CLOUD RESEARCH CENTER
مرکز تحقیقات رایانش ابری
دانشگاه صنعتی امیرکبیر

بسم الله الرحمن الرحیم

رایانش ابری (بخش سوم)

آخرین تحقیقات انجام شده در ایران و جهان

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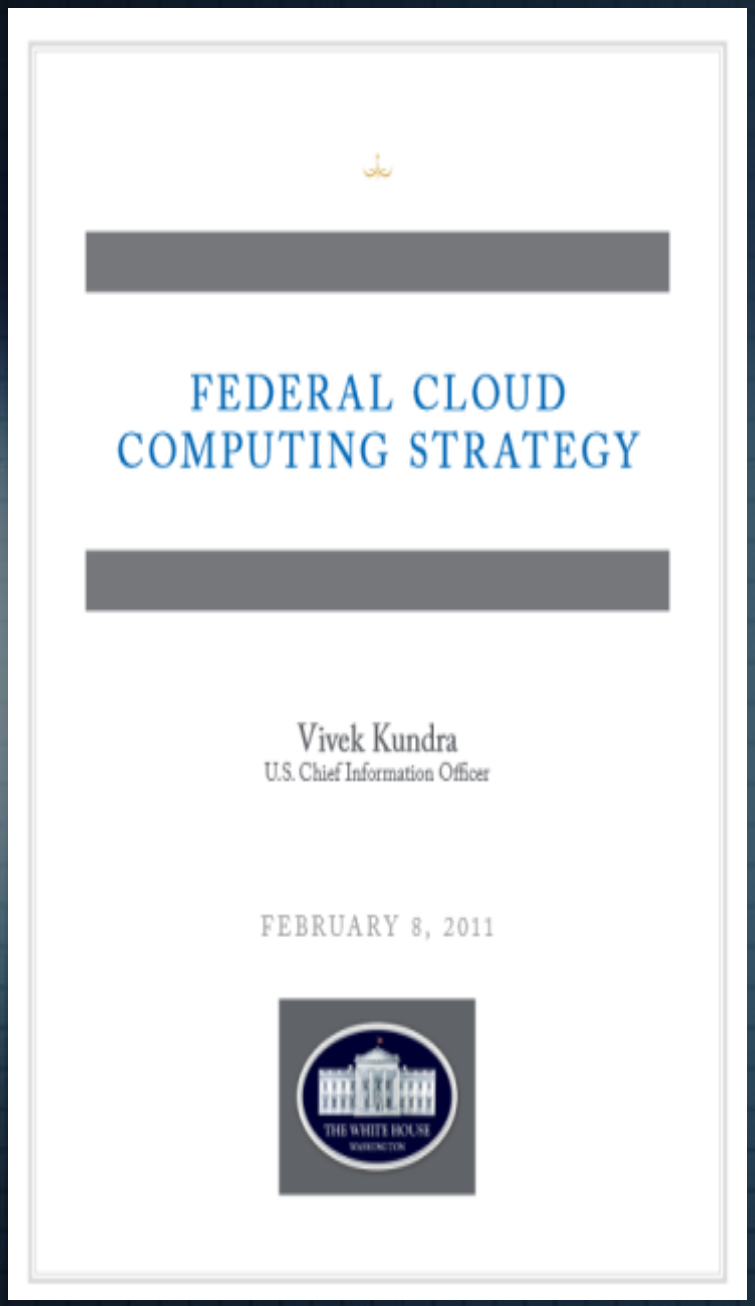
مرتضی سرگلزایی جوان - مرکز تحقیقات رایانش ابری دانشگاه صنعتی امیرکبیر – زمستان ۱۳۹۲

استفاده از رایانش ابری

بررسی چند نمونه از فعالیت ها ...

Federal Cloud Strategy


FEDERAL CLOUD
COMPUTING STRATEGY

Vivek Kundra
U.S. Chief Information Officer

FEBRUARY 8, 2011

THE WHITE HOUSE

- Federal agencies spent about US$734 million on cloud implementations in fiscal 2012
- Between 2012 and 2017 cumulative federal cloud investments will reach $11.9 billion.

