

Wireless Automation Level Network Solutions

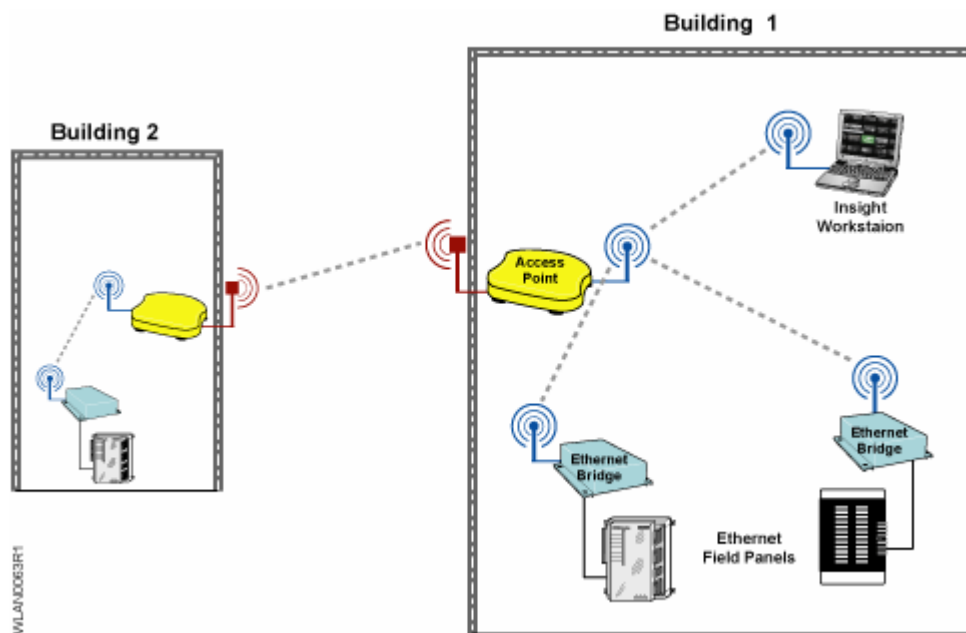


Figure 1. Wireless Automation Level Network Solutions.

Description

Ethernet field panels, and workstations, that communicate on the APOGEE® Automation Level Network (ALN) can connect to the ALN via wireless communication links, versus hard-wired network cabling. The Ethernet field panels are compatible with the IEEE 802.11 (Wi-Fi) wireless Ethernet radio standard and, thus, able to utilize those types of radio transceivers to establish wireless links.

A single panel, an entire ALN, or any configuration in between can be connected wirelessly depending on

the project and the difficulty in using traditional hard-wired cabling.

To implement a wireless ALN connection, two 802.11 radios are used between the field panel and the rest of the ALN. One radio, an Ethernet bridge, is connected to the field panel. The Ethernet bridge enables wireless communication for the panel. Another radio, an access point, is mounted remotely. The field panel communicates through the Ethernet bridge with the access point, and then, the access point routes the panel's messages to other ALN devices either wirelessly or across a hard-wired network.

Benefits

- Eliminate difficult and long cabling installations that may be disruptive to a facility and the occupants.
- Eliminate reliance on the corporate Ethernet network, without having to run additional network cabling.
- Eliminate the need to trench between buildings.
- Easily move or add additional field panels without the need to reroute or run additional cabling.

- Start up and commission the ALN prior to the installation of a hard-wired corporate Ethernet network.
- Support wireless connections to the ALN with wireless enabled computers.

Compatibility

All Ethernet field panels that are wirelessly enabled by an external IEEE 802.11 Ethernet bridge radio. All wireless communication enabled computers.

General Specifications

The following tables show information for some recommended IEEE 802.11 radio transceivers that have been validated for use with the APOGEE Automation System. Other vendor's IEEE 802.11 radio transceivers, though not validated, may also be used.

