Fidelity Investments
Open Share Management

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Abstract
Fidelity Investments is seeking an application that identifies shares with open access and removes these permissions. The objectives of this project consist of two phases: Detection and Remediation. There are some third party applications available that perform the tasks required by our project such as monitoring changes and access management. Our team has come up with a solution that avoids third party tools and uses Windows PowerShell. We have developed scripts in PowerShell to check machines for open shares across a network, and then remediate access by removing the unwanted permissions. After testing, our scripts were able to successfully identify open shares on Windows machines, both locally and across a network. We were then able to successfully revoke the unwanted permissions, keeping the information secure.

Results
Detection and Remediation Effects
- Identifies vulnerable shares
- Removes “Everyone” and “Anonymous” permissions
- No user will have unauthorized access
- Protects company from information theft

Architecture

Impact
Our project helps negate the effects of poorly managed and secured shares. Hundreds of files are shared among employees in every company daily, but not everyone takes appropriate measures to keep them secured after being shared. With this practice, there is increased vulnerability for these files to be maliciously attacked or even used for non-confidential matters. Therefore, our project will help to ease this susceptibility and protect sensitive information.

Summary
During the semester, our team worked with Fidelity Investments to develop an application to manage shares across various Fidelity machines. Our application will identify exposed open shares and provide an efficient solution to resolve the vulnerability.

Our metrics to measure the effectiveness of our detection script was to establish a certain number of open shares and check how many of those shares, and only those shares, were identified. Our results for this were 100% effective.

For remediation, we measured effectiveness by identifying the percentage of open shares that were closed. This was also 100% effective when run with the correct administrative rights.

All of our work will be released as open source internally to Fidelity, so that the company may continue to improve the application and support more platforms.

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