NWC OT Cybersecurity Backup and Restore Plan- Appendix B

National Water Company (NWC), KSA

SCADA/OT Information Security Implementation Project

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1. DOCUMENT PURPOSE

This document outlines the procedures for configuring Wonderware machines for backup and restore.

2. PROCEDURE

2.1 AUTOMATIC SECURE FILE COPY USING PUBLIC/PRIVATE KEY

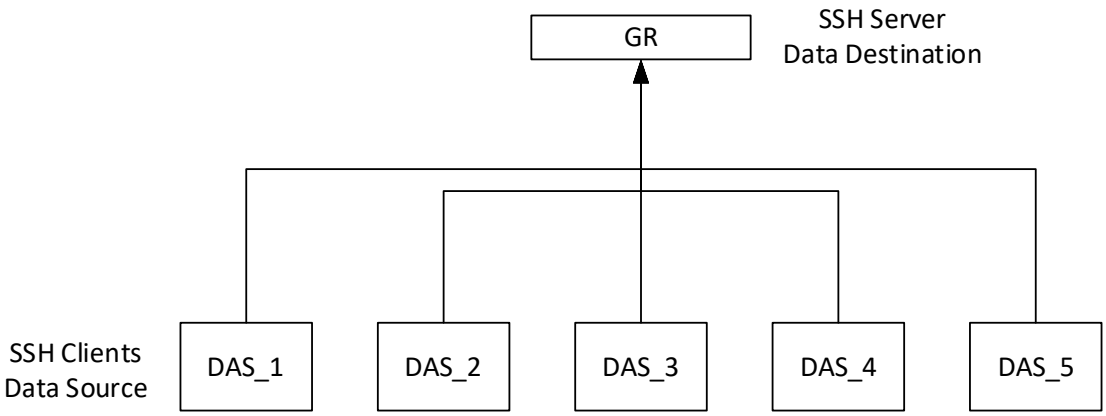

Figure 1 Automatic Secure File Copy using Public/Private Key

2.2 SERVER-SIDE CONFIGURATION