Table 1. Access Point Feature Comparison.

| Specification | 3Com Wireless LAN Access Point 8250 | 3Com Wireless LAN Access Point 8760 | Cisco Aironet 1240AG 802.11a/g Non-modular IOS AP | SCALANCE W788-1PRO Access Point with Single Radio | SCALANCE W788-2PRO Access Point with Dual Radio |
|-------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------|
| Device Class | Enterprise | Enterprise | Enterprise | Industrial | Industrial |
| Number of radios | 1 (dual mode a, g) | 2 | 2 (one b/g radio, one a radio) | 1 | 2 (both radios b/g/a/h) |
| Suitable environment | 32° to 104°F 5–95 %rh | 1° to 104°F 10–95 %rh | -4° to 122°F | -4° to 140°F 100 %rh | -4° to 140°F 100 %rh |
| Installing environment | Indoor | Indoor | Indoor (also: UL 864 plenum rated) | Indoor/Outdoor (no enclosure required) | Indoor/Outdoor (no enclosure required) |
| Power Over Ethernet (POE) support in accordance with IEEE 802.3a | Yes | Yes | Yes | Yes | Yes |

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| Specification | 3Com Wireless LAN Access Point 8250 | 3Com Wireless LAN Access Point 8760 | Cisco Aironet 1240AG 802.11a/g Non-modular IOS AP | SCALANCE W788-1PRO Access Point with Single Radio | SCALANCE W788-2PRO Access Point with Dual Radio |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Compatibility with Centralized Wireless Controller | – | – | Compatible only with Cisco Centralized Controller | Compatible with most centralized wireless products (Aruba, Extreme Network, Siemens HiPath) | Compatible with most centralized wireless products (Aruba, Extreme Network, Siemens HiPath) |
| Regulation and Compliance | IEC & EN 60950, UL/CSA 60950, NOM 019 FCC Part 15.247, Part 15.205, Part 15.209, & Part 15.407, RSS-210, EN 300 328-2, EN 301 893, TELEC RCR STD 33 & T66 EN 301 489-17, EN 301 489-01 | UL/CSA 60950-1 EN/IEC 60950-1 NOM-019- SCFI EMC/EMI FCC 15 Subpart C IC RSS-210 EN 300 328 EN 301 893 EN 301 489-1, -17 | CSA 22.2 No. 60950, EN 300.328, EN 301.489.1, EN 301.489.17, EN 60950, FCC, FCC Part 15.247, ICES-003, IEC 60950, OET 65 C, RSS-102, RSS-210, UL 2043, UL 60950, VCCI | EN 60950 EN 301 489-1 EN 301 489-17 EN 300 328 EN 301 893 EN 50371 | EN 6095 EN 301 489-1 EN 301 489-17 EN 300 328 EN 301 893 EN 50371 |
| Dimensions (inches: w x d x h) | 7.9 x 2.8 x 12.6 | 8.6 x 1.6 x 6.3 | 6.6 x 1.1 x 8.5 | 5 x 4.5 x 3.75 | 5 x 4.5 x 3.75 |

Table 2. Ethernet Bridge Feature Comparison.

| Selection Criteria | 3Com 11a/b/g Wireless Workgroup Bridge | SCALANCE W746-1PRO Client Module |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Device Class | Enterprise | Industrial |
| Number of maximum wireless clients per radio | 16 | 8 |
| Operating environment | 32° to 104°F 5–95 %rh | -4° to 140°F 100 %rh |
| Installing environment | Indoor | Indoor/Outdoor (no enclosure required) |
| Power Over Ethernet (POE) support in accordance with IEEE 802.3af | No | Yes |
| Regulation and compliance | UL/CSA 60950, EN/IEC 60950 FCC Part 15.247 and 15.407, RSS-210, EN 300 328-2, EN 301 893 FCC Part 15 Subpart B, ICES-003, EN 301 489-17 FCC OET Bulletin 65, RSS-102, EN 50371 | EN 60950, EN 301 489-1, EN 301489-17, EN 300 328, EN 301 893 EN 50371 |
| Dimensions (inches: w x d x h) | 3.3 x 1.2 x 6.5 | 5 x 4.5 x 3.75 |

*For additional information refer to the specific IEEE 802.11 radio transceiver's documentation.

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