

WORKFLOW AUTOMATION FOR EFFICIENT ON-DEMAND DISTRIBUTION OF SENSITIVE DATA IN THE FINANCE SECTOR

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- Efficient and rapid service delivery in financial firms:
 - customer satisfaction, firm development
 - financial loss decline in market value
- Role of File Transfer Systems (FTS):
 - FTP, SFTP between hosts
 - SFTP- secure, confidential
- Architecture usage
 - Ports 21 (FTP) and 22 (SFTP) for protocol operation

Motivation

- Increased data volumes
- Automation reduces manual workload
- File transfer across time zones
- Minimize response to incidents and ER
- Improve customer experience
- Robust monitoring

FTS - File Transfer System is the department responsible for data transmission

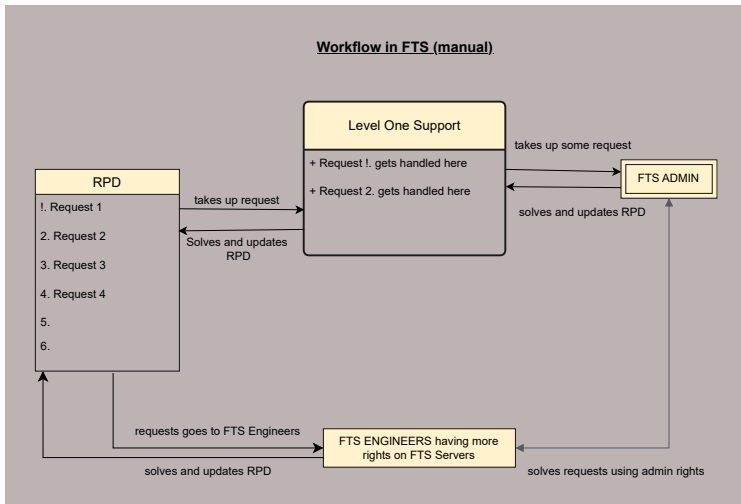
Problems

- Crowded requests and incidents
- Much time to solve the request (usual requests)
- Effective short time problem solving
- Easier knowledge transfer
- Less business transactions
- Usability on all systems

Goals

- Increase the overall confidential- data exchange speed
- Automate the tasks
 - SFTP Key-generation
 - Password Reset
 - Client IP Address Management
 - EH Account creation
 - SFTP/FTP Protocol change
- Reduce the time taken to solve requests

Fundamentals



Manual process

- Utilize REST API's
- Code Management using Git/GitHub
- Python Programming Language

The screenshot displays the Axway SecureTransport web interface. The top header shows the 'SecureTransport' logo and version '5.5-20231221 (3202)'. A left-hand navigation menu lists various system components, with 'Change Password' currently selected. The main content area is titled 'User Account : probe_sftp' and includes a 'Close' button. Below the title, there are tabs for 'Settings', 'Certificates', 'Transfer Sites', 'Transfer Profiles', 'Routes', and 'Subscriptions'. The 'Account Status' section contains several buttons: 'Disable Account', 'Lock Account', 'Expire Password', 'Approve', and 'Reject'. A list of account details is provided, including creation and modification timestamps, account status (ACTIVE), last login time, failed login counts, password expiration status, login count, and secret question status. The 'Change Password' section features input fields for 'New Password' and 'Re-enter Password', both marked with an asterisk. A checkbox option 'Require user to change password on next login' is present. A note at the bottom states: '** NOTE: Fields marked with an asterisk * are required.' 'Save' and 'Cancel' buttons are located at the bottom right of the form. A 'Close' button is also present at the bottom right of the main window.

GUI Axway for password

reset

is.factset

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RPD:142496033

Severity: Low

File Transfer System (FTS) - SFTP Key Generation

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Helpful Tips for File Transfer System (FTS) - SFTP Key Generation

All SFTP Key Generation requests or issues go straight to the FTS team.
This RPD must contain the hostname of the server communicating to our servers. The private key will be unique to the hostname + username/account

Questions for File Transfer System (FTS) - SFTP Key Generation

• Hostname (client's hostname)	test_rahul
• FTS account name (e.g. client_qnt)	test_rahul
• Server Username (client's login username)	test_rahul