1. Install freeSSHD on GR Server.
2. Create “ot” user

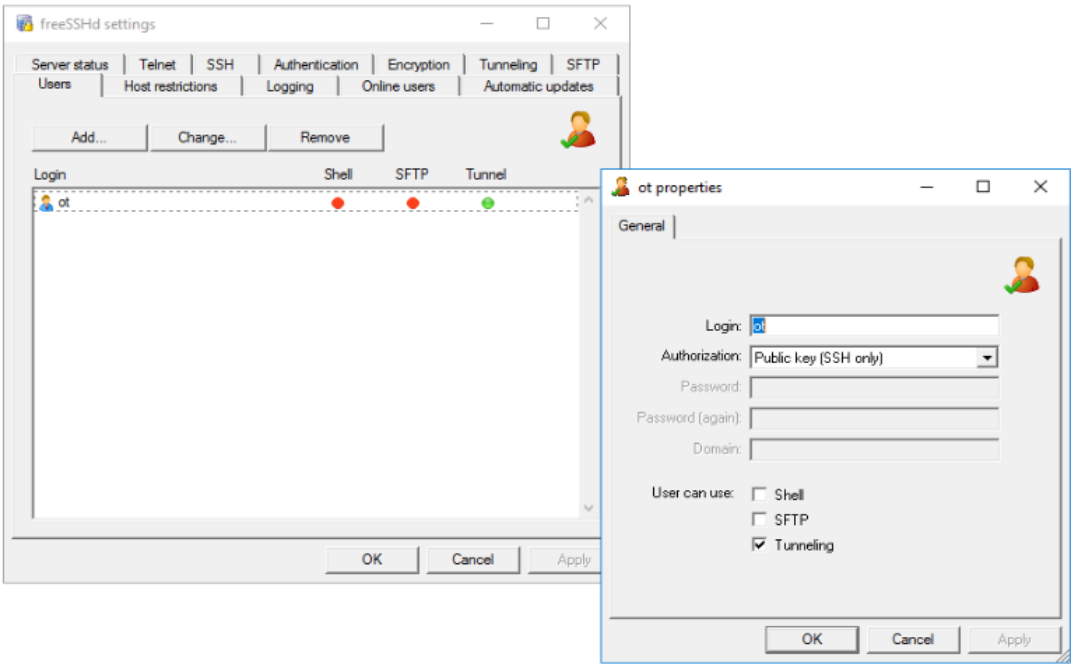

Figure 2 Creation of "ot" User

3. Check “Start SSH Server on freeSSHd startup”

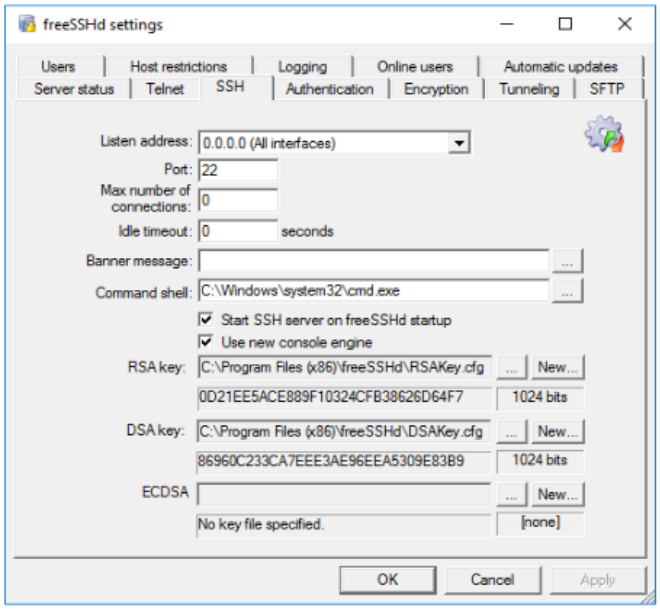

Figure 3 SSH service enabling

4. Enable “Log events”

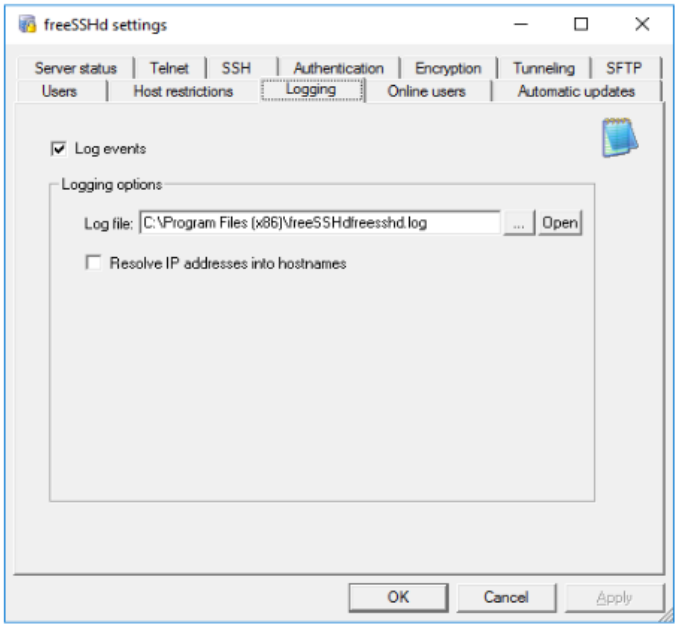

Figure 4 Enabling "Log events"

5. Set “Public Key folder path”. It is path where public keys are stored.
6. Set “Password authentication” to “Disabled”
7. Set “Public key authentication” to “Required”

