rsync Configuration Utility

Problem Statement

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Version Information

Version	Date	Comments
1.0	3/29/2011	Initial Draft
1.1	5/13/2011	First Revision

1 Executive Summary

The purpose of this document is to describe the problem that our project will solve. In conjunction with several other documents, these documents, as further described in the introduction, will thoroughly describe the problem and our solution. This document contains a high level problem summary, a detailed problem statement, and some information about the stakeholders.

rsync is a file transfer and synchronization tool frequently used to perform backups and file transfers. As a command line utility, it can be difficult to configure and diagnose problems that occur. The rsync configuration utility will ease the task of configuration by allowing easy visualization of files and directories to transfer by the rsync utility. This will make rsync easier and faster to use.

2 Introduction

This problem statement is the first document describing our rsync Configuration Utility. Included in this document is description of the function, form, and economy of the utility. Following this document will be a class diagram, development timeline, coding standards, and metrics. This document will give an overview of the proposed system and its requirements, and the security and data analysis will go into more detail as to the implementation of the system. A final document will summarize all of the documents composed for this project and will be supported by a final presentation. The final presentation will demonstrate the completed system and describe the process used to develop.

3 High Level Problem Summary

3.1 Elevator Statement

We are designing an rsync configuration utility to help visualize the configuration options for the rsync command line utility. Because many of the options for rsync are difficult to choose and therefore debug, this utility will enable easy visualization of files and directories and other configuration options. By making these configuration options visual, it will speed up the configuration of rsync and make the utility easier to use.

3.2 Primary Success Criteria

Our primary goal is to provide a utility that allows for the easy visualization of rsync configuration options. The project's success depends upon having a fully testable rsync configuration tool that meets the testing requirements of the CSSE376 class project by the end of spring quarter 2011.

3.3 Scope

3.3.1 Within Scope

1. Directory tree
2. Visualization of include/exclude rules
3. Internationalizable to multiple languages

3.3.2 Outside Scope

1. Parsing shell script of rsync options
2. Configuration file non rsync utilities
3. Configuration for rsyncd
4. Casual file transfers of rsync
5. Recognition of common rsync errors

4 Detailed Problem Statement

4.1 Function

1. Ability to display directory tree
2. Ability to show include/exclude rule matches on directory tree
3. Ability to display directory size and number of files
4. Ability to show hidden files

4.2 Form

4.2.1 Availability

- Linux platforms with download of utility

4.2.2 Usability

- Easy to learn and use
- Well defined and intuitive interface
- Useful help text and error messages
- Available in English and Spanish

4.2.3 Performance

- Responsive to user input with background processes
- Parse directory tree efficiently

4.2.4 Security

- Observe Linux user permissions in relation to directories and files
- Generate properly escaped output

4.2.5 Maintainability

- Distributed as open source
- Others can modify and redistribute changes

4.3 Economy

4.3.1 Marketability

The utility will be easily distributed and installable along with comprehensive documentation.

4.4 Time

4.4.1 Historical

Users of rsync have had to hand construct configuration flags to obtain the expected output from the rsync utility. This has involved trial and error to determine the best possible set of configuration flags.

4.4.2 Current

Currently, there is a utility called Grsync that allows setting rsync configuration flags, but it does not allow for creation of include/exclude rules, display the directory tree, or diagnose common error sources.

4.4.3 Future

In the future, end users will rely on a configuration utility that allows for easy configuration and visualization of rsync flags that limits common errors and displays the directory tree. We plan to provide a solution that visualizes the configuration of rsync.

5 Stakeholders

Name	Role
Sriram Mohan	Project Advisor
Eric Henderson	Project Team
Tom Most	Project Team
Kevin Risden	Project Team
Rsync Users	End Users

6 References

Rsync Man Page – http://rsync.samba.org/ftp/rsync/rsync.html

Grsync – http://www.opbyte.it/grsync/

7 Glossary