**AUTOMATION OF THE FILE TRANSMISSION CHANNELS**

**INTRODUCTION:**

This document outlines a straightforward, step-by-step procedure for setting up download/upload and PGP decryption/encryption channels for inbound and outbound file transmissions in Gryphon.

**SUMMARY:**

Our objective is to establish a process for downloading files from SFTP, decrypting them, and then storing them in a specified location using automation. In this context, we utilize Windows Task Scheduler as a tool to automate the transmission. Additionally, we can apply the same approach to encrypt flat files and upload them to a remote location.

**IMPLEMENTATION STEPS:**

***Prerequisites****:* To build the automation we would need the following tools:

1. **WinSCP:** WinSCP, which stands for "Windows Secure Copy," is a popular open-source SFTP, FTP, WebDAV, and SCP client for Windows. It allows users to securely transfer files between a local and remote computer.

***How to Use WinSCP:***

1. **Download and Install:** Visit the WinSCP website (<https://winscp.net/eng/download.php> ), download the installer, and follow the on-screen instructions to install WinSCP on your Windows computer.
2. **Connect to a Remote Server:** Launch WinSCP and enter the hostname, username, password, and port number of the remote server you want to connect to. Choose the desired protocol (e.g., SFTP, FTP) and click "Login" to establish a connection.
3. **Gpg4win:** Gpg4win is a comprehensive encryption software suite for Windows, providing users with the tools they need to encrypt and decrypt files, emails, and communications using OpenPGP (Pretty Good Privacy) encryption. It is an open-source project that aims to promote privacy and security by enabling users to protect their sensitive data from unauthorized access.

***How to Use Gpg4win:***

1. **Download and Install:** Visit the Gpg4win website (<https://www.gpg4win.org/get-gpg4win.html> ), download the installer, and follow the on-screen instructions to install Gpg4win on your Windows computer.
2. **Generate Encryption Keys:** Use Kleopatra or the command-line interface to generate a pair of encryption keys (public and private keys). Keep your private key secure and share your public key with trusted contacts.
3. **Windows task schedular:** Windows Task Scheduler is a built-in utility in Microsoft Windows operating systems that allows users to schedule automated tasks to run at specified times or in response to certain events. It provides a convenient way to automate repetitive tasks, such as running scripts, launching programs, and performing system maintenance, without user intervention.

***Automation Script which downloads and decrypt the encrypted file:***



***Replace the following highlighted placeholders with your actual information:***

* username: Your SFTP username
* password: Your SFTP password
* example.com: Your SFTP server hostname or IP address
* /remote/path/to/ENV\_WINSCP\_CMD\_\*.pgp: The path to the file on the remote server
* C:\local\path\to\save\\*: The path where you want to save the file locally.
* Cd C:\Users\test: change the directory path to location from where we want to execute batch script and it’s a path where our private key kept.
* "concept that constructing the right back-office team starts with identifying and understanding the needs of our clients.": Your key Passphrase.
* PGP-PrivateKey.asc: Your Private key name
* C:\Users\test\Encr\_Decr: The path where you want to download the pgp file locally.

***Explanation:***

1. Using WinSCP command line utility we are connecting to SFTP and downloading the pgp files.
2. Change the directory path where private key is placed.
3. Importing the private key to our gpg tool.
4. Storing the passphrase in a passphrase.txt file.
5. Using gpg command line decrypting all the downloaded files.
6. Deleting passphrase file.

***Scheduling the task in windows task schedular:***

1. Once the above script is created save that file as .bat type to create it as batch script.
2. Open task schedular: Press **Win + R**, type **taskschd.msc**, and hit Enter.
3. Create a new task:
4. In the Task Scheduler window, go to Action > Create Task.
5. Enter a name and description for your task.
6. Configure Trigger:
7. Go to the Triggers tab and click New.
8. Configure trigger as per your requirement.
9. Configure Actions:
10. Go to the Actions tab and click New.
11. In the Program/script field, enter the path to your batch script.
12. Click OK.
13. Configure Conditions (Optional): You can adjust conditions under the Conditions tab if needed.
14. Save the Task: Click OK to save the task.

With these settings, your batch script will run every specific time frame according to the schedule you've set up in the Task Scheduler.

Make sure to adjust the settings and path to your batch script according to your requirements. Additionally, ensure that the account running the task has appropriate permissions to execute the batch script and access any required resources.

***Automation Script which encrypts the file and upload it to SFTP:***



***Replace the following highlighted placeholders with your actual information:***

* username: Your SFTP username
* password: Your SFTP password
* example.com: Your SFTP server hostname or IP address
* /remote/path/to/: The path on the remote server
* C:\Users\test\Encr\_Decr\ENV\_WINSCP\_CMD\_\*.pgp: The path where PGP files is generated or placed.
* C:\Users\test: Directory where we are running this script.
* C:\Users\test\PGP-PublicKey.asc: The path where you kept public key.
* C:\Users\test\Encr\_Decr: Path where flat file is placed.
* ABC Systems <abc@xyz.com>: It’s a "Recipient Name”, Replace it with the name associated with the recipient's public key.

***Explanation:***

1. Change the directory path from where we need to execute our batch script.
2. Importing the public key to our gpg tool.
3. Using gpg command line encrypt all the files placed in a specific location.
4. Using WinSCP command line utility we are connecting to SFTP and uploading all the pgp files to remote location.

***Scheduling the task in windows task schedular:***

1. Once the above script is created save that file as .bat type to create it as batch script.
2. Open task schedular: Press **Win + R**, type **taskschd.msc**, and hit Enter.
3. Create a new task:
4. In the Task Scheduler window, go to Action > Create Task.
5. Enter a name and description for your task.
6. Configure Trigger:
7. Go to the Triggers tab and click New.
8. Configure trigger as per your requirement.
9. Configure Actions:
10. Go to the Actions tab and click New.
11. In the Program/script field, enter the path to your batch script.
12. Click OK.
13. Configure Conditions (Optional): You can adjust conditions under the Conditions tab if needed.
14. Save the Task: Click OK to save the task.

With these settings, your batch script will run every specific time frame according to the schedule you've set up in the Task Scheduler.

Make sure to adjust the settings and path to your batch script according to your requirements. Additionally, ensure that the account running the task has appropriate permissions to execute the batch script and access any required resources.