

Cloud Computing

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A peep into silicon valley heralds the coming of another technology revolution – a revolution that will take the world from being connected to hyper-connected and individuals from empowered to super-empowered. This perhaps signifies another quantum leap in the information technology revolution since the mainframe computer was replaced by desktops and the Web. Imagine the power of Google in an individual's hands. The world is set to see a paradigm change in the way individuals and groups communicate and interact with each other. Such a change will have far reaching impact in all aspects of our life including war waging skills.

Cloud computing is all about convergence. On one hand, we have the social media — Facebook, Twitter, Netlog, Orkut, Myspace, Tagged and a host of other social media websites, each with a user base in the hundreds of millions. Some sites like Qzone in China and Mixi in Japan are largely country specific, but again have user bases in the millions. Then we have the proliferation of cheap wireless connectivity and Web-enabled smart phones. The merger of these two technologies has led to unprecedented capability in the hands of individuals. In India itself, the number of mobile users is in excess of 500 million. And now 'cloud' technology, when merged with the first two brings convergence to an altogether new level that is truly transformational.

Cloud technology refers to software applications being made available to groups and individuals. The difference is that such applications are made available not as products but as a service. High end software for computing purposes which normally would be out of the reach of most individuals and organisations can now be accessed through cloud computing at nominal costs. End users simply access cloud based applications through a web browser or a

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computer or a mobile application. The business end of the software and data are stored on servers at a remote location. The computing resources of the server can be made available for hire by the hour, thus doing away with the requirement of purchasing expensive software. The concept is based on shared services, much like the electricity grid. We pay for what we use. Server farms will now hold and constantly update thousands of software applications, which can be accessed (as if from a cloud) by users on their smart phones, or computers, making them into incredibly powerful devices that can perform myriad tasks.

Marc Benioff, the founder of Salesforce.com, a cloud-based software provider, describes this phase of the I.T. revolution with the acronym SOCIAL. This explains the idea in a nutshell. 'S' is for speed, as everything is now happening faster. 'O' stands for open; if you don't have an open environment inside your company or country, these new tools will blow you wide open. 'C' is for collaboration as people are now enabled to organise themselves within companies and societies into loosely coupled teams to take on any kind of challenges — from designing a new product to taking down a government. 'I' is for individuals, who are able to reach around the globe to start something or collaborate on something farther, faster, deeper, and cheaper than ever before — as individuals. 'A' is for alignment. Synergy can be developed by aligning all collaborators in the same direction. The power of social media is that it is easier than ever to both articulate, and reinforce, the vision and values that create and inspire alignment. Finally, 'L' is for the leadership that puts everything in place. Leadership in a SOCIAL world has to be a mix of bottom-up and top-down. Leaders need to inspire, enable and empower everything coming up from below in a company or a social movement and then edit and sculpt it with a vision from above into a final product.

India has a vast pool of talented individuals in this field. If it can be done in Silicon Valley which has the largest pool of Indian brains, it can be done in India too. Most importantly, the defence forces must get on to the new technology and work out ways for harnessing such capabilities for enhancing national security.

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