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Location technologies in wireless networks

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Background: Since the 1990's, location technology has been a mandated feature of commercial wireless networks (in the US) as a consequence of the FCC's E-911 service requirements. Support for this mandate has been a challenge for all wireless service providers, throughout the last decade. The challenges stem from a number of technical, environmental, and market realities. These challenges, as well as the technical development that has gone on to help address them, will be the focus of this presentation.

Summary: There are a number of different technologies currently employed for wireless location. These technologies can be broadly grouped into categories of: "satellite" or "terrestrial", "handset based" or "network based", and "trilateration/ triangulation" or "pattern matching". Each technology group comes with benefits and challenges and each has performance that is largely dictated by the local environment and morphologies (e.g. urban/rural, in-building/open-sky). This presentation will provide a technical assessment of each of the technology groups and specific technologies and will relate their capabilities. The evaluation will include operation of the technologies independently, as well as in combination "hybrid" operation.

Biography

Norman Shaw is a Director in the IEEE-Standards Association. He has worked in product development and standards at three (3) different wireless location technology companies and has over 20 years' experience in the wireless industry. He has also served on advisory groups to the FCC on E-911 technologies and practices.

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