Societal Impact and Commercial Opportunity

Impact on Society

The recent large DDoS attacks on public Internet companies have been breaking records and making news headlines. These large DDoS attacks are terrible for businesses, as they result in downtime and lost income. DDoS attacks are bad for the Internet as a whole as well; they encourage smaller businesses to hide behind DDoS mitigation services and contribute to the centralization of the Internet. This project hopes to provide a potential alternative to traditional CDNs, and help society by contributing to Internet decentralization.

The Market

For every record-breaking DDoS attack, there are many more that are smaller in scale. These smaller DDoS attacks don't make headlines, but are still very capable of taking down smaller businesses if they are unprepared. This project specifically targets small DDoS attacks that aren't necessarily massive in scale, but still large enough to cripple a service. Businesses that would be potential targets for this scale of DDoS attack form the total addressable market for this product.

The typical business in this product's addressable market is a medium-to-large sized enterprise business that operates one or more highly-available services. This business's goal is to adequately protect themselves against smaller scale DDoS attacks while paying as little as possible for protection. To achieve this goal, this business will use one of three solutions: 1) employ no DDoS protection at all, 2) build a solution in-house, or 3) pay for the services of a commercial content-distribution network (such as CloudFlare or Akamai). Businesses that have chosen solution 1 currently undervalue the financial cost of a DDoS attack and will likely undervalue the product. Businesses that have chosen solution 2 have already invested heavily in a custom solution, and will be less likely to want to throw away the current investment in favor of another approach. Businesses that have chosen solution 3 form the initial target market for this product. Businesses in this last category have invested money into DDoS protection and therefore understand its value; however, they also understand its cost and will be more easily convinced to pursue a less costly solution.

Analysis of Competition

The product's closest competitors are the services of content-distribution networks (CDNs). A CDN is a network of geographically-distributed proxies. Their main purpose is to lower the latency a user sees when interacting with a website; however, they also offer DDoS protection as a side-effect. Although there is overlap in target markets, my product hopes to compete with other CDNs entirely on the basis of price. By pricing Athena deployments much lower than that of their CDN-equivalent offerings, this product will target the lower-end of the commercial CDN market.

Business Model and Potential for Risk

The project will initially offer two products, both of which cater to the initial target market: an installer for the software and a server with the software already installed on it (a so-called "appliance"). The installer offers the most control to customers by allowing them to deploy the software to servers however they please. The appliance offers less control but eases the process of deploying the product to a datacenter. A yearly subscription that provides software updates will also be offered.

By the time the product is ready for the market, the number of large DDoS attacks will have increased. More DDoS attack-related news headlines will increase awareness of the negative effects of DDoS attacks; businesses will see other businesses gaining bad publicity and losing money. They will want to avoid the same fate for themselves, and their search for solutions will increase demand in the target market.

The product's ability to compete in the target market is heavily dependent on its price; as such, unexpected costs in developing the software pose a large potential risk to the project. The cost of development represents the key factor in determining the cost of the product; if the product is too expensive to produce, the resulting high price will drive away interest. It is critical that costs are kept down.