File Transfer System (FTS) - SFTP Key Generation

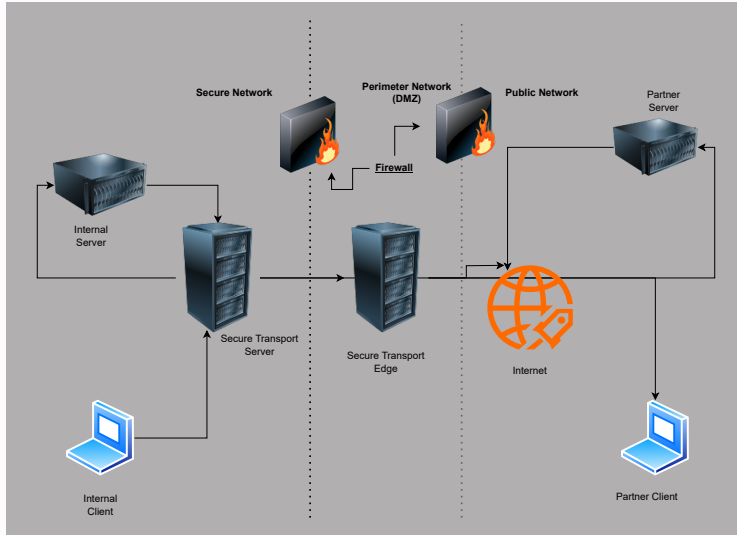
Keys generated and Public Key added to RPD

File Transfer System

Author: Rahul Thiruthinmel 16-Dec-2024 11:45 AM

please ignore

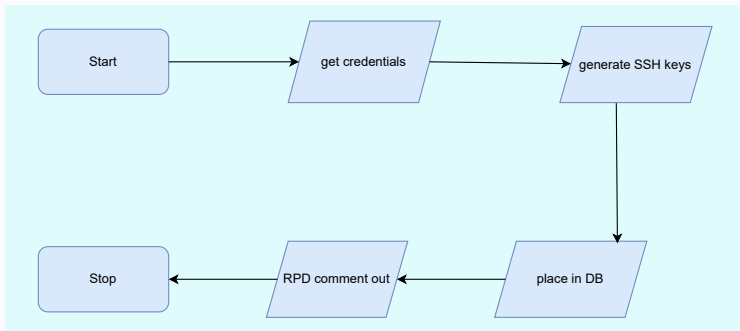
Axway Set Up



Axway Set-UP

Implementation

1. SFTP KEY Generation



flowchart-SFTP function

2. Login Restriction Policy

```
def create_lr_policy(name:str):
    request_body = {
        "name": name,
        "type": "ALLOW_THEN_DENY",
        "description": "test"
    }

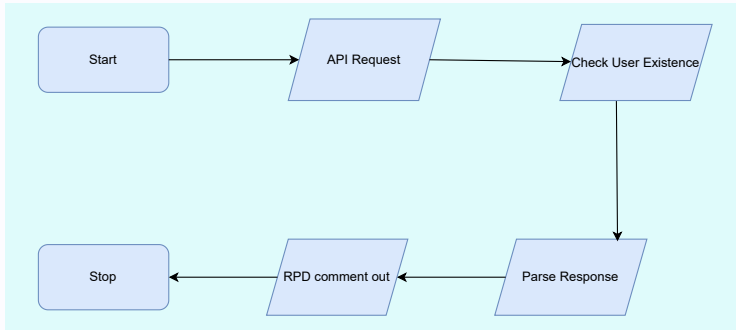
    data = json.dumps(request_body)
    response = requests.post(url=url_2, data=data,
                             headers=headers, auth=HTTPBasicAuth(api_user,
                             api_psswd), verify=False)
    if response.status_code==201:
        print("login restriction policy created ")
```

Creating Rule

```
rule_object = {  
    "name": name_of_the_rule,  
    "enabled": "true",  
    "type": "ALLOW",  
    "clientAddress": client_address,  
    "#expression": "string",  
    "description": "test"  
}
```

POST Method to make API request

3. Password-Reset



flowchart-Password

reset

Creating Rule, PUT method to make API request

```
body = {  
  "name": account_name,  
  "homeFolder": "/export/eh",  
  "homeFolderAccessLevel": "PRIVATE",  
  "uid": "2123",  
  "gid": "2020",  
  "disabled": "false",  
  "type": "user",  
  "notes": "test account",  
  "businessUnit": "eh",  
  
}
```

