Cisco Outdoor Wireless

The Challenge: Staying Connected to Critical Applications Indoors and Outdoors
Demand for mobility access in the enterprise is continuously increasing. Indoor wireless networks have proven results when it comes to increasing productivity, improving customer intimacy, and helping your organization adapt flexibly in real time. Extending this high-performance wireless coverage seamlessly to the outdoors is a critical requirement.

With the proliferation of mobile devices and mobile workers demanding to stay connected whether they are moving inside a building or across campus, enterprises are looking for an outdoor wireless network that provides the throughput and performance that users have become accustomed to at their offices. With RF interference from mobile devices such as sensors, cameras, handhelds, Bluetooth devices, and gas meter readers, the outdoor wireless network needs to be able to mitigate RF issues and adjust automatically to a changing environment. Limited IT resources demand an outdoor wireless solution that is tightly integrated with the wired and indoor wireless network to support seamless end-to-end roaming and security while keeping OpEx low.

The Solution: Cisco Outdoor Wireless Extending Mobility Seamlessly to the Outdoors
The Cisco® next-generation, outdoor wireless solution complements its comprehensive, award-winning 802.11n indoor wireless solution with the first and only integrated, silicon-level spectrum intelligence to detect, classify, and mitigate RF interference. Cisco CleanAir technology supports mission-critical indoor wireless networks and is now available on the Cisco Aironet® 1550 Series Outdoor Access Points so that users can experience high-quality mobile broadband inside a building or walking across a campus. The outdoor wireless network is designed for seamless mobility across wired and wireless networks. It delivers scalable and reliable multidevice and multinet network application delivery such as video surveillance, real-time data, and public and private Wi-Fi access.

Industry-Leading Performance with CleanAir Technology
The Cisco Aironet 1550 Series Outdoor Access points create a spectrum-aware, self-healing, and wireless network that mitigates the impact of outdoor wireless interference and offers new levels of security, performance protection, troubleshooting, and policy enforcement. High-bandwidth applications such as video surveillance can be seamlessly experienced without the high cost of installing cables over long distances. Centralized configuration and management, as well as the high power of the Cisco Aironet 1550 Series platform, reduce the complexity and cost of managing and deploying the wireless network. This next-generation Cisco outdoor wireless platform provides a multipurpose, high-performance network that minimizes deployment and management nodes for an overall lower total cost of ownership.

Cisco CleanAir Technology
Outdoor wireless environments such as college or enterprise campuses, industrial sites, and metropolitan areas present significant challenges for RF communications. These environments require more reliable RF coverage to combat interference and the dynamic RF environment outdoors. More than ever, IT managers need to have visibility into their outdoor wireless spectrum to manage RF interference and prevent unexpected downtime.

As part of the Cisco 1550 Series platform, Cisco CleanAir technology provides silicon-level intelligence for full visibility into the performance and security of the outdoor wireless spectrum, with an easy-to-read Air Quality Index. Cisco CleanAir technology is an integrated solution, with patented chips and software that has been specifically designed to analyze and classify RF activity, overcoming the limitations of standard Wi-Fi chipsets. The system remembers intermittent interference from a meter reader, unauthorized video camera, or outdoor wireless bridge and avoids the channels where these devices operate to prevent future interference.

Optimized for High-Bandwidth Applications
The Cisco outdoor wireless solution has been designed to provide high-performance access to rich media applications such as video conferencing over Wi-Fi, and video surveillance, saving on the high cost of installing cables over long distances. It enables low-density deployments that lower CapEx, installation, and maintenance costs. It improves the reliability and coverage for legacy clients with Cisco ClientLink technology.

Highly Flexible and Secure Infrastructure
The next-generation outdoor wireless solution addresses wireless network security on the highest level, which helps ensure that data remains private and secure and that the network is protected from unauthorized access. By analyzing all devices that are present in an outdoor wireless spectrum, RF denial-of-service (DoS) attacks can be successfully detected and mitigated.

