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San Francisco Becomes First U.S. City to Offer Encrypted Wi-Fi.

Marc Touitou is hopeful that what's starting as a small Wi-Fi hot spot on Market Street in San Francisco will soon become the standard for cities around the world.

So what is it about this hotspot stretch that has Touitou, San Francisco's CIO, so excited?

"It's about you being safe in the street!" Touitou said with a huge smile in his voice. "With all the data breaches you have seen, it becomes increasingly important to protect our residents."

Touitou calls it Hotspot 2.0.

"Hotspot 2.0 is free Wi-Fi, but it's encrypted," Touitou said. "And San Francisco is the first city in the U.S., possibly in the world, to enable Hotspot 2.0."

Since the introduction, Touitou says other cities have asked to partner with San Francisco to provide their residents with Hotspot 2.0 as well. Those cities include San Jose, Calif., and Melbourne, Australia.

Touitou describes these partnerships as agreeing to do the "handshake."

"We have an existing relationship with the Australian government; [they] engaged us, they want to do the handshake," Touitou said.

JOINING SF WOULD BE 'QUICK AND EASY'

So what costs come with these handshakes? San Francisco Chief Technology Officer Flavio Aggio says the costs are minimal, if anything at all.

"We took a few developers and technicians to develop this with our partners, but it doesn't cost anything for the partner cities," Aggio said. "We need to get together technically, and we will need to get together on the security token, and that's it."

Hotspot 2.0 uses the same technology that banking companies do to let customers use online financial services. Aggio said users are sent a security token that registers their device, and continues to authenticate the device from that first point on.

"It works in a similar way to your client — when you have your computer connected to your bank, that gives you a lock to your computer connection," Aggio said. "It's called AES256 encryption. And if you are authenticated in San Francisco, you will get automatically authenticated in San Jose. This solves the problem so you don't have multiple passwords — that is the secret of Hotspot 2.0."

That technology is called Passpoint, and the city of San Francisco is optimistic it's the future of free Wi-Fi, in part because it offers cities that join economic benefits.

WIRED CITIES MAKE MORE MONEY

Aggio says currently, only Market Street in San Francisco is offering Hotspot 2.0 in the city, but that the service will expand into San Francisco's parks this summer.

Meanwhile, San Francisco is becoming the chosen home for many of Silicon Valley's workers and executives. Yet, Touitou said the encrypted Wi-Fi isn't being expanded through the city to help lure even more tech workers.

"We're not doing this for economic reasons," Touitou said. "We do it for the same reason we do high-capacity Wi-Fi. We're doing it because we [want] to be first — and because it's fun!"

But Touitou does acknowledge that there are economic benefits that come by offering Wi-Fi and broadband services, especially services that are secure.

"We know [when] there is 20 percent of broadband penetration, you get a 1 percent growth in local GDP," Touitou says. "It encourages people to have their tech companies here. And because of the train on security, everyone wants Wi-Fi, and everyone wants secure Wi-Fi."

A [2013 research paper](#) by the National League of Cities confirms the importance of being wired for economic growth. The paper urges American cities to develop innovative ways to keep wired access available, and even directs cities to look for federal grants to develop the Internet infrastructure.

"In 2011 the United States ranked 15th among 30 developed and developing nations in deploying broadband services," the researchers state in the paper. "This is a huge departure from where this country stood in the 1990s, when it was one of the leaders in providing broadband access."

While Hotspot 2.0 isn't universal broadband services, the city did mirror the steps outlined by the researchers to implement its Wi-Fi plan. That includes partnering with other cities, Touitou said.

"When the CIO of San Jose [contacted us], we decided to do a pilot - on Market Street — and give the desire to other players to do the same," he explained.

That partnership extends to companies as well: Corporate partners Global Reach and Ruckus Wireless worked with the city to provide Hotspot 2.0.

Touitou is hopeful that eventually New York City and maybe Boston will join the network as well. But for now, Touitou says San Francisco is looking forward to expanding Hotspot 2.0 into San Jose and Melbourne.

"It's exciting, because we had that in the back of our minds, to always be pushing the envelope on the technology itself," Touitou said. "Security is not new. But what we're doing is."

BY JOHN SEPULVADO / JUNE 11, 2014