U.S Agencies

- NIST
  - Cloud Computing Roadmap
  - Standards and Security for Cloud Computing
- NSF
  - Core and strategic research on Cloud Computing
- DARPA
  - Mission Oriented Resilience Clouds (MRC)
- NSA
  - Secure architectures for cloud computing
- …

U.S: FASTER

Faster Administration of Science and Technology Education and Research (FASTER)

Participating Agencies: DARPA, DoD Service Research Organizations, DOE/SC, DHS, NARA, NASA, NIH, NIST, NOAA, OSD, and VA

The Federal CIO Council, under the leadership of OMB, coordinates the use of IT systems by federal agencies. NITRD, under the leadership of OSTP, coordinates federally supported IT research. The FASTER Community of Practice (CoP) is an association of science agency CIOs and/or their advanced technology specialists, organized under NITRD to improve the communication and coordination between the two interagency entities. The primary focus of FASTER is on the IT challenges specific to supporting the federal scientific research enterprise.

Strategic Priorities

The FASTER CoP has identified several themes to promote the use of advanced IT systems in support of science agency research and development missions. Through coordination and collaboration, FASTER seeks to share information on protocols, standards, best practices, technology assessments, and testbeds, and to accelerate deployment of promising research technology. Consensus among the participants determines the focused theme activities. FASTER serves as a bridge between basic research and operational entities, especially in crosscutting domains. The group's activities are focused on the following strategic themes:

- Cloud computing
- Ontology technology
- Wikis and open collaboration
- EarthCube
- Emerging technologies
- Sharing knowledge, ideas, and best practices

DCGS-A

میتواند کار پرس و جو، مرتب سازی و تحلیل ۱۰ ها میلیون گزارش اطلاعاتی متنی را در چند ثانیه انجام دهد.

Afghanistan, 2011

"We put the cloud node in Afghanistan because we wanted to have a local, robust capability for all the data that was coming in," he says. "It was a pilot capability, but it allowed us to comb very large data sets and provide meaningful answers."

Col. Charles Wells says: "Cloud computing will help the Army make sense of all the data it receives from sensors around the globe and help it speed useful intelligence to troops" July 2013

MRC

DARPA

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PROGRAM MANAGER

Dr. Robert Laddaga
robert.laddaga@darpa.mil

MISSION-ORIENTED RESILIENT CLOUDS (MRC)

The February 2011 Federal Cloud Computing Strategy released by the U.S. Chief Information Officer reinforces the United States Government's plans to move information technology away from traditional workstations and toward cloud computing environments. Where compelling incentives to do this exist, security implications of concentrating sensitive data and computation into computing clouds have yet to be fully addressed. The perimeter defense focus of traditional security solutions is not sufficient to secure existing enclaves. It could be further marginalized in cloud environments where there is a huge concentration of homogeneous hosts on high-speed networks without internal checks, and with implicit trust among hosts within those limited perimeter defenses.

The Mission-oriented Resilient Clouds (MRC) program aims to address some of these security challenges by developing technologies to detect, diagnose and respond to attacks in the cloud; effectively building a 'community health system' for the cloud. MRC also seeks technologies to enable cloud applications and infrastructure to continue functioning while under attack.

To achieve these goals the program will research development of innate distributed cloud defenses, construction of shared situational awareness and dynamic trust models, and

ADDITIONAL INFORMATION

- DARPA-BAA-11-55: I2O Mission-oriented Resilient Clouds (MRC)

RELATED PROGRAMS

- Clean-slate design of Resilient Adaptive Secure Hosts (CRASH)
- High-Assurance Cyber Military Systems (HACMS)
- PROgramming Computation on EncryptEd Data (PROCEED)

IBM Watson Cloud

IBM Invests $1B in **Cloud** Computing
Voice of America - 16 hours ago
U.S.-based computer giant **IBM** says it plans to invest more than $1 billion into a group focused on research and development of **cloud**-based ...

