The Next Wave: Everything as a Service

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The technology industry is in the early stages of a big shift — one that will transform how we access information, share content, and communicate. This next wave will be driven by a new model of computing: Instead of installing packaged software applications on their computers, people and businesses will use their web browsers to access a wide range of "cloud services" available on-demand over the Internet. As this transition accelerates, the IT industry has an opportunity to drive a quantum-leap improvement in the user experience.

Picture cloud services that are intelligent enough to anticipate your needs, based on a real-time understanding of your location, time of day, and preferences. In this next phase, the search for information will be done for you, not by you. You will have a seamless, consistent experience across all of the different devices you own, and all of the various on-demand services you care about.

What's Needed: A New Set of Core Building Blocks

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These goals speak to the promise of cloud computing, but the technology industry has a lot of hard work to do. The "cloud" itself — a massive data-processing infrastructure — represents a critical piece of the foundation. But on its own, it cannot deliver the rich experience that people and companies want.

To realize the full potential of this new model, the technology industry needs to think about the cloud as a platform for creating new services and experiences that we have yet to imagine. It requires a new set of core building blocks to deliver this new category of services. In particular, we need smarter devices and more intelligent networks. Software will be the critical element that powers these new services and shapes the quality of the user experience.

Software as a Service: Just the Tip of the Iceberg

Much of the attention to date has focused on Software as a Service, which is a proven model for making software applications available on-demand over the Internet. At HP we deliver many of our software products to customers using this approach, in large part because it frees them from the expense and hassle of having to install and maintain applications locally.

But Software as a Service is just the tip of the iceberg. We're moving to a future state where everything will be delivered to you as a service, from your work life to entertainment to various communities. At HP we call this "Everything as a Service," and we believe this is where the world is headed. Individuals and businesses will have full

control to customize their computing environments and to shape the experiences they want to have. This applies to individual consumers looking to personalize a variety of cloud services based on their lifestyle, as well as the largest global enterprises, which will increasingly turn to dynamic cloud-based offerings to meet their most demanding computing requirements.

The true power of the cloud happens when you have continuous interaction between your device — your smartphone, laptop, TV — and the network, and they jointly act on your behalf. Here's a simple example: say it's 2 p.m. and your calendar shows you're booked on a flight to Toronto at 6 p.m. Your device should have the smarts to anticipate what information you'll need for this trip and then proactively gather it for you — a weather forecast for the Toronto area, a status update on your flight, a recommended route to the airport based on up-to-the-minute traffic conditions, and so on. In this scenario, the big step forward is the pervasive, proactive and highly personalized nature of cloud services.

Post-Hype: Moving Beyond Static Pages

Some may say they heard this before during the 1990's Internet bubble. But here is the difference: back then, we were living in a world of painfully slow Internet access. Despite all the hype, it simply wasn't possible to use the Internet as a platform for anything more than static pages. Fast forward to today. As broadband Internet access goes global and mobile, we have a legitimate opportunity to complete the transition from a web of static pages to a web of dynamic services. This can only happen if the IT industry does the hard work necessary to put the final pieces of the puzzle in place. That brings us back to the need for a higher level of intelligence built into our devices, our networks, and the software that ties it all together.

The shift to cloud computing will dramatically reduce the cost of information technology, but let's be clear—the implications of this particular shift go far beyond cost savings. The big disruptor over the next several years will be our ability to deliver a meaningful improvement in the user experience. If we are successful in doing that, we will create the next wave of growth for the technology industry.

Five Trends to Watch

As we move from the desktop model to the cloud and a world where everything will be delivered as a service, there are five trends that we at HP believe are worth paying close attention to:

1. The digital world will converge with the physical world: Back in 1995, the mantra was, "Everything is virtual. Geography is irrelevant." But from now on, factors such as your physical location mean a lot. Cloud services will be increasingly aware of the context you're in, right down to details such as the time, the weather, where you're headed, and which friends or business colleagues happen to be present nearby.

2. The era of device-centric computing is over. Connectivity-centric computing will take center-stage: People often ask, "When am I going to get that one device that does everything I can imagine?" Flip that equation on its head. What you really want is the ability to use any number of devices, and have them all provide easy access to the services and content you care about. Devices will continue to play an important role, but

in the next phase they become interchangeable — and the cloud services become the focal point.

3. Publishing will be democratized. A global Internet population of 1.2 billion people now has the tools to produce everything from books and magazines to music and videos. This represents a massive disruption of old publishing models. People will soon have the ability to print on demand any book ever published. The concept of "out of print" will be a thing of the past. Similarly, warehouses of physical inventory in the publishing world will no longer be necessary.

4. Crowd-sourcing is going mainstream and will change the rules of the game forever. Fortune 50 companies will access top talent on a global basis via the Internet, saving millions of dollars in professional services, from occupations as diverse as accountants, advertising experts, attorneys, and engineers. Reputation systems will lower the risks involved by exposing the poor performers. One example of this shift to crowd sourcing is HP's Logoworks service, which is transforming the graphics design industry.

5. Enterprises will use radically different tools to make key business decisions, including systems to accurately predict the future. A merger is taking place between the structured data that fuels business intelligence and the unstructured data of the web. This combination represents a kind of Holy Grail that will advance the state of the art in business intelligence. At the same time, market-based systems that enable you to accurately predict the future will become common practice in the enterprise.

As Everything as a Service evolves, we have an opportunity to reshape the computing industry forever and, more importantly, create more dynamic services that enrich our everyday lives and improve how we do business. To realize this potential, the technology industry must innovate by building a higher level of intelligence into the next generation of devices, networks and software. When we are successful in providing a dramatically better user experience, we will be poised for the next wave of growth.

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