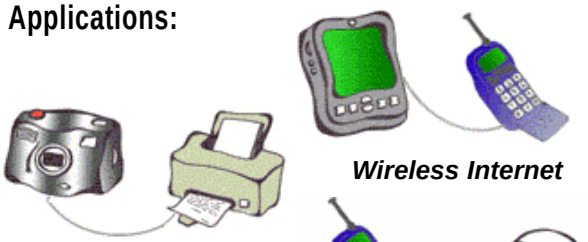
Introduction to
USB On-The-Go

Consumers and corporate users need to connect their mobile devices to each other and to various peripherals. This is confirmed by dozens of connectivity methods used by different mobile product manufacturers including proprietary docks, dongles, slots, connectors and 7 different memory card technologies. To move past this state of chaos, several mobile phone, PDA, and mobile product manufacturers have collaborated to develop a standard technology using a version of the popular USB specification tailored for mobile applications. The result is USB On-The-Go (OTG). USB OTG is a new supplement to the USB 2.0 specification that augments the capability of existing mobile devices and USB peripherals by adding host functionality for connection to USB peripherals. Since USB has traditionally consisted of a host-peripheral topology where the PC was the host and the peripheral was a relatively dumb device, these new features were needed to upgrade standard USB technology for mobile devices. These new features include:

- A new standard for small form factor USB connectors and cables.
- The addition of host capability to products that have traditionally been peripherals only, to enable point-to-point connections.
- The ability to be either host or peripheral (dual-role devices) and to dynamically switch between the two.
- Lower power requirements to facilitate USB on battery powered devices.

Announced on December 18th 2001 by the USB Implementers Forum, USB OTG technology allows vendors to enable their products to connect to many of the standard USB products that have shipped to date. Over 1.4 billion USB-enabled PCs and peripherals have been shipped, and connection to these products is the primary reason USB OTG is being rapidly adopted where other connectivity technologies are having limited success.

Applications:



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Questions and Answers

Q. Why has USB OTG been developed?
A. Portable computing products such as hand-helds, cell phones and digital cameras that today connect to the PC as a USB peripheral will benefit from having additional capability to connect to other USB devices. USB OTG defines a way for portable devices, through only one mini-connector, to connect to supported USB products in addition to the PC.

Q. Does USB OTG have to be in both products in order to connect and operate?
A. No, USB OTG products will connect to all PCs, and will also have host functionality to connect to the specific USB peripherals it supports among the 1.4 billion USB enabled products shipped to date.

Q. Does USB OTG eliminate the need for a PC?
A. No. In fact, USB OTG complements the concept of the "Extended PC", where the PC is at the center of the consumer's extended world of digital devices. By enabling basic functions between digital devices, USB OTG augments the capability of these PC peripherals, making them more valuable to consumers and corporate users.

Q. How does USB OTG compare with Bluetooth? Does it compete with it?
A. USB OTG is complementary to Bluetooth. USB OTG allows connection to over 1.4 billion supported USB devices, which have been shipping for over 7 years. USB OTG provides increased performance in data throughput. USB OTG will co-exist with Bluetooth on some portable devices such as hand-helds and cell phones, just as USB does today.

Q. What happens when you plug two USB OTG dual-role devices together?
A. When two dual role devices get connected together via a cable, the cable sets a default host and default peripheral. If the application is such that the roles need to be reversed, then the Host Negotiation Protocol (HNP) will provide a handshake that performs that function. This reversal will be completely invisible to the user.

Q. When do you expect USB OTG devices to be available in the marketplace?
A. First products are expected to start shipping in 2004.

Q. Where can I find out more?
A. The specification and more information on USB OTG can be found on the world-wide web at http://www.usb.org/developers/onthego/