Results

```
python3 privatekeydb.py '134532722'
```

```
[ServerInitiated  
TransferSftp
```

```
    Credentials] (host ,username ,privateKey)  
    values ('mft.int-np.wlifea...')[length = 1827]
```

```
[ODBC][44136][1718632798.693048][SQLExecDirectW.c][456]
```

```
    Exit:[SQL_SUCCESS]
```

```
[ODBC][44136][1718632798.693156][SQLRowCount.c][173]
```

```
    Entry:
```

```
        Statement = 0x7f79d1863400
```

```
        Row Count = 0x7ff7b026f800
```

```
[ODBC][44136][1718632798.693216][SQLRowCount.c][247]
```

```
    Exit:[SQL_SUCCESS]
```


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This RPD must contain the hostname [Resolve](#) server communicating to our servers. The private key will be unique to the hostname + username/account

Questions for File Transfer System (FTS) - SFTP Key Generation

* Hostname (client's hostname)	test_rahul
* FTS account name (e.g. client_qnt)	test_rahul
* Server Username (client's login username)	test_rahul

File Transfer System (FTS) - SFTP Key Generation

Keys generated and Public Key added to RPD	File Transfer System
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Author: Rahul Thiruthinmel 16-Dec-2024 11:45 AM

Rahul Thiruthinmel 16-Dec-2024 11:45 AM: Set **Status** to **Unassigned**

Rahul Thiruthinmel 16-Dec-2024 11:45 AM: Set **Severity** to **Low**

Rahul Thiruthinmel 16-Dec-2024 11:45 AM: Set **Product** to **File Transfer System (FTS) - SFTP Key Generation**

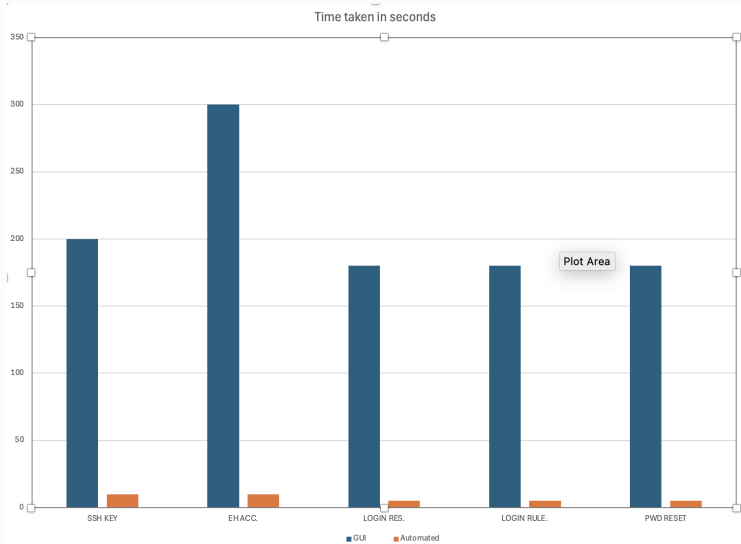
Rahul Thiruthinmel 16-Dec-2024 1:56 PM Last Updated By: **Rahul Thiruthinmel**

Please find the attached SSH public key

```
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAQCAwEAAQFB+zZD03PCpZ8A+QfcyeY9akpxOURWR7vmM+qv4coyDHfCSIQ091mimXLm0huV+x9qv11+DzeqDValm/8KpvUjxEsNlGl3qc03HW+x7
qH+XK5Kz9SCZjRyde0l/K12y0omYDjntQPMh4NEeApW4pxO6lMUeU61+B9PIQoJAim/YLLdx0JpUVv1v2n+9EFwrlHK+zbbDIFP1tWc9ednAkcJ6zQgyJwDermwXrFCGVv0jwEGzx/L2mW
3S/+R7Eb/iaJtTmPFkvXY9cW8OD0d9LLH2
```

Commented out RPD

Results



Time taken

- Adding User Interface
- Can be used in multiple platforms
- Incorporate other data sources and integrate AI
- Algorithms can be tweaked for larger workflows

Thank you for your attention.