Above The Clouds: A Berkely View of Cloud Computing
A Summary by Shawn Anderson

The authors propose that a paradigm shift has taken place in economies of computation. The authors relate cloud computing and its affect on the software industry, to the development of centralized foundries and their affect on the hardware industry. In recent decades, hardware has become utilized, in the sense that one does not buy a foundry, but rather buys the hardware itself. In the same way, computation(ie. software) has become, and will continue to become utilized, in the sense that one will not buy a computer, but rather buy the computation itself. Thus an efficient marketplace has emerged, a new industrial ecosystem which functions on computation as a utility. The authors explore this ecosystem known as cloud computing.

Cloud computing is an elastic and efficient economic model of computation. For cloud users, there is no risk of under, or over provisioning of infrastructure. A company is able to acheive exactly the capacity required to satisfy the demand of its users at any point in time. Cloud computing providers are able to benefit from economies of scale, resulting in a 5-7 fold decrease in network, storage, and administration costs. In cloud computing, using the resources of one machine for 1000 hours costs the same as using 1000 machines for 1 hour. This allows for
one off tasks such as Netflix doing one huge batch process of encoding all of it's movies to the right format, or the Washington post, converting 17,481 of Hilary Clinton's travel documents to a more friendly, readable format. Cloud computing is a powerful tool for startups, as it gives access to the illusion of infinite computation with zero startup overhead; this opens windows for investors, who tend to prefer incremental funding with scale rather than up-front lump sums. Indeed, cloud computing appears to be a lubricant to the economic ecosystem of computation, lending services to all fathomable business models.

The ubiquity of cloud computing was enabled by breakthroughs in virtualization, open standardization of software stacks, and pervasiveness of broadband internet. However, there are still challenges to be faced in the space of cloud computing. The authors highlight the top ten hurdles in the evolution of cloud computing, along with opportunities for innovation that these hurdles provide. Cloud computing is a powerful tool to be aware of. The authors have accurately predicted many aspects of cloud computing.