

## A quick guide to Bluetooth 3.0

What, why, who, how explained

by Rob Kerr published on 6 May 2009

What is it?

It's the recent release of the new version of the short range wireless technology Bluetooth, which is said to be on the cards to replace the current standard of the popular and widely used protocol for sending data.

The new iteration of the specification has been laid out to incorporate the Wi-Fi standard seen and used by wireless routers at home and in the office, normally to deliver the Internet. As this has been bolted onto Bluetooth, it could now mean the reach will be much greater along with the speed in which the data can be sent.

What are the variations of the technology?

At the time of releasing the specifications of the new standard of Bluetooth, which will be now known as Bluetooth 3.0 + HS, no variations have been mentioned. This may not be the case however as we move closer to seeing actual products, or expect the new version to be included in consumer devices.

Materials do change, along with their abilities and functions from first putting pen to paper to releasing the specifications and standards to various companies and the general public. It's been known from experience that the initial draft or first run of an outlaid design won't always end up being the final version, or that the governing body won't end up bowing to the pressure of companies developing products.

Why should I care?

There will be a distinct speed increase, along with the assumed increased distance Bluetooth can operate over - all of which makes this a far better technology than what's been around for well over a decade.

Currently the possible speeds obtained from Bluetooth 2.1 is around 2.1 Mbps, where thanks



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to the new addition of the 802.11 protocol from Wi-Fi the new possible speeds will be around the 24 Mbps mark. This is obviously a distinct boost to the version currently seen, with its subsequent uses being very vast indeed.

If incorporated within products this could very well be useful in transferring large amounts of data, which at present is in the domain of the likes of FireWire and USB technology and cables. Due to the speeds possible of Bluetooth 3.0 and the wide accessibility of the current standard, the likelihood of the new standard being used in this way is very high indeed.

It's even been mentioned that printers could benefit from Bluetooth 3.0, with large data transfers from computers to the printer. With the amount of megapixels ever on the increase in cameras, along with the quality of home printers ever on the rise, this could very well be a bonus in terms of fast printing.

What's a good example in practice?

As this technology has only been recently aired in terms of the possible final specifications, it's still sometime away to being seen within new products and devices.

Saying that, the most likely uses will be similar to ones around today where Bluetooth is currently seen and used, from the likes of mobile phones, laptops, to PDAs and the other usual suspects. As it has the Wi-Fi specification onboard - which will be powered down until the need for data transfer arises - there will be the added functionality of transferring large amounts of data in a very short time with low power consumption.

This technology could very well be useful for digital cameras, digital camcorders and similar products. This could even expand into the field of mp3 players, personal media devices and really any electronic product that often needs data transferred to and from.

Is there a competing technology that I should be aware of?

Bluetooth 3.0 strengths will be seen in the fast transfer speeds, which is really why it's being released and is the natural evolution of this technology. Currently competing here are the likes of FireWire and USB 2.0, which is primarily used for fast data transfers.

These will always be popular, as the standards have been built into computers for some years and many devices and products around today all use the technology. The drawback is they're fixed to a location, where as the wireless standards are most definitely not and are far more flexible as a result.

Coming up the ranks to compete in the Bluetooth 3.0 market space is Wireless USB, which is capable of 480Mbps. This has yet to be seen in a great deal of products, but it is a promising technology and could very well be a contender if widely adopted.

The other technology that could give Bluetooth 3.0 a run for its money is Ultra Wideband, this is also an emerging short range wireless standard, which is capable of delivering data at 10 Mbps and over a good distance. It was first thought that Bluetooth 3.0 would be running from or over UWB, as both standards could have complemented each other in design. It turns out this wasn't the case and there were complications, although it is hoped this might change with time.

What is in store for the future?

As with all new and emerging technology, it's the uptake and incorporation into devices which will drive the new standard's adoption further. We're likely to start seeing Bluetooth 3.0 in products around January of 2010, with more coming out soon after that.

Companies that already make Bluetooth chips for devices, with names such as Atheros and Broadcom have already made public their intentions to make Bluetooth 3.0 chips. They have

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also mentioned, when the specifications were recently unveiled, that they are 9-12 months away from delivering these chips for products.

It's been said that certain Bluetooth 2.1 devices could be upgradeable to Bluetooth 3.0, with a firmware flash update and with all the features of 2.1. As we get closer and closer to the time of arrival for the new technology, this could be more of a realistic proposal and we'll see more of these details being made public around then.