectivity and intelligence with multiple Network Nodes connected in a mesh forming the full Access/One Network.

Access/One Network provides connectivity for any RF-technology, with the initial offering of 802.11a/b/g and Bluetooth.

## Easy Installation and Relocation of Nodes

Strix Systems' Access/One Network enables the unique choice of whether to install Nodes with or without Ethernet cables. Nodes can use Ethernet, or they can uplink to the LAN via 802.11a. Regardless, they still deliver the attributes of a mesh network.

Whether a wired or wireless network connection is used, Nodes may be moved and relocated without any wiring changes back in the Server room. This flexibility contrasts sharply with the rigidity of WLAN switches and APs.

With a WLAN switch, since all APs must be plugged into the WLAN switch, any relocation of APs after initial installation may require re-wiring of the APs into the Switch back in the Server room.

## What Makes Strix Systems Access/One Network Different?

Strix Systems offers a total local area network, drawing on the parallels of the successful wired network and providing all of the management and security that network managers have come to expect. Strix Systems provides multiple radio technologies, built into a simple, secure, scalable and self-tuning system, with the ability to easily add new applications and services.

## Mesh Topology

Mesh Topology is inherently reliable and redundant, and can be extended to include thousands of devices. The Access/One Network can be installed in hours instead of days or weeks. The network doesn't require elaborate planning and site mapping to achieve reliable communications.

The network is self-configuring. Simply moving a Network Node, or dropping another Node into place can fix a weak signal or dead zone.

In the current WLAN market, the latest trend is to strip the intelligence from the Access Point, and put it all on the switch, thus reducing the cost of the AP. While a commendable effort, this approach also introduces the undesirable features of single-point-of-failure, bottlenecks, and lack of scalability and flexibility: You must purchase a new switch (typically 12 or 24 ports) whenever you add just a few APs that exceeded the port limitation of the existing WLAN switch. Strix Systems believes the ultimate direction of computing power is to imitate Grid computing and sensor networks ... where intelligence and computing power is distributed and used locally.... yet managed centrally. Although intelligence is distributed, the Access/One Network Nodes are still managed from one console, so that security parameters, network monitoring and upgrades can be conveniently controlled from one location.

Enterprises can now benefit from a wireless system that satisfies the multiple conflicting demands of redundancy, distributed communications, flexibility and reliability.

Contact Strix Systems to discuss our unique mesh approach to Wireless LAN networks.

## Networks Without Wires®

### About Strix Systems

Strix Systems makes Networks Without Wires.™ Strix Systems' flagship product, the Access/One™ Network, increases mobile worker productivity by providing continuous and secure connection to company networks.

Our mission is to create a wireless local area network, drawing on the parallels of the successful wired network and providing all of the management and security that network managers expect.

Our vision includes multiple radio frequency technologies, built into a simple, secure, scalable, and self-tuning system, with the ability to easily add new applications and services.

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