



Tech Guru Asserts the Future of Enterprise Software is in the Cloud

 Blog Post created by **Mark Goebel** on Dec 6, 2015

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Enterprise software is moving inexorably to the cloud with implications for tech, industries as disparate as agriculture and jet manufacturing, and the world economy, according to Stanford lecturer Timothy Chou

Driving much of the change will be our ability to collect and analyze data. “The next generation of technology will enable us to collect ten times as much data as we can today, imagine what we can do with that kind of

information,” he remarked.

Chou—who has written two books on cloud computing, served as President of Oracle on Demand , and set up the first class in cloud computing at Tsinghua University in China—gave a wide-ranging talk about the evolution of enterprise software and the technology industry at a recent Lunch & Learn.

The transition to the cloud is accompanied by enterprise software being increasingly developed for measuring what things are doing rather than what people are doing; for measuring the productivity of machines versus the productivity of people and their processes, for example, Chou adds.

He points out that it is much easier to collect data from things than people. “We can place many more sensors on things than humans, can monitor things 24x7, and don’t have to rely on their cooperation.

And the cloud allows us to store, share, and analyze much more of that data.

He notes that nearly every enterprise software company that has gone public since 2000 delivered their applications as a cloud service.

Chou gave examples of companies in agriculture, communications, construction, health care, power, and transportation that are already taking advantage of the shift to the cloud and the development of software applications for things.

United Rentals , a construction equipment lessor, generates 10 million pieces of data daily from sensors the company has installed in its 425,000 pieces of equipment connected to the cloud. The data, measuring everything from energy use to location to on-off status, enables United to increase the productivity of its equipment many times.

And that is just the beginning. Chou notes that currently the sensors deliver data once an hour. With advances in software and technology, in the future United will be able to generate data more frequently, creating vastly more information that the company will be able to use to improve performance even further.

Taking a big-picture view, Chou contends that enterprise software thus far has had its largest impact to date on two industries: financial services and retail.

In the not-too-distant future, many other industries will make the move to the cloud and the data analytics it enables, said the longtime Stanford lecturer. Advances in technology, including data collection and analysis and machine learning, lower cost sensors, and the adoption of the software-as-service business model by more providers will prove irresistible to companies large and small.

New Business Model

Chou says that the rate of acquiring software-as-a-services is accelerating.

For a monthly fee, enterprise software companies will manage performance, security and changes to



software they sell clients, forgoing or greatly reducing the software’s initial sales price.

Chou anticipates that the “service” business model over time will be adopted by industries and companies outside tech, including product manufacturers, as they are able to bring significant value added by collecting and analyzing the data their products yield.

Chou cites as an example a Brazilian tire manufacturer that charges \$0.10 per mile for the tires it sells (but nothing for the tires themselves), providing its customers service and data analytics.

Impact on World Economy

Chou believes that cloud computing and data analytics will spur faster economic growth in the regions that are already predicted to grow rapidly the next twenty years, namely Southeast Asia, Africa, and South America.

Countries in those regions are already developing infrastructure in key sectors such as agriculture, communications, health care, and transportation using the latest technology, including cloud computing. “India, for example, constructed cellular networks skipping the intermediate step of landline infrastructure,” he explained.

To view the presentation, [click here](#).

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Last modified on Jan 27, 2016 10:24 AM

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