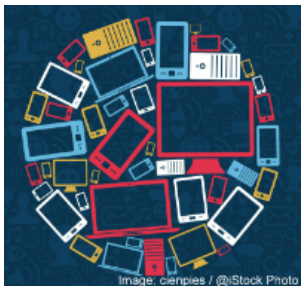
Topics: M2M | Smartphones, tablets, devices

A brief history of the Internet of Things

July 23, 2014 | By Fred Donovan



The Internet of Things, or IoT, promises to revolutionize the way we do business as well as the way we live our lives.

At work, IoT has already taken over the mundane tasks of monitoring industrial processes, managing fleets of vehicles and assets as well as securing the perimeter.

In the home, IoT devices automatically adjust our energy consumption, secure our home and even tell us when we are out of milk.

The many uses of IoT are fueling a rapid expansion of the IoT market, which IDC forecasts will generate $7 trillion in value in 2020. Swedish wireless firm Ericsson boldly predicts that there will be more than 50 billion connected devices by that same year.

FierceMobileIT has put together a brief history of the IoT concept and some devices to help you understand where IoT has come from and where it may be going.

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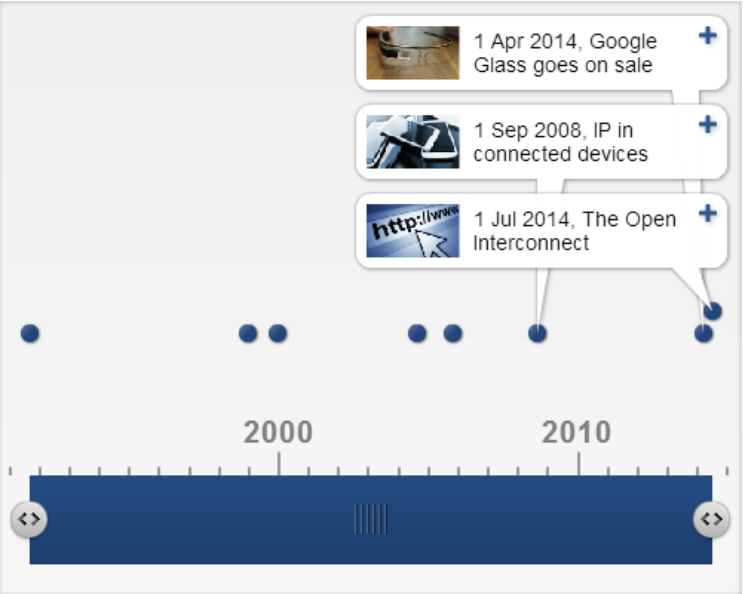

September 1991: Mark Weiser with Xerox PARC publishes an article (.pdf) in *Scientific American* describing a future of ubiquitous computing where "specialized elements of hardware and software, connected by wires, radio waves and infrared, will be so ubiquitous that no one will notice their presence."

January 1992: The Trojan Room Coffee Pot is detailed in a *Comm Week* article. Quentin Stafford-Fraser and Paul Jardetzky at the University of Cambridge used a camera in the Trojan Room lab and wrote a server program to capture images of the pot every few seconds to monitor the coffee level so researchers would know when coffee was available.

1993: Columbia University researchers develop Knowledge-based Augmented Reality for Maintenance Assistance (KARMA), which overlaid wireframe schematics and maintenance instructions on top of equipment to be repaired.

September 1994: Researchers B.N. Schilit and M.M. Theimer use the term "context-aware" for the first time in a *Network* article.

1995: Siemens sets up a department to develop and launch a GSM data module called "M1" for machine-to-machine industry applications.

January 1999: Bill Joy, founder of Sun Microsystems, delivers a presentation at the World Economic Forum in which he describes device-device communications as one of the six Webs that he envisions.

1999: First mention of the Internet of Things by Procter & Gamble's Kevin Ashton referring to the link between RFID technology in P&G's supply chain and the Internet.

October 2000: Ashton, along with MIT colleagues Sanjay Sarma and David Broke publish a white paper (.pdf) outlining their vision for the new MIT Auto-ID Center. The center "envisions a world in which all electronic devices are networked and every object, whether it is physical or electronic, is electronically tagged with information pertinent to that object. We envision the use of physical tags that allow remote, contactless interrogation of their contents; thus, enabling all physical objects to act as nodes in a networked physical world."

2000: LG announces plans for first Internet-connected refrigerator.

March 2002: Chana Schoenberger publishes an article entitled "The Internet of Things" in *Forbes*, in which the article quotes Ashton as saying: "We need an internet of things, a standardized way for computers to understand the real world."

2002: Ambient Orb, created by David Rose and others, displays Dow Jones, personal finance and weather information based on Internet data and changes its

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color based on the dynamic parameters.

2003: BigBelly Solar is founded to make smart trash cans that get their power from the sun and communicate their status over the Internet.

September 2004: In a *Computer* article entitled "Machine-to-machine technology gears up for growth," G Lawton writes: "M2M is based on the idea that a machine has more value when it is networked and that the network becomes more valuable as more machines are connected."

January 2005: Nabaztag is created by Rafi Haladjian and Olivier Mevel and manufactured by a company called Violet. It is a Wi-Fi enabled rabbit that collects info from the Internet and alerts the user verbally about important messages and news.

November 2005: The UN's International Telecommunication Union publishes a report entitled "The Internet of Things."

September 2008: IPSO alliance is founded to promote the use of IP in connected devices.

May 2010: ZigBee Alliance and IPv6 Forum form strategic partnership with IPSO to speed adoption of IP networked smart objects.

February 2011: In a white paper (.pdf), wireless firm Ericsson predicts that there will be more than 50 billion connected devices by 2020.

October 2011: Nest Labs introduces its Nest Learning Thermostat, which uses sensor algorithms, machine learning and cloud computing to understand the home owner's behaviors and preferences and adjusts the temperature up or down accordingly.

April 2012: Google begins testing its Google Glass prototype, which is a pair of glasses with an optical head-mounted display that displays information collected wirelessly according to the user's specification.

June 2012: World IPv6 Launch Day is held; IPv6 provides virtually unlimited IP addresses for devices to connect to the Internet.

July 2012: Proteus Digital Health gets FDA clearance for its ingestible medical device that wirelessly communicates the patient's vital signs to a patch on the skin, which then communications the information to a mobile phone.

November 2013: A *Venture Beat* article proclaims that 2014 will see the "Year of the Internet of Things".

December 2013: Chip maker Qualcomm, along with other tech firms, forms the AllSeen Alliance, which is intended to develop an open framework to enable the Internet of Things.

April 2014: Google Glass goes on sale to the general public for a hefty $1,500.

July 2014: Chip maker Intel and other high tech firms set up a competing group to AllSeen Alliance to promote an open framework for the Internet of Things called the Open Interconnect Consortium.

Emily Poe contributed to this report.

For more:
A Very Short History Of The Internet Of Things (*Forbes*)
The internet of things: The past, the present and the future (Infographic by SolidWorks)
A Brief History of the Internet of Things (Postscapes)

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