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Abstract

Cloud computing, a $131 Billion industry (Gartner, 2013), is undeniably a significant topic today. Its influence can be observed from the way people store data to the way enterprises deploy and manage enterprise applications. Software as a Service (SaaS), which is the most popular layer, is also considered to be the most vulnerable layer of cloud computing. This layer delivers services, software applications, over the same cyberspace where cybercriminals operate; hence, security considerations remain critical. A review of security reports such as the Verizon's Data Breach Investigation, Ponemon Institute's Cost of Cybercrime, Trustwave global security reports, among others, show that security is a priority action. This study aims to reveal the technical security issues of SaaS based solutions. It looks at the most prevalent vulnerabilities and the commonly exploited ones within the cyberspace security environment. The study adopts both the positivist and the interpretivist philosophies employing quantitative and qualitative approach in data gathering.

The data show that while cloud adoption is on upward trend, it is slowing. Cloud users consider security the biggest barrier to cloud. 8 out of 10 widely used web services today possibly have serious vulnerabilities. In some industries, these vulnerabilities remain untouched for up to 342 days, giving hackers a lot of time to exploit them. The most prevalent vulnerabilities on web applications are Cross Site Scripting, Directory Traversal, Information Leakage, and SQL Injection; some of these vulnerabilities also appear to be the most exploited ones. Until application developers/providers are able to deliver vulnerability free applications, cyber-attacks will continue to flourish, and this could affect cloud adoption.