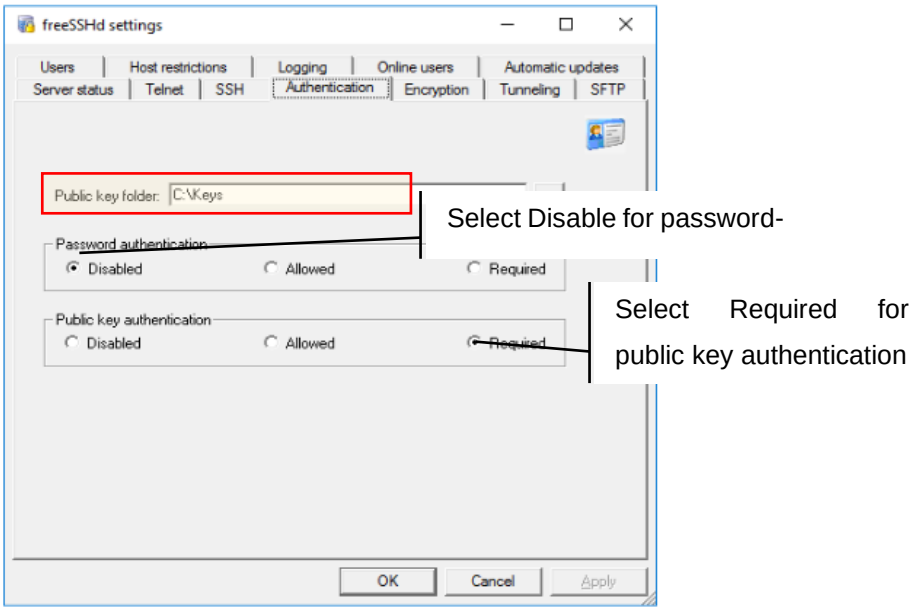

Figure 5 Configure Authentication

8. Set “SFTP Home Path” to “D:\eSCDAppBKUP\”

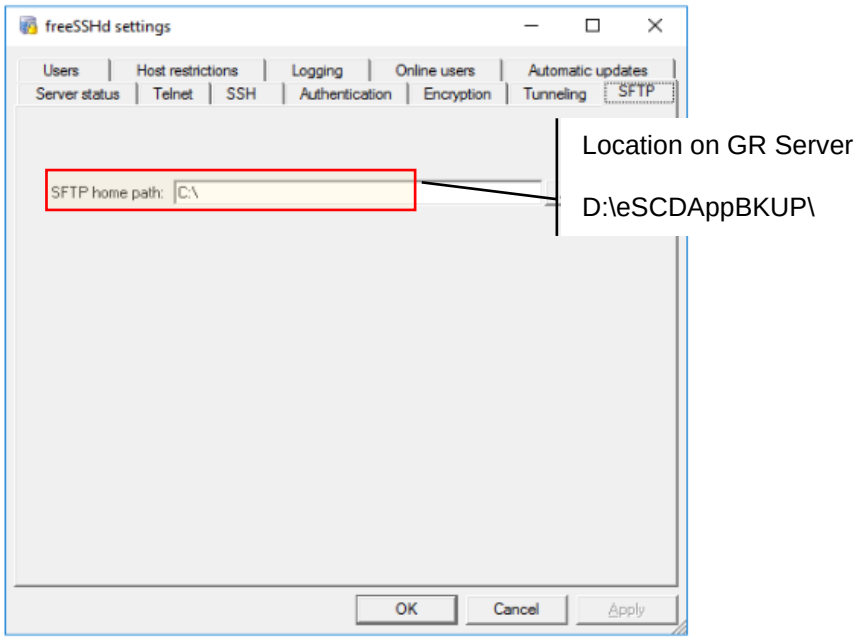

Figure 6 Configuring Path

Note:

$Destination_folder=ot@GRServerIP: \DAS_1 **For DAS_1 Script**

$Destination_folder=ot@GRServerIP: \DAS_2 **For DAS_2 Script**

2.3 CLIENT-SIDE CONFIGURATION

1. Create PSCP in C:\
2. Copy pscp.exe to SCP folder

3. Copy “ot.ppk” private key to SCP folder

Power Shell Script

TransferFiles.ps1

```
$Source_folder = "C:\Source\"
$Destination_folder = "ot@192.168.100.200:/Destination/"
$Keys_Path = "C:\Keys\ot.ppk"
$PSCP_path = "C:\sft\pscp\"
cd $PSCP_path
.\pscp.exe -r -p -q -i $Keys_Path $Source_folder $Destination_folder
```

Notes:

$Source_folder = <folder that needs to be copied>

$Destination_folder = <folder where Source folder will copied, DASHostName>

$PSCP_path = <folder where pscp file is located>

$Keys_path = <private key path>

<!!!!!> Ensure $Destination_folder have specific Folder for every DAS.

