

Trust in the cloud could be pinned to online scoring system

April 22 2016, by David Ellis

Computer scientists at the University of Adelaide have developed a sophisticated but easy-to-use online tool to help build people's trust in the cloud.

Cloud computing is widely recognised as a highly useful technology, with multiple benefits such as huge data storage capabilities, computational power, lower costs for companies and individuals, simplicity of use, and flexibility of application.

But the potential growth in the uptake of the cloud is being hampered by a major issue: people simply don't trust it.

"Trust management is a top obstacle in [cloud computing](#), and it's a challenging area of research," says the University's Professor Michael Sheng, ARC Future Fellow in the School of Computer Science.

"There are many reasons why people lack faith in the cloud – there's little to no transparency, often you don't know who provides the service, and it's difficult at times for users to know whether certain cloud-based applications or sites are malicious or genuine," he says.

For the past few years, Professor Sheng and his students have been developing a system known as Cloud Armor. Cloud Armor is aimed at showing which cloud sites, applications or providers are more trustworthy than others, offering a score out of 100.

Professor Sheng says: "The basic concept behind this is like the website Rotten Tomatoes, which is widely used by people to review and rank films. But what happens when people are not being entirely honest in their views?"

"How do we cut through comments that are designed as a malicious and systematic attack against a product, and also those that are well-executed self-promotion? To be able to give consumers an accurate understanding of trustworthiness, we need to be able to sort through this false feedback."

To do that, Cloud Armor relies on a "credibility model". An in-house-designed crawler engine scans all of the comments made on the internet about any aspect of the cloud, and the credibility model works out what feedback is credible and what isn't – such as certain statements that are repeated over and over, indicating potential false feedback.

"We've tested this with and without our credibility model – without the model, some cloud applications receive a maximum score of 100; but with the model, that score might only get to 50 or 60," Professor Sheng says.

"We're very proud of the work we've done on Cloud Armor. We've presented it at a number of top-tier conferences and several prestigious journals and already it's attracting a lot of attention from the international community.

"I hope that through the use of a tool like this, it will help to create a culture of transparency in the cloud, and ultimately become more trustworthy to users," he says.

More information: For more information about Cloud Armor, visit the website: cs.adelaide.edu.au/~cloudarmor/

Provided by University of Adelaide

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