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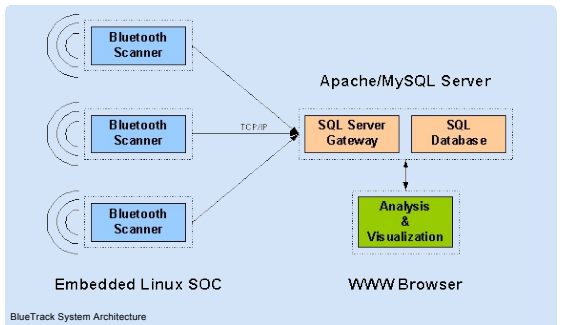
Titel
BlueTrack - Tracking Bluetooth devices Basisssoftware für selbstorganisierende Infrastrukturen für vernetzte mobile Systeme

Kurzbeschreibung




In the last two years the wireless communication technology Bluetooth has been successfully integrated into mobile devices, e.g. mobile phones and personal digital assistants (PDAs). For convenience purposes Bluetooth is enabled by default. The user itself doesn't change the default setting unless it doesn't want to benefit from the new Bluetooth capabilities, e.g. ad-hoc PIM synchronization. Because of the unique Bluetooth device address, Bluetooth enabled devices are potentially vulnerable against passive tracking attacks and active attacks spying on personal data stored on mobile devices, e.g. addresses and accounting information.

To estimate the tracking vulnerability of Bluetooth devices we implemented a very simple tracking system at a university building with several lecture rooms. The tracking process is based on accumulated Bluetooth inquiry information. Inquiry is a Bluetooth standard function to find nearby devices. The results show that astonishing many Bluetooth devices randomly cross the installed Bluetooth inquiry sensors can be recognized and tracked. This is a threat against user privacy and leads us to investigate security measures for mobile devices.

With the power of positioning algorithms the granularity of the BlueTrack system can be improved. At the moment the positioning granularity is room based. In case of using a coarse grained localization system, it is possible to estimate the position of a user more precisely. The positioning error between estimated and real position will tend to approximately 10% of the room size depending on number of tracking stations and defined transmission power.



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