



Wireless VoIP

How Cisco Mobile Workers Use
Wireless VoIP Phones to Stay
Connected



A Cisco on Cisco Case Study: Inside Cisco IT

Overview

- Challenge

Cisco® needed a cost-effective solution for communicating with Shipping and Receiving personnel when they were making deliveries throughout Cisco campuses.

- Solution

Deploy Cisco Wireless IP 7920 phones in the Shipping and Receiving department.

- Results

Shipping and Receiving personnel can communicate directly with their customers at all times.

- Next Steps

Expand the use of the Cisco Wireless IP 7920 to our mail teams and to managers who spend significant amounts of time in meetings across the campus.

Challenge - Mobile Worker Reachability

- The Shipping and Receiving department at Cisco's second largest campus—Research Triangle Park (RTP) in North Carolina—is responsible for receiving, tracking, and delivering more than **250** packages a day for **2800+** employees dispersed over a **12-building campus**.
- Customers frequently want to know where and when a package is delivered and they want to talk directly to the driver without pages and callbacks.
- Cisco[®] needed a cost-effective solution for increased reachability for this mobile team.



Research Triangle Park – 12-Building Campus



Challenge - Delivery Process

- Before drivers leave the dock, they download the schedule for deliveries and pickups to their personal digital assistants (PDAs).
- Drivers can update their PDAs at two hotspots on the RTP campus during the day.
 - Frequently, there are urgent deliveries that are not on the drop-off schedule downloaded into the PDA.
- Drivers have to use phones at employee desks or in conference rooms to call the shipping department for updates.

Challenge - Previous Solutions

- Two-way radios had inadequate range.
- Two-way and analog pagers were not as reliable and simple to use as telephones.
- Cellular phones had poor service inside buildings.
- Nextel's cell plus two-way radio service was too expensive.



Solution - Cisco Wireless IP Phone 7920

- Cisco® IT deployed wireless phones for the Shipping and Receiving team.
- The Cisco Wireless IP Phone 7920 is an easy-to-use IEEE 802.11b wireless IP phone that provides comprehensive voice communications in conjunction with Cisco CallManager and Cisco Aironet® Series access points (Wi-Fi [IEEE 802.11b]).



Solution - Cisco Wireless IP Phone 7920 Capabilities

- The phones can be configured with the **same extension as the office phone** and are as cost effective to use as any IP “land line” in Cisco® offices.
- The Cisco Wireless IP Phone 7920 is **similar in overall phone functions** to the Cisco IP Phone 7960G, and it provides enhanced wireless LAN (WLAN) security through enhanced Wired Equivalent Privacy; quality of service (QoS) functionality through 802.11e; and Layer 2 mobility for Cisco employees.



Cisco Wireless IP Phone 7920



Cisco IP Phone

Solution - 7920 Capabilities

- After an overnight battery charge in the desktop charger, each phone is ready for another day of use in each Cisco® building.
- With added access points above the docks, the phones work everywhere that the team needs to be reached or needs the opportunity to call the main office.



Solution - Building Setup

- The Cisco® WLAN network in RTP consists of Cisco Aironet® 350 Series access points, several per floor (about one access point for every 25 users) to give WLAN data access to PC users.



Aironet 350 Series Wireless
Access Point

- Each building has a separate VLAN for added security and manageability.
- Cisco IT has the flexibility of customizing features such as security and QoS to accommodate the needs of each individual wireless device.

