CENTERFOLD

BY KELLY JACKSON HIGGINS

PITTSBURGH INTERNATIONAL AIRPORT

Free Wireless Draws Passengers

It's nighttime at Pittsburgh International Airport. A traveler lays down her heavy bag, glances at her watch and wonders how she'll pass the time while waiting two dreary hours for the connecting flight. Then, she spots a sign—the airport is offering wireless access to all its customers, anytime, for free. Following a few simple instructions, the traveler connects her Wi-Fi-capable laptop to the network and logs on to the Internet. She glances at her watch again—this time to estimate how much she can get accomplished before the flight.

Thus far, Pittsburgh International is the only major airport to offer free wireless Internet access across its terminals. Pittsburgh travelers who have Wi-Fi can surf the Web and access their corporate VPNs from any food court—and soon, from their seats at the gate—without having to hunt for a network jack.

The new 802.11b WLAN service promises to draw more passengers to the airport. Large companies, such as Bayer and Heinz, are already routing employees through Pittsburgh International as a result of the wireless offering.

But it was a business slowdown, not a technology demand, that first got the WLAN effort off the ground. Since the 9/11 terrorist attacks, Pittsburgh International has been hit hard by changes in airline travel. First, security precautions forced the airport to restrict access to the Airmall, its 100,000-square-foot shopping mall, to ticketed passengers only. Then, the airport's main tenant, US Airways, scratched 100 daily flights in a cost-cutting move. Suddenly, airport management was in dire need of new ways to attract passengers and flights.

Pittsburgh International chose free wireless, in the

The Hard Sell

IT'S CHEAPER TO BE FREE

Why would an airport suffering a nearly 11 percent decline in passengers give travelers free wireless? Pittsburgh International Airport found it was cheaper to offer free wireless over its own wireless LAN than to contract with a wireless provider and charge for it.

The free service will bring passengers back to Pittsburgh International, says Tony Gialloreto, IT manager at the Allegheny Airport Authority, which runs the Pittsburgh facility. "The PR from this is worth more than the revenue" a third-party WLAN service could generate, he says.

The airport had already allocated $100,000 for a wireless LAN prior to US Airways' flight cuts (Pittsburgh airport is US Airways' hub) and the airport's subsequent passenger decline. But it was the revenue argument that nearly tripped up the freebie WLAN project.

"The biggest problem we had was that everyone wanted to make a profit off the wireless LAN," Gialloreto says. Not only did wireless providers and airport consultants recommend charging for the WLAN, but the airport authority's board of directors also liked the idea. "At first, it was hard to convince our board and CEO to think outside the box," Gialloreto recalls, "but [executive director] Kent George said, 'Let's do it.'"

For a small IT department like Gialloreto's, establishing and maintaining a billing system can cost even more than building the wireless infrastructure itself. Pay-for-use wireless requires full-time management of the service, Gialloreto explains. "Then it becomes a heavily managed product,

By later this year, the WLAN will have more than paid for itself, IT manager Gialloreto says.

which is why many airports go with a wireless service instead to handle that," he says. "And airports don't reap the full benefits of the revenue, because the service providers sell it. And it can be a turnoff to the traveling public, because they have to pay for it."

Gialloreto says he expects that by the time the airport crunches the numbers later this year, the WLAN will have more than paid for itself. The airport gets 1,200 to 1,800 hits per month on the WLAN.

Gialloreto's next pitch will be a wireless field emergency-services application. "I think it will be well-received" by management, because wireless is so widespread now, he says.

hope of bringing in more connecting travelers, says Tony Gialloreto, IT manager at the Allegheny Airport Authority, which runs the Pittsburgh air facility (see "The Hard Sell," page 81). Other airports were offering wireless Internet access, but most of them used a third-party service provider and charged 24-hour fees of $11 or more. Pittsburgh International took a different route, providing access through its own Enterasys Networks RoamAbout R2 network.

A traveler with an 802.11b card just powers up his or her laptop, which then goes to a default setting that picks up the wireless signal. "Once users are connected, they go to their browser," Gialloreto says. So far, he adds, the airport gets 8 Mbps to 10 Mbps out of the 11-Mbps wireless pipe, and the WLAN traffic of 1,200 to 1,800 users per month doesn't impair quality of service.