IBM Launches R&D, Big Data Watson **Cloud** Services
Talkin' Cloud - 21 hours ago

IBM announces three Watson-based **cloud** apps
ITProPortal - 19 hours ago

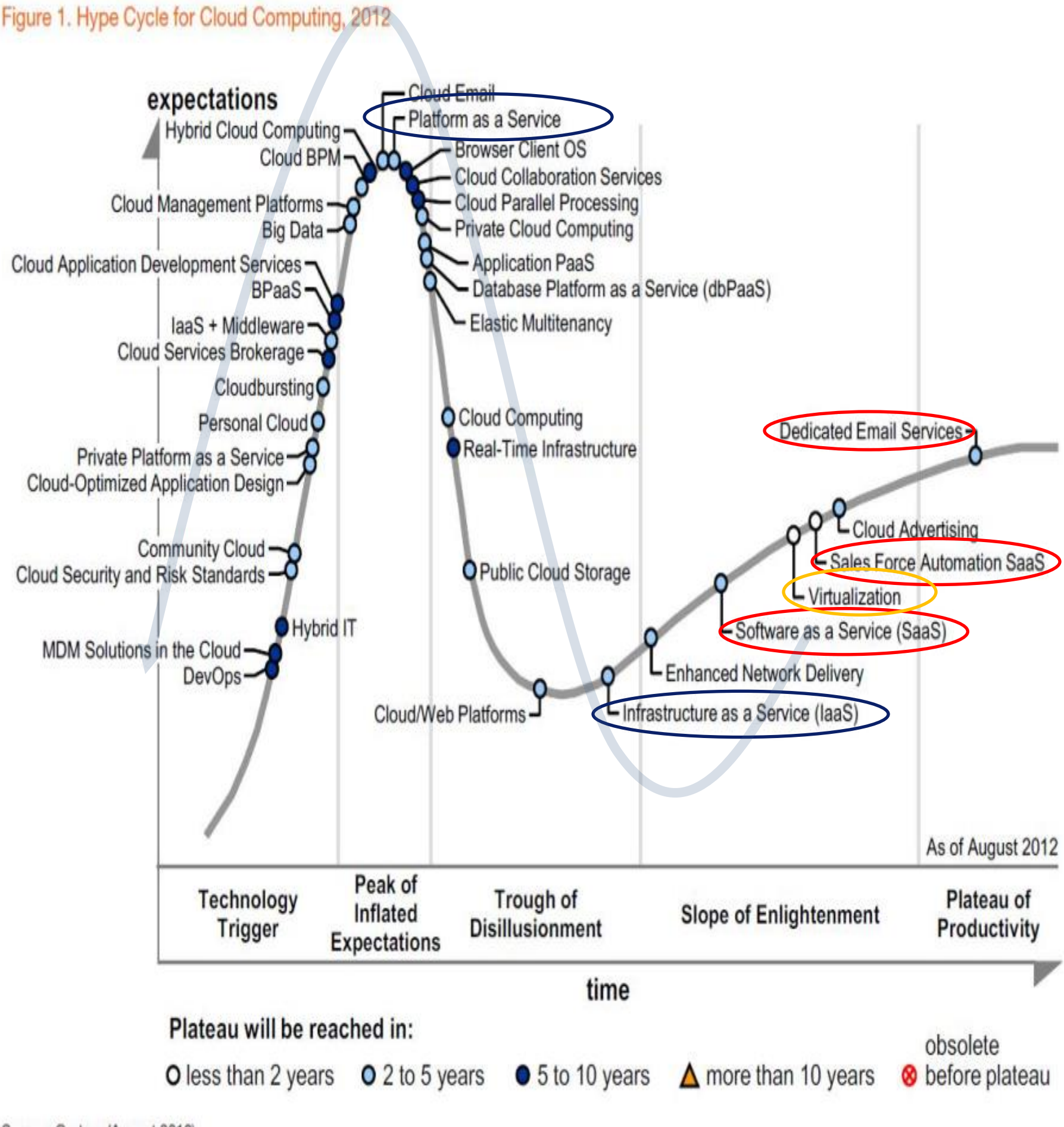
all 44 news sources »

IBM's Watson super-computer gets $1B investment to become **cloud** ...
Daily Mail - Jan 9, 2014
IBM announced Thursday it's investing over $1 billion to give its Watson ... technology to hospitals, banks and other groups through the **cloud**.
+ Show more

IBM to offer artificial intelligence as a service
Cloud Pro - Jan 10, 2014
IBM has launched three new **cloud**-based services that employing the company's Watson cognitive computing technology. Watson is famous ...

- **IBM says Watson 'thinks like a human' and can thus interact with customers like a person would on behalf of businesses**
  - **Banking**
  - **Healthcare**
  - **Other industries**

Figure 1. Hype Cycle for Cloud Computing, 2012



Source: Gartner (August 2012)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