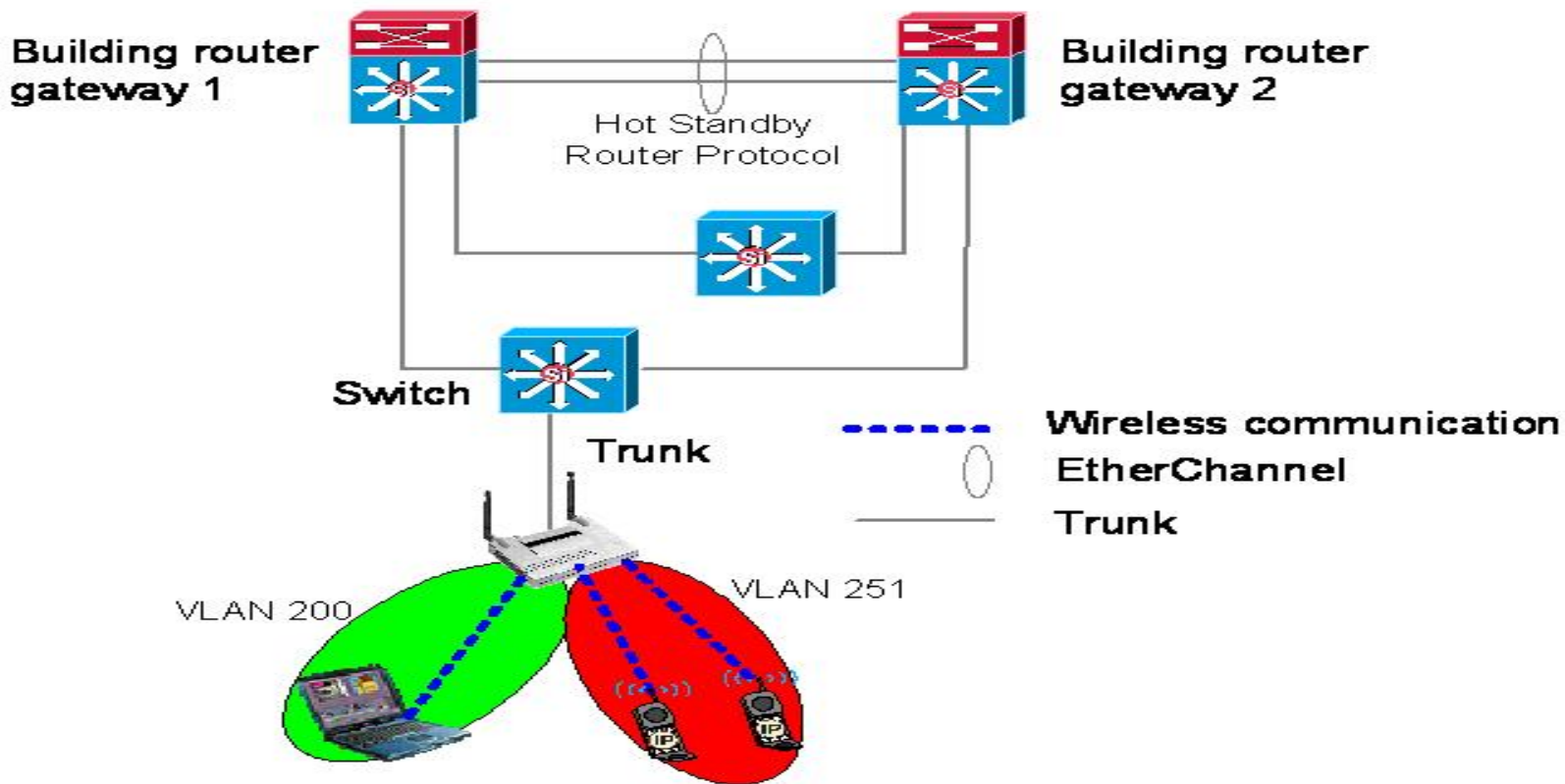
Solution - Planning Issues

- Security is always an issue with wireless traffic. Wireless signals can be picked up by anyone who is close enough and has the right receiver, so the signal must be encrypted.

Cisco® IT used the Cisco version of Temporal Key Integrity Protocol (TKIP) with message integrity check (MIC), a strong encryption method that prevents eavesdropping.

Solution - Dual VLANs on the Access Point

- Network diagram showing desktop network with dual VLANs on the access point



Results - Cost Savings

- Cost Savings

Without having to pay for additional pager, cellular, radio, or walkie-talkie services, the direct cost saving to Cisco® is obvious, not only because there is no monthly service fee but also because there are fewer call and pager charges when using the onsite Cisco IP telephony voice network.



