

EVOLUTION OF CYBERSECURITY RISK MANAGEMENT IN THE CONTEXT OF CLOUD COMPUTING

Faculty of Liberal Arts and Professional Studies | Information Technology Program | Jason Tong & Prof. Jiang He

Abstract

As enterprises and organizations migrate their IT assets to the cloud from a traditional on premise model, “Identity & Access Management” (IAM) is a key topic that should be analyzed from a cybersecurity risk management perspective. This case study research with multiple organizations will show what existing IAM strategies are capable of and the gaps that emerge as an organization migrates into the cloud.

Purpose

This DARE research project will focus on the testing the following hypotheses:

- Existing IAM solutions including technologies and processes for many organizations are primarily designed to support on-prem systems, and the main task of IAM is to group users into various roles that map to permissions for access enterprise resources.
- Facing new security challenges (and opportunities as well) brought by cloud computing, enterprises need to re-assess their IAM gaps, i.e., understanding its current state and build a path for a desirable target state. We also hypothesize that, those organizations migrating to the cloud without a clear understanding of their IAM gaps are currently experiencing more challenges for the IAM domain (e.g., maturity level measured low with CSA Assessment)
- Over the long run, enterprises would benefit most by adopting a single overarching “Identity & Access Management” strategy for both cloud and non-cloud solutions to augment security of endpoints, networks and data.

Conclusion

After some literature review as well as meetings with an industry leader, a set of hypotheses and a plan for interviews were established. One interview shows that IAM gaps do exist in a particular IT organization and that most processes were initially designed to support on-prem systems. Through a recent transformation, this organization is trying to manage IAM under a single tool. All this is in-line with the hypotheses, but more interviews will need to be conducted. Unfortunately, due to the availability of our industry collaborators, the remaining work can only be continued after the DARE defined timeline.