



U.S.-China Economic and Security Review Commission

USCC REPORT: Red Cloud Rising: Cloud Computing in China
September 5, 2013**[USCC REPORT: Red Cloud Rising: Cloud Computing in China](#)**

Washington, DC - Today, the U.S.-China Economic and Security Review Commission released a report entitled "Red Cloud Rising: Cloud Computing in China" that examines the Chinese government's support for a growing domestic cloud computing industry and the economic and security implications of that growth for American companies and consumers. The report also examines the complex ecosystem of government bodies, research institutes, private sector companies, state-owned enterprises, and military organizations that together comprise the Chinese cloud computing industry and the Chinese market for cloud technologies. The report was prepared for the Commission by James Mulvenon, Leigh Ann Ragland, Joe McReynolds, and Matthew Southerland of Defense Group Inc.

The report finds that, in recent years, the Chinese have made the development of cloud computing technology a key priority as part of a larger growth strategy for advancing Chinese software and information technology services. According to the report, "the Chinese government plans to make more than \$1 billion available over the next few years to drive cloud computing development." The report cites Chinese industry analysis as projecting that this investment will help the nation's cloud computing industry grow to between \$122 billion and \$163 billion by 2015.

Commissioner Michael R. Wessel says of the report: "Cloud computing and storage is the new technology wave. This report identifies a number of key questions that policy makers, business leaders and private citizens need to ask, the first of which has got to be, where's my data? Chinese companies see this as a tremendous growth area. Earlier this week, for example, Huawei announced the "Huawei Cloud Congress 2013" expecting 10,000 participants. *Red Cloud Rising: Cloud Computing in China* identifies the policies and activities China is pursuing in this critical technology area. China's aggressive activities in cloud computing, and the potential security risks that exist, demand attention."

The report details the relationship between the Chinese military and intelligence services and China's broader cloud computing development efforts. For example, the People's Liberation Army, and in particular its General Staff Department's 61st Research Institute, is working to leverage cloud computing capabilities to enable the military's "informatization" efforts, including connecting and integrating the military's numerous systems into a single information technology framework. China's primary civilian foreign intelligence collection organization, the Ministry of State Security, has taken an oversight role in projects aimed at bringing foreign cloud computing investment to China.

The report also identifies several economic implications for U.S. companies that partner with Chinese cloud computing services as well as for U.S. consumers of Chinese cloud computing resources. For example, "China's limits and restrictions on foreign investment in value-added telecommunications services mean that U.S. companies must enter into joint ventures with Chinese companies in order to provide cloud computing services to Chinese consumers from data centers in China." Regulatory hurdles, including China's strict Internet censorship and monitoring regime, act as a disincentive for U.S.

companies and consumers looking to enter China's cloud computing market or utilize Chinese cloud services. For these and other reasons, it is unclear whether U.S. companies or consumers will benefit in the short- and long-term from participation in this market or access to Chinese cloud resources.

Commissioner Larry M. Wortzel, PhD also shared his thoughts on the report and implications for U.S. consumers and companies. "The Commission's latest report, *Red Cloud Rising: Cloud Computing in China* makes it clear that China-based cloud computing services may present significant security concerns for U.S. consumers and users of these services, 'particularly if their data is being stored or processed using infrastructure in China.' Further, it appears that access to the cloud services market inside China may be limited to U.S. providers because China may restrict services to its state-owned and government departments and may require that foreign companies enter into joint ventures with Chinese companies. Such joint ventures could require the transfer of intellectual property."

Finally, the report notes that Chinese cloud computing infrastructure could be used for offensive cyber operations. According to the authors, should malicious actors seek to leverage Chinese cloud computing infrastructure or services for such activities, it would likely be due to security holes or insufficient oversight and enforcement of user conduct by Chinese service providers, and not due to properties inherent to Chinese cloud computing in general.

The full report is available [here](#).

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