KOMODO SYSTEMS

WINNING HEARTS & MINDS WITH GREAT WIFI

GETTING WI-FI RIGHT **THE FIRST TIME**

A startup prepares to host a potential investor at its new office. The open workspace invites collaboration as employees carry their laptops and tablets from one desk to the next. But on the morning of the big meeting, the Wi-Fi goes down, and everyone has to huddle around one desktop to connect to the Internet over Ethernet.

A business traveler checks into a hotel after a long flight, and the TV monitor in the lobby alerts her to a late afternoon rally on Wall Street. She decides to execute a sell order before the market closes, but when she tries to log on to her brokerage account she can't connect via the hotel Wi-Fi.

A warehouse worker sits 50 feet in the air atop a cherry picker, staring at a row of identical cartons stacked on a shelf. One contains the merchandise he needs to bring down, but he doesn't know which carton is the right one. He tries to check his iPad for the pick order, but he can't connect to Wi-Fi. The worker slowly descends and heads back to his desk to get a paper printout.

In all these situations, money was lost because time was wasted, time that could have been saved by a reliable Internet connection. The startup, the investor and the warehouse worker all needed a wireless connection in order to do their jobs, and all of them were unable to complete their work because their Wi-Fi let them down.

A large majority of employed adults say Wi-Fi access is closely related to work productivity, according

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S Y S T E M S

to the Wi-Fi Alliance. The industry consortium's research found that 38% of Americans would consider changing hotels to get better Wi-Fi, and 27% would shop at a different retail store if the Wi-Fi were better.

Many hotels, stores and offices rely on managed service providers (MSPs) for Wi-Fi. A bad Wi-Fi experience can be a reason to switch service providers, and often MSPs and their customers aren't aware of problems until they have already lost time and money. MSPs often rely on network monitoring software (NMS), but these NMS systems can only see network topology from the Internet demarcation point through to the internal access points. Even the most robust networks and integrated NMS will have a reporting gap between the access point and the end user devices. MSPs are often forced to rely solely on customer or employee satisfaction surveys.

"You are relying on a customer, an end user calling and saying 'Hey I can't get online, the Wi-Fi really stinks, can you fix it, can you come out and help me?'" explained Guido Sandulli, CEO of Komodo Systems. "A lot of network managers hate this because they're sort of forced to go to level 1 troubleshooting."

By the time customers report problems, an opportunity has already been lost. MSPs have the opportunity to fix network problems before they impact customers. Komodo Systems enables this by using a unique approach to fill the gap between the NMS and the end user devices; Komodo Eyes are deployed into the user space to simulate Wi-Fi use and report problems before they impact user experience.

"If there's a problem with the network you can find out about it from your Komodo Eyes, instead of from an angry end user," said Sandulli. "And they give you visibility into where in the network topology that failure is occurring."

There are multiple ways a Wi-Fi network can fail a user, and not all of them will be visible to software that sees only the network infrastructure. Metal barriers may block an access point from one direction, neighboring APs may interfere with one another, or APs could be broadcasting incorrect SSIDs. Interference can also come from Bluetooth-enabled devices or even groups of people.

The result is the problem will only present itself when certain conditions are present and will be very hard to troubleshoot unless a level 1 tech is on site, in real time – a very expensive alternative. That's why hardware that simulates the user experience can be just as valuable to MSPs and enterprises as traditional network monitoring software.

The Komodo Eye is a wireless probe that simulates the typical user experience on regular intervals and reports problems to the network management team. It's different from other network monitoring devices because it sees the network from the user's perspective as opposed to the network perspective.

"Our device connects the same way any client device connects to the Internet," said Sandulli. "It looks for an access point, it looks for a good signal, it associates to it, resolves a sample URL through DNS, gets an IP address through DHCP, it pings a website, performs a trace route, and it tries to download a

file. And if it experiences a failure, or measures a below-threshold experience in any one of those tests, it sends a notification."

Those notifications mean that service providers can be proactive with their customers instead of just responding to tickets. They can easily identify exactly where in the TCP/IP stack an issue is occurring. In order to be successful, service providers need to change the way they think about network performance.

"They tend to focus on the infrastructure – how are my routers doing, how are my switches doing, how are my access points doing?" said Sandulli. "Don't think about it from the perspective of your infrastructure. Think about it from the perspective of your users." Sandulli said that network managers need to think about where users congregate and need to use Wi-Fi. These are the best places to deploy the Komodo Eye.

The average retail subscription price is $25 per month for each Komodo Eye. Given that a truck-roll for an on-site troubleshooting visit can cost several hundred dollars, a Komodo deployment can save network managers time and money. Komodo's purpose is to make those visits less frequent, and to make them shorter by allowing administrators to proactively manage their networks, rather than chasing complaints.

"It is a bit of a mindset shift because you are used to looking at the network from the inside out," said Sandulli. "Now we can help you can see it from the outside in."

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