



Cloud Computing Fun Facts

Interesting Cloud Trends

- By 2015, the Internet will connect 2.5 Billion people¹ and more than 15 billion devices².
- In the next 10 years the number of files enterprises deal with will grow by 75x³.
- More than 2% of electricity in the U.S. is consumed by datacenters⁴.
- It is expected that with the technology of today, the equivalent of about 45 new coal plans will be needed to power datacenters by 2015 without dramatic efficiency improvements⁵.
- A new server is added to the cloud for every 600 smartphones or 120 tablets⁶

Cloud Applications Researched at Intel

- Using cloud processing to decode brainwave patterns and create new user interfaces.
- Using high-performance processors in the cloud to run and stream high-end games with advanced graphics to any and all of your devices.
- Emergency response training by creating a massive, multiplayer 3D cloud game in which people play the roles of victims and responders.
- Understanding community water resource management by creating a multiplayer 3D cloud game in which people play the roles of community consumers and stakeholders.
- Using computation to automatically diagnose cancer, such as by capturing images of cells, comparing to massive databases of existing images, and identifying likely occurrences.

Other Possible Future Cloud Applications

- A "digital personal handler" wired into your glasses that see what you see, constantly pulls data from the cloud and whispers info to you during your day -- telling you who people are, where you can buy that cool thing you just saw, or how to adjust your plans when something new comes up.
- A universal translator like in Star Trek, that performs near-real-time translation with natural language processing in addition to sensors and context awareness technologies to provide accurate results, all processed with the cloud.
- Detecting [earthquakes](#) faster than sensing equipment, by monitoring the collective activity of social media tweets in a region, for better [disaster response](#).
- Solving crimes through automated processing of pictures and video feeds recorded by social media as well as security cameras -- to find both suspects and missing people.
- Automatically deriving [scientific equations](#) that describe nature by analyzing behaviors.
- Mining astronomical data for interesting phenomena such as identifying new planets.
- Analyzing social networking sites and use of computer algorithms to decipher the mood of the general public to predict market fluctuations to direct stock trades
- Determining/predicting [biodiversity](#) trends in a region by automatically combining and analyzing numerous studies done by different scientist

¹ IDC "The Internet Reaches Late Adolescence" Dec 2009, extrapolation by Intel for 2015

² Intel Embedded & Communications Group forecast "Worldwide Device Estimates Year 2020 - Intel One Smart Network Work"

³ IDC Digital Universe Study, sponsored by EMC, June 2011

⁴ EPA Report to Congress on Server and Data Center Energy Efficiency; August 2, 2007

⁵ Power savings calculated based on projected performance improvements from Intel roadmap while keeping power / system flat. Moore's Law drives ~2x perf / 18 months. At 5 years, that equals 10X. We assume that compared to 2010, we're saving 9X (i.e. the

10x less the 1X for what you'll need). It assumes keeping power per system constant at 200W. Assuming 16M servers in 2015 based on Intel data - that means saving 16M x 9X x 200W (average system power) x 1.6 PUE = ~45GW. The estimated power/coal plant is 1Gw 45GW = ~ 45 coal plants needed.

⁶ Intel and 3rd Party Analysis