

Sustainable Mobility: Cisco Strategies for Green Wireless

Introduction

The evolution of mobility technologies has allowed us to do things faster, smarter, and cheaper. Yet an often overlooked aspect of mobility is the benefit it brings in reducing the carbon footprint. Cisco



invests heavily in the development of technologies that expand productivity by virtualizing the collaborative experience. Additionally, Cisco's wireless design and product development process helps to ensure that new products are built to be eco-friendly. Cisco engineers consider the entire lifecycle of wireless products, from the

product's physical footprint and packaging, documentation, power consumption, to the product's ultimate decommissioning and disposal.

This brochure examines how Cisco is empowering businesses to embrace mobility as a way of making more efficient use of resources while enhancing collaboration. Cisco's commitment to the development of sustainable technologies is highlighted by its efforts to build greener, more efficient wireless products.

Mobility and Green

Cisco® Mobility Solutions help businesses optimize the use of resources. Smart businesses are realizing the benefits that mobility delivers through a reduction of facilities, as well as through the introduction of smart workspaces and hotelling, and a more flexible office environment. Here are some of the ways in which Cisco customers are taking advantage of Cisco Mobility Solutions to decrease their carbon footprint:

- By cost-effectively creating or moving work environments (avoiding investment in permanent infrastructure, such as cabling)
- By reducing the need for travel and commuting—employees can work anywhere, anytime
- By enabling flexible work spaces that decrease the need for office space
- By lowering energy consumption when compared with fixed communications infrastructures
- By providing flexible telecommuting solutions that extend enterprise managed wireless to the home to allow employees to be productive without coming to an office

Sustainable Product Development

Cisco is aggressively employing product development techniques to help ensure that individual wireless products do their part to decrease the drain on corporate resources. Here are some of the ways in which Cisco is developing more sustainable wireless technology:

Regulatory Compliance

- Power supplies and power cords for Cisco wireless access points are being EnergyStar-certified to comply with the California Energy Conservation (CEC) requirement.
- Cisco complies with the European power supply initiative, which aims to reduce power consumption for electronics.
- Cisco is compliant with Restriction of Hazardous Substances (RoHS) Directive 6, making sure that its products are free from hazardous metals including lead, mercury, hexavalent chromium, and cadmium.

Design Efficiency

- Cisco access points can be powered down during off hours to reduce power consumption. Using the Cisco Wireless Control System (WCS), IT administrators can establish policies for turning access point radios off during off hours. This feature can save up to 7 watts per access point per hour of power. For business with 1000 access points, this amounts to a potential savings of US\$2500 per year¹. When looked at in terms of Cisco's overall access point shipments, this represents an energy savings to the market of US\$3.75 million annually.
- Using the Cisco Discovery Protocol (CDP), access points can intelligently negotiate power requirements with a Cisco Catalyst[®] switch. In this way, the access point requests only the amount of power required for operations.
- In certain models of access points, customers can choose between optimizing for performance and optimizing for power consumption. Specifically, the Cisco Aironet[®] 1250 Series Access Point can be deployed in low-performance mode to consume less power.

Power Modes

- Cisco provides flexible options to power access points, including standard and enhanced Power over Ethernet, power injectors, and local AC power.
- Access points can be put into power-save modes whereby they either hibernate or operate at a reduced cell size based on client usage, model, and time of day.
- With the Cisco Compatible Extensions program, Cisco increases the intelligence between the client and the access point as a way to decrease the power consumption on the mobile device, extending the battery life and reducing the need for more frequent charging.

Waste Reduction

- Cisco has introduced an eco-friendly bulk pack of 10 access points to decrease packaging. These bulk packs reduce the amount of packaging by 50 percent. In addition, bulk packs no longer include power cords, avoiding the need for customers to dispose of or store unwanted components.

¹ Assumes \$0.08 per KW per hour saved with an average of 12 hours of downtime per day

- Cisco provides product documentation in digital format via CDs instead of printed paper. This change alone saves over 2200 trees per year or enough power to heat over 65 homes for an entire year.
- The Cisco Takeback and Recycle program helps businesses dispose properly of surplus products that have reached the end of their useful life. The program reduces the burden on disposal and landfill facilities.

Conclusion

Cisco recognizes the important role mobility and wireless play in reducing the carbon footprint of business. As businesses invest in mobility solutions, they can expect to increase employee productivity while taking advantage of more flexible working environments to decrease power consumption and the number of facilities they need overall. Sustainable technology development practices mean Cisco engineers reduce waste while increasing the efficiency of operations for wireless products. This helps to ensure a lower use of raw materials, while saving businesses money in electricity, storage, and disposal.



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