<!!!!!> Every DAS Server will have unique Script. Thus, make sure to change variables before using script.

4. Create Basic Task with following configuration:

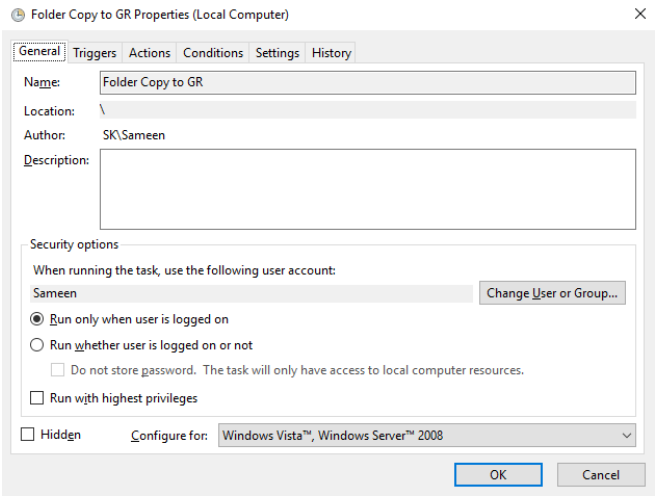

Figure 7 Basic task configuration 1

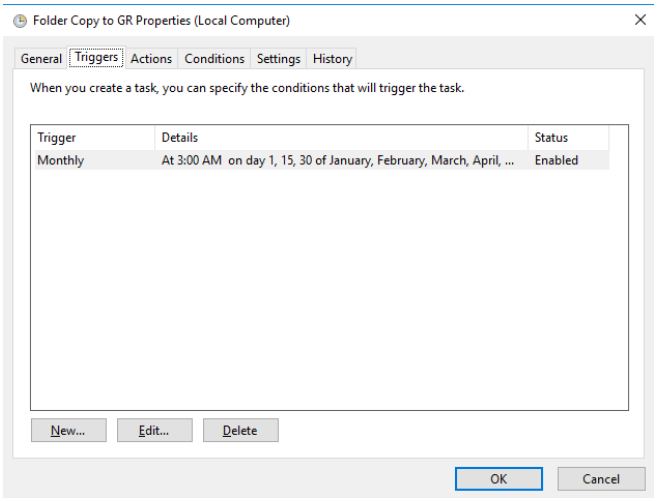

Figure 8 Basic task configuration 2

5. Start Program script

Powershell.exe -WindowStyle Hidden -file C:\<Location of TransferFile.ps1>

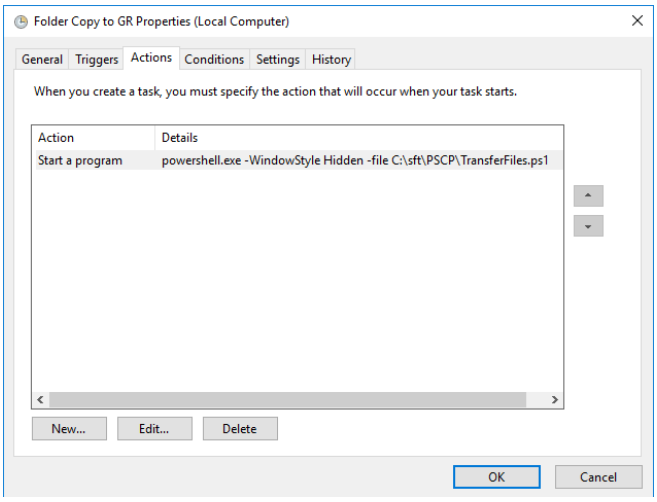

Figure 9 Program script

2.4 PUBLIC-PRIVATE KEY GENERATION

1. Use putty-gen.exe to generate public and private key

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