A Secure Policy

With the wireless access service in place, the airport is turning its focus to internal WLAN apps. By next year, wireless PDAs will replace the walkie-talkies that firefighters and other emergency-response workers use in the airfield. The wireless LAN will let the workers file reports from the airfield or emergency site instead of from offices equipped with wired laptops and PCs, Gialloreto says.

> The WLAN's traffic of 1,800 users per month doesn't impair service quality.

Pittsburgh International is also running a wireless pilot with the Department of Homeland Security's Transportation Security Administration. Although security concerns prevent Gialloreto from speaking in detail about the pilot, he admits the WLAN could come in handy for security screening, especially if the TSA grants the airport's recent request to let unticketed passengers back into the gate areas and the Airmall.

The new internal wireless apps will require one feature the free wireless access service doesn't: authentication. Travelers are limited to Internet access via DHCP, HTTP or HTTP-S protocols. An airport firefighter, however, will be able to enter a user name and password to gain wireless access to the airport's backbone LAN, which will authenticate the user's credentials and privileges through data stored on an Active Directory server. TSA employees will also authenticate to the WLAN, but likely with specific group and individual privileges.

It's all about policy. Like any conventional enterprise, Pittsburgh International uses its existing LAN infrastructure as well as security tools to dole

[15 MINUTES]

Tony Gialloreto

IT MANAGER, ALLEGHENY AIRPORT AUTHORITY, PITTSBURGH

Tony Gialloreto, 45, heads the IT department and communications group for the Allegheny Airport Authority, which runs Pittsburgh International Airport and Allegheny County Airport in Pennsylvania. He's responsible for managing the wired Ethernet LAN and wireless LAN infrastructures at both facilities, as well as for developing applications for the WLAN. Gialloreto has been with the Allegheny Airport Authority for 14 years and in IT for six. He holds a bachelor's degree in computer science from Point Park College in Pittsburgh.

Biggest surprise: A wireless LAN can be as secure as a wired one.

Biggest myth about WLAN security: You're wide open to hackers. With the appropriate security in place, there's no reason to worry.

Next time, I'll: Build and implement the wireless LAN sooner. But it was probably best that we took the time to think everything through.

Most memorable wireless breach: A "ping" virus was launched shortly after the wireless LAN went live last fall. But we disabled the pinging with Enterasys' NetSight Atlas Policy Manager.

How Wi-Fi is changing airport travel: It's making airports a stable work environment for business travelers.

Why airports have been behind the technology curve: They typically have a lack of IT resources. Most airports have a limited budget, and the major part of it goes to maintaining airfields.

Most ill-timed network outage: Weekday network outages are the worst, because work comes to a standstill.

Biggest IT mistake: Hesitance in going with new technologies.

Best advice: Don't overlook what may seem impossible.

Why he's not a betting man: I generally lose.

For fun: Playing golf.

Wheels: A 1993 Nissan Altima. It's practical.

out user privileges—Wi-Fi users can't go anywhere but the Internet, and internal users will be allowed access only to specific internal applications from the WLAN. The airport runs Enterasys' NetSight Atlas Policy Manager tool, which sets these user privileges.

Gialloreto and his team manage the airport's WLAN from a central site. With NetSight Atlas, they can write policies—such as a directive to block a particular port when a new virus hits—that are sent to the switches automatically.

Enterasys, meanwhile, is building back-end reporting tools for Pittsburgh International that will let the airport pinpoint by IP address anyone who tries to "ping" its LAN or break a policy on the WLAN.

Powering Up

Gialloreto and his tiny team of technicians tested and installed the WLAN themselves last fall. A third-party wireless service would have cost the airport $100,000; the internal WLAN cost less than $23,000. About half of the 60 planned R2 access points are already installed on the 11-Mbps WLAN, and the rest should be in by summer.