- Reachability

Having their extension on their “hip,” drivers no longer need to return pages or phone calls, wait for messages, or leave voice mail.

The team communicates by dialing an extension, independent of where they are physically located at that moment.



Results - Productivity and Customer Satisfaction

- Productivity and Time

When there are last-minute pickups, drivers are notified before they leave the building, saving extra trips.

- Customer Satisfaction

The Cisco® Wireless IP 7920 allows us to be in direct communication with our customers, thereby helping to quickly resolve customer services issues.



Next Steps - Deployment

- Deploy IP 7920 phones for the Cisco mail team



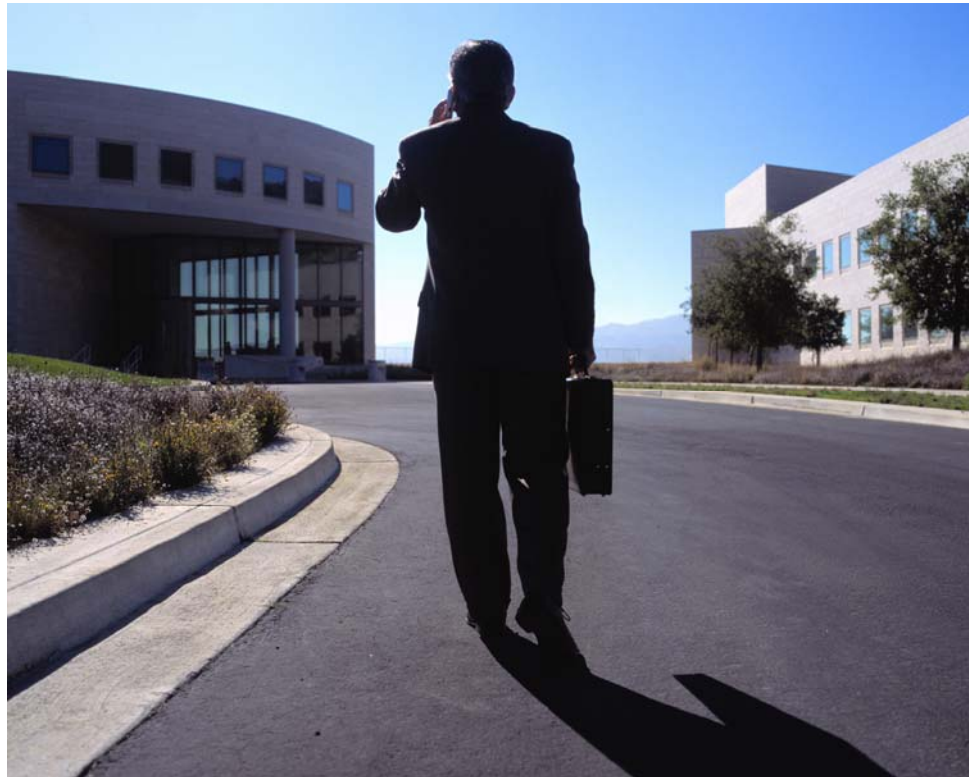
Cisco® mail teams also deliver inter-office packages, and there are many similar mail routes; we can use wireless IP phones the same way and increase our efficiency by teaming and being in close communication.

Next Steps - Additional Services

- Cisco® IT is evaluating services that could be accessed using the wireless IP phone and that would allow shipping personnel to:
 - Interface with the shipping application directly while in other buildings
 - Receive faster updates about schedule changes
 - Provide customers real-time package tracking information

Next Steps - Expand Use to Managers

- Managers who spend a lot of time in meetings in buildings across campuses would also benefit using the Cisco Wireless IP Phone 7920



Cisco Wireless IP Phone 7920



**THIS IS THE POWER OF
THE NETWORK. *now.***



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CISCO



Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883


Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Europe Headquarters

Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 800 020 0791
Fax: +31 0 20 357 1100

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