

Infoporn: Tap Into the 12-Million-Teraflop Handheld Megacomputer

By Kevin Kelly [✉](#) 6.23.08 | 6:00 PM

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Never mind Web 3.0: The next stage in technological evolution is a single worldwide computer. Collectively, we are already assembling this megacomputer from our billions of Net-connected PCs, cell phones, PDAs, and the like. As an increasing number and variety of devices are lashed to one another via the Internet and other communication systems, they form the components of what we might call the One Machine.

Its circuit board encompasses the million copper wires and radio connections linking all the chips contained in the gadgets in your pocket, office, and car. Instead of being powered by a mere billion tiny transistors, as your typical personal desktop is, it runs on a billion PC chips, each with its own billion transistors. Its memory is the collective hard disks and flash drives of the world. Its RAM is the sum of all memory chips online. Every second, a Library of Congress worth of data flows through it. The program it runs — its initial OS — is the World Wide Web.

Just as the One Machine's hardware is assembled from our myriad devices, its software is written by our collective online behavior. Each time a person clicks on a search result or creates a link to a Web page, the Machine is being programmed. Each new link wires up a subroutine, creates a loop, and unleashes a cascade of impulses. As waves of links surge around the world, they resemble the thought patterns of a very large brain.

Indeed, a hyperlink is much like a synapse in the brain. Both work by making associations between nodes. Each unit of thinking in the brain — an idea, for example — grows by gaining links to other thoughts. The greater the number of synapses connecting to an idea, the stronger it becomes. Similarly, the more heavily linked a Web node is, the greater its value to the Machine. Moreover, the number of hyperlinks in the World Wide Web is approaching that of synapses in the human brain. But the Machine contains a million times more transistors than you have neurons in your head. And, unlike your brain, it's growing at a rate that outpaces Moore's law. By 2040, the planetary computer will attain as much processing power as all 7 billion human brains on Earth.

But the Machine also includes us. After all, our brains are programming and underpinning it. As much as we will come to depend on the One Machine (who needs memory when you've got Google?), it will depend on our minds for a sustaining river of input. We are headed toward a singular destiny: one vast computer composed of billions of chips and billions of brains, enveloping the planet in a single sphere of intelligence.