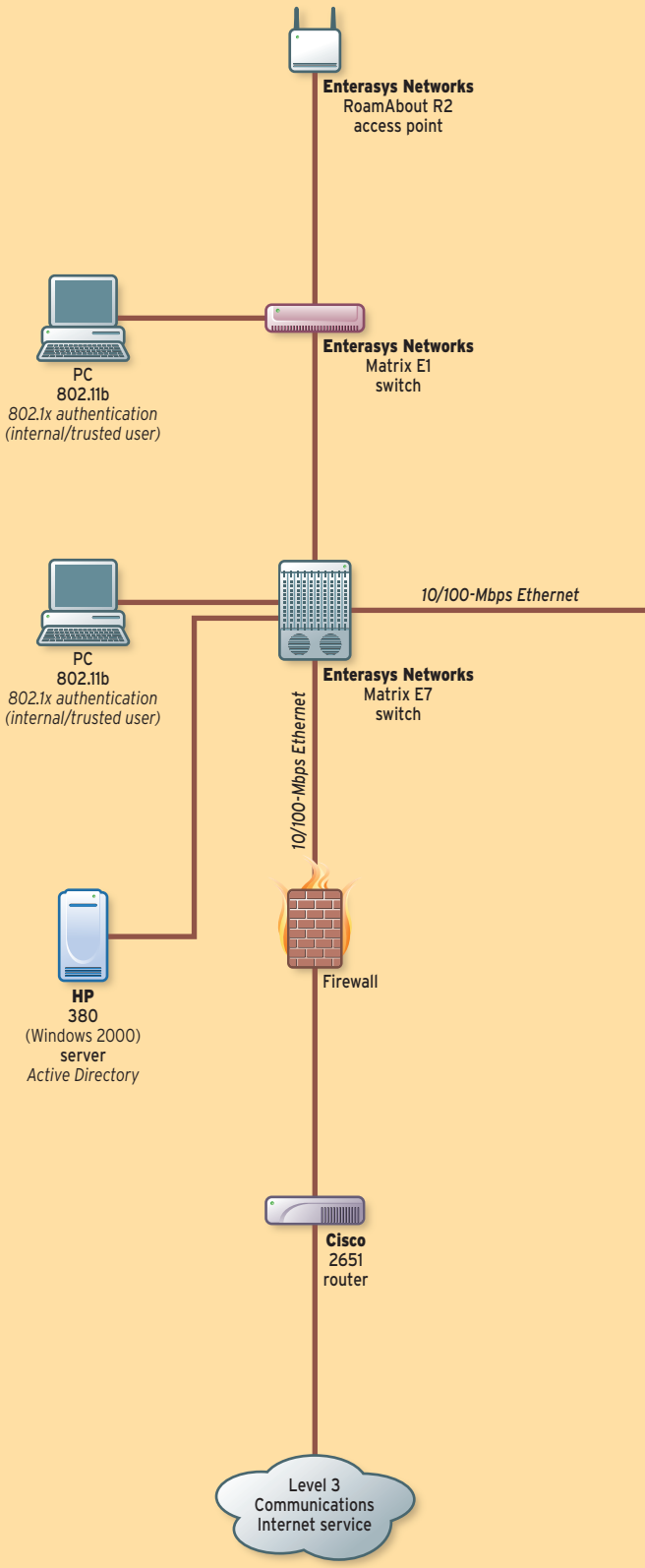
Gialloreto's biggest initial worry was getting power inside the ceiling of the airport complex, which wasn't accessible in areas with concrete or drop ceilings. So the airport used the Enterasys access points' 5-volt power-over-Ethernet feature and centralized the power for the APs in a wiring closet.

"It's nice to have the power accessible in the wiring closet rather than having to take a ladder up to the ceiling to figure out a problem," Gialloreto says.

When Gialloreto and his team began testing the WLAN, they found that some RoamAbout 2 antennas were blasting the wireless signal way too strongly and widely. "We didn't want to broadcast it to the tenant stores—we just wanted a signal in the food courts," he says. So the airport stripped the antennas from the offending boxes.

In the future, Pittsburgh International will likely add next-generation WLAN technologies such as 802.11a (54 Mbps, 5 GHz) and 802.11g (54 Mbps, 2.4 GHz).

