Executive Summary

Brown Brothers Harriman & Co. is a private investment bank that has been around for over 200 years and has billions of dollars in assets and holdings. Like many investment banks and financial institutions, reliable monitoring is of critical value to BBH. EagleSTAR, a third-party status tracking system provided by Eagle Corporation, was purchased by BBH to meet this end. However, as time passed, its antiquities slowly revealed themselves, as EagleSTAR engineers ran into several operational and systemic difficulties largely due to the outdated design of several components.

After surveying several end-users of the system, it is determined that EagleSTARs primary inadequacies largely fall into two categories: usability and performance. The user interface is clunky and convoluted, and many of its controls are laid out nonsensically, with several important views requiring a sizable learning curve to simply get comfortable with. Furthermore, its primary purpose, which is to update the status of a user's key long-term funds and assets, has been hailed as slow, confusing and, at times, unreliable.

Thus, the principle goals of the project are to increase the usability of the system's front-end, while decreasing learning curve, and to improve back-end performance. From a thorough analysis of the current system architecture, it is resolved that these goals will be met in the following ways:

- The front-end interface, which is currently written in Delphi, will be updated to a web-browser interface, using a sole Java applet to handle all system interactions.
- Inter-system communication will use the standardized XML format for faster and easier data processing, while co-existing with the current STAR message format.
- A caching engine will be implemented between the communications layer, which will hereby be known as the TPE Server and the system database to significantly reduce network bandwidth and unnecessary overhead.
- Finally, a new user and data handling paradigm will be introduced, using profile categorization and feed aggregation to streamline data flow.

This project targets a specific component of STAR – the Control Center. It was determined that a Web Interface that would pull information from a caching layer in between the users and the database. This system was determined to be able to improve both the usability and the performance of the current system. However, this project has a major implication on the whole system as it will be a launching point for an entire system redesign. This report will delve further into each improvement, along with its system-wide impact, as well as provide graphical details of these proposals. Please note that some internal system information has been withheld due to non-disclosure agreements. All company-specific information presented in this report is accurate and verifiable.