Chapter VI: Conclusion

Emerging services such as cloud computing services introduce new and complex economic and technical challenges. These are fundamentally changing the way that businesses can operate and the way distributed computing systems are designed. Service engineering requires modelling *Software as a Service (SaaS)* as well as modelling services as software. Traditional methods of model driven software engineering have limitations in this context, and new methods and tools in support of the entire service lifecycle are needed.

In addition, the internet has evolved into a people collaboration platform with continuous online access, and is changing the way people interact with each other. Wikis and digital communities are examples of web 2.0 technologies that have a significant impact on how we exchange and work with all kinds of data and services. Experts believe that these developments will grow further and into the services market. Service evaluations (ratings, recommendation), and community driven support services for business and web services are likely to emerge and contribute to the value of service. [41]

Without careful consideration of all relevant economic, technical, and social collaboration challenges, services such as cloud computing services and their adoption in markets cannot succeed. Modelling such services thus places new requirements on the engineering methodology and requires focusing on the challenges that really matter.

For a service to be ready for enterprise to consume, it must pass from the early adopter phase (few enterprises using it with most deployments being experimentation and non business critical projects) to early majority. Evidence of being at this stage comes from a sufficient volume of direct

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[41] Dejan Milojicic, "Cloud Computing: Interview with Russ Daniels and Franco Travostino", *IEEE Distributed Systems Online,* 2008

enterprise customer references using the service for business-critical purposes to indicate that the service has matured to the point of consideration for IT approval. However, the platforms are maturing and will start to better meet enterprise needs during the next two to three years. [42]

The main consumers of cloud computing are small companies and start-ups that don't have a legacy of IT investments to manage. The concept of cloud computing is new and hard for traditional IT professionals to grasp and trust. The majority of enterprise use of clouds today is by innovative developers in business units and within IT. [43]

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[42] David A. Wheeler, "High Assurance (for Security or Safety) and Free-Libre / Open Source Software (FLOSS)... with Lots on Formal Methods / Software Verification", David A. Wheeler Website, http://www.dwheeler.com/essays/high-assurance-floss.html, retrieved November 30th , 2008

[43] Derek Gottfrid, "Self-service, Prorated Super Computing Fun!", The New York Times Blog, http://open.blogs.nytimes.com/2007/11/01/self-service-prorated-super-computing-fun/, retrieved November 29th, 2008