"One of the nice features about this access point," Gialloreto says, "is that whenever we decide to go to 802.11a, 802.11g or 802.1x security, we don't have to purchase a new box." NWC



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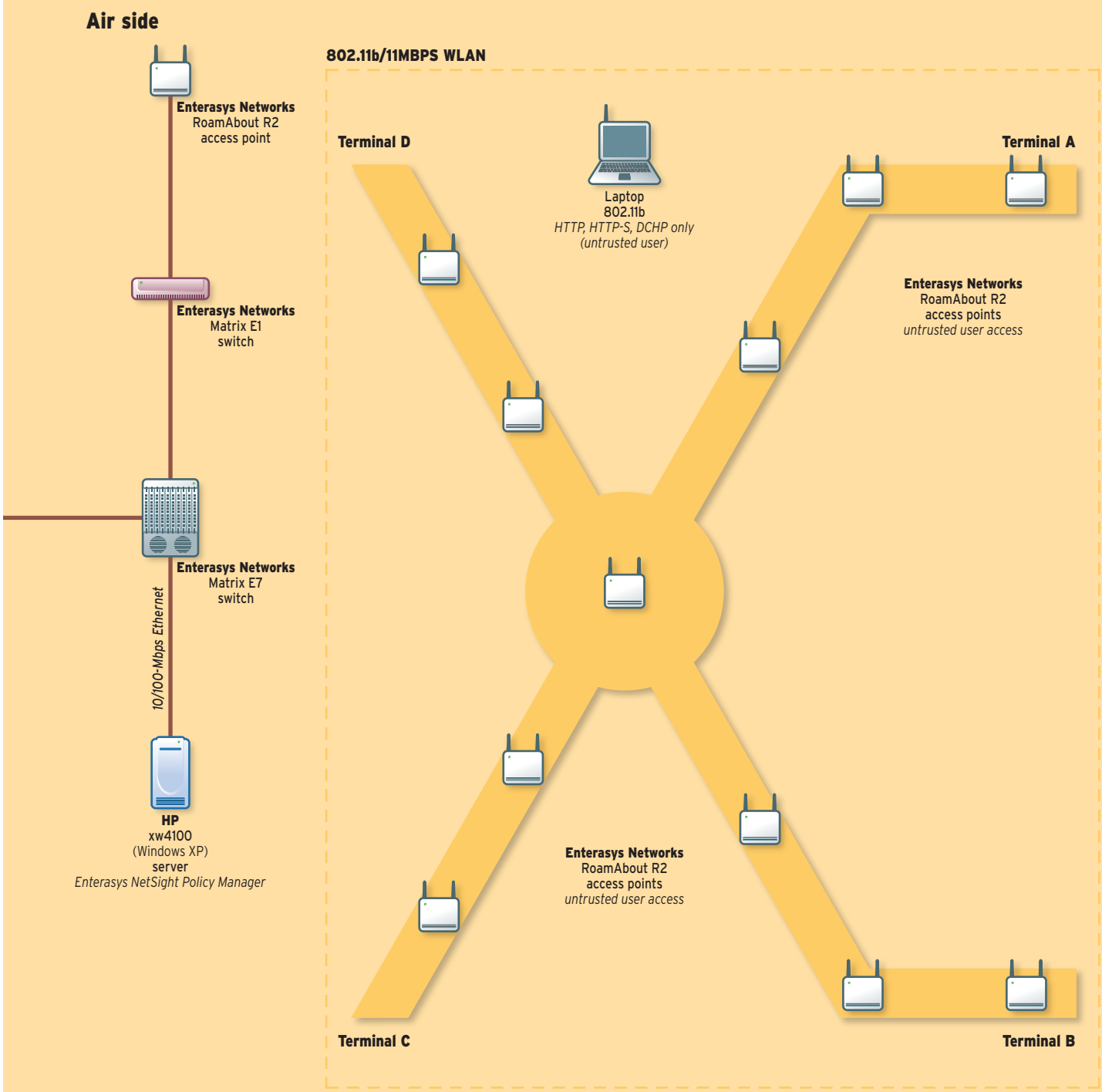
Pittsburgh International Airport WLAN, Pittsburgh



Travelers at Pittsburgh International Airport get free Wi-Fi access that's restricted to HTTP, HTTP-S and DHCP, while internal users are authenticated with 802.1x. Airport officials plan to expand the WLAN to its emergency response workers and, possibly, the Transportation Security Administration (TSA).