

Home wifi could be used for emergency responders

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Police in front of the European Central Bank in Frankfurt am Main, Germany, on August 6, 2012. Wireless routers for homes and offices could be knitted together to provide a communications system for emergency responders if the mobile phone network fails, German scientists reported on Monday.

Wireless routers for homes and offices could be knitted together to provide a communications system for emergency responders if the mobile phone network fails, German scientists reported on Monday.

In many countries, routers are so commonplace even in medium-sized towns that they could be used by fire services, ambulance and police if cellphone towers and networks are down or overwhelmed by people caught up in an emergency, they say.

Kamill Panitzek and colleagues at the Technical University in

Darmstadt, western Germany, walked around their city centre to pinpoint the location -- but without invading privacy -- of wireless routers.

In an area of just 0.5 square kilometres (0.19 square miles), using an Android application to locate wireless networks, they found 1,971 routers of which 212 were public routers, meaning they were non-encrypted.

This rich density means that an emergency network could piggyback on nearby routers, giving first responders access to the Internet and contact with their headquarters.

"With a communication range of 30 metres (yards), a [mesh network](#) could be easily constructed in urban areas like our hometown," say the team, whose [mathematical model](#) is published in the International Journal of Mobile Network Design and Innovation.

The team suggest that routers incorporate an emergency "switch" that responders can activate to set up a backup network, thus giving them a voice and data link through the Internet.

This could be done quite easily without impeding users or intruding on their privacy, the study argues. Many routers already have a "guest" mode, meaning a supplementary channel that allows visitors to use a home's wifi.

"The emergency switch would enable an open guest mode that on the one hand protects people's privacy, and on the other hand makes the existing communications resources available to first responders," says the paper.

The population of Darmstadt is 142,000. The location scanned in the

study comprised a rectangle of streets in the city centre, covering 467,500 square metres (558,500 square yards).

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