# Server Virtualization

EXECUTIVE SUMMARY

# Server Overview

Servers are complex systems that have many aspects to them. However, many do not realize how there are different ways they can be simplified. This project’s main focus is to understand how we can maximize our efficiency by implementing virtualization to our servers and potentially reduce costs that are related to maintaining the server.

# Efficiency of a Single Server

Although we have been successful with utilizing individual servers for our company, it is now time to see a different perspective. There are various aspects to server efficiency that we have not yet addressed in our IT infrastructure such as: energy costs, equipment costs, and temperature regulation costs. These costs may not seem significant but when combined, it can be as costly as the initial setup of the server itself. A great example of this is the cost analysis of utilizing singular servers. Based off the research and analysis, our hard costs and soft costs are significantly greater with singular servers. Eventually resulting in a 5-year total cost of $702,355,921.80.

# Server Virtualization

From the previous section, we can see that energy costs, equipment costs, temperature regulation costs, and other costs contribute a significant amount to the total cost of maintaining a server. This overall reduces the company’s Return on Investment (ROI). This can be addressed by server virtualization, which is essentially utilizing one server but allocating it effectively to use multiple servers on the one server. Our cost analysis for virtualization consists of hard costs and soft costs. This includes initial costs of purchasing equipment and corresponding software to address the virtualization.

Looking into some of these costs, it is clear that the execution of this proposal will save HostPenny approximately $42,230,401.67 in hard costs itself. When taking into account soft costs, it is clear that the company will save $90,172,500.00. Just these two numbers themselves justify the saving that HostPenny can have. Looking into the overall 5-year comparison, the cost for current operations is $733,939,309.33, whereas the 5-year projection for the proposal is $180,814,975.05.

Our overall savings with executing this proposal is approximately $553,124,334.28. Which is significantly less than our current operations. The recommendations that we have is to execute this project to transition to virtualization of servers.