Centralized Management
Functioning as part of the Cisco Unified Wireless Network, the Cisco Aironet 1550 Series Access Points are managed...
At-A-Glance

Cisco Outdoor Wireless

Designed to improve management of high-performance, point-to-point wireless networks. Flexible platform providing access to facilities with areas that are too difficult to wire. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1007R) C45-641374-00 01/11

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and monitored by wireless LAN controllers. Working in conjunction with the wireless LAN controllers, the Cisco Wireless Control System (WCS) is the industry-leading platform for wireless LAN planning, configuration, and management. Automated wireless configuration and management functions give IT managers more visibility and control, resulting in significant reduction of day-to-day support costs. The integrated Cisco CleanAir technology protects 802.11n performance and delivers centralized security policies, wireless intrusion prevention system (IPS) capabilities, RF management, and quality of service (QoS).

Complementary Solutions
Cisco provides a strong set of complementary solutions to meet the needs of enterprises. We provide high-performance point-to-point and point-to-multipoint wireless bridging to extend network connectivity indoors and outdoors from the Cisco Unified Wireless Network over long distances.

Multiple Applications
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The Cisco Advantage
Cisco is the industry's only technology provider to offer a high-performance, outdoor wireless 802.11n network with centralized management to reduce the complexity and cost of managing and deploying the wireless network, integrated with the wired and indoor wireless networks. This next-generation Cisco outdoor wireless network, along with Cisco CleanAir technology, controllers, and bridges, provides a multipurpose, high-performance network that minimizes deployment and management nodes for an overall lower CapEx and OpEx. The result is optimized mobile connectivity and transformed business operations. Customers can take advantage of professional services from Cisco and Cisco Advanced Wireless LAN Specialized Partners to facilitate a smooth deployment while tightly integrating it with the wired and indoor wireless networks.

The benefits of deploying Cisco Aironet 802.11n outdoor access points with the Cisco Unified Wireless Network extend from investment protection and future-proofing to better scalability and reliability of the enterprise network. For details, visit: http://www.cisco.com/en/US/netsol/ns621/index.html

Table 1 describes Cisco's comprehensive outdoor wireless portfolio.

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<thead>
<tr>
<th>Outdoor Wireless Portfolio</th>
<th>Description</th>
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<tr>
<td><strong>Product</strong></td>
<td><strong>Description</strong></td>
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<tr>
<td><strong>Cisco Aironet 1550 Series</strong></td>
<td>Next-generation outdoor wireless network based on 802.11n and Cisco CleanAir technology</td>
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<tr>
<td><strong>Cisco Aironet 1520 Series</strong></td>
<td>Highly secure outdoor wireless network</td>
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<tr>
<td><strong>Cisco Wireless LAN Controller</strong></td>
<td>Designed to improve management of next-generation wireless solutions</td>
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<tr>
<td><strong>Cisco Wireless Control System</strong></td>
<td>Comprehensive lifecycle management platform for the Cisco Unified Wireless Network</td>
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<tr>
<td><strong>Exalt ExtendAir r5006</strong></td>
<td>High-performance, point-to-point wireless bridging from this Cisco SolutionsPlus partner</td>
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<tr>
<td><strong>Cisco Aironet 1300 Series</strong></td>
<td>Flexible platform providing access point, bridge, and workgroup bridge functionality</td>
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<tr>
<td><strong>Cisco Aironet 1400 Series</strong></td>
<td>High-performance and feature-rich solution for bridging multiple LANs in a metropolitan area</td>
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Public Safety
Public safety agencies deploy the Cisco outdoor wireless network to provide access to personnel and vehicles, and provide backhaul for video surveillance cameras. The Cisco outdoor wireless solution offers the option of setting up a secure public safety network, and at the same time providing public access on a separate tunnel that does not interfere with public safety data.

Industrial Environments
In industrial environments and for hazardous location applications, the Cisco Aironet 1550 Series Access Points have been designed with a rugged enclosure that allow reliable operation in extreme conditions and accommodate backhaul traffic for pressure, thermal, and fault monitoring sensors, as well as Wi-Fi access to employees and contractors.

Campus Networks
Whether it’s a typical college campus or corporate offices with multiple buildings, IT professionals are faced with interconnecting LANs in each of the buildings, as well as delivering a seamless, mobile client experience between indoors and outdoors. Here the Cisco outdoor wireless network is a cost-effective, high-bandwidth solution with the flexibility and control often not available with leased lines or cable installations that require trenching.