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Dell Wyse Thin Client Support

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**Document Control**

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# Introduction

The aim of this enhancement is to discover and collect the inventory of Dell Wyse Thin clients, which will be categorized under its own new device category id. Other than the discovery and inventory we will provide the feature of showing the device status of the discovered Dell Wyse Thin clients.

# Requirements

* Discovering the Dell Wyse Thin client using agent-less approach
* Collecting various inventory parameters for Dell Wyse thin client
* Periodic Thin Client status update

# Solution Approach

* Dell Wyse Thin clients will not be having WMI, SSH protocol to manage the thin client systems

* Hence, we are moving for REST based data collection which can be collected from the Dell Wyse Manager(Which managers all the thin client)
* Below are the API's used for fetching thin client information

|  |  |  |
| --- | --- | --- |
| *S.No* | *REST API* | *Use* |
| 1 | <https://Server:Port/v1/Login> | For Login |
| 2 | <https://Server:Port/v1/views/all> | For getting all the view ID's |
| 3 | https://Server:Port/HApi/v1/Devices/Views/filter?Page={int}&PageSize={int} | For getting all deviceID's under a viewID |
| 4 | https://Server:Port/v1/Devices/Views/{viewId}?Page={int}&PageSize={int} | For getting all 5deviceID's under a viewID |
| 5 | https://Server:Port/v1/Devices/DeviceDetails/{clinetId} | For getting all the data regarding the thin client |

* Below is the reference to the API guide



* The discovery job will be configured in the server with appropriate Dell Wyse Server and Its required credential profile with Key and IV pair
* Engine will pick the job and hit the above listed REST API's and brings back the data in JSON format which will be de-serialized and stored into the appropriate tables in the DB
* For thin clients discovered via REST API will be uniquely identified by the ***Client ID*** which

we get from the Dell Wyse server

* Below is the flow of the solution approach

Gathering the dell Wyse server information in UI (Job Configuration)

## 

## 

The discovery job is picked and segregated as a Dell Wyse Thin Client discovery.

Key and IV is Configured?

**Yes** **No**

Valid Credential Profile?

Job Is Failed

Encrypted password is converted into Base64 string.

Password encryption is done based on the default Key and IV in CBC mode.

Password encryption is done based on the configured Key and IV in CBC mode.

Connect to the DELL Wyse Server using the username and encrypted password.

Dell Wyse server is available?

No

Job Is Failed

Yes

Valid Credentials?

## 

Job Is Failed

No

De-serialized data is stored in the DB

JSON data is de-serialized

Data in obtained in JSON format

Hit the REST URL and retrieve the information

Yes

Loop through multiple web service calls

## 

Job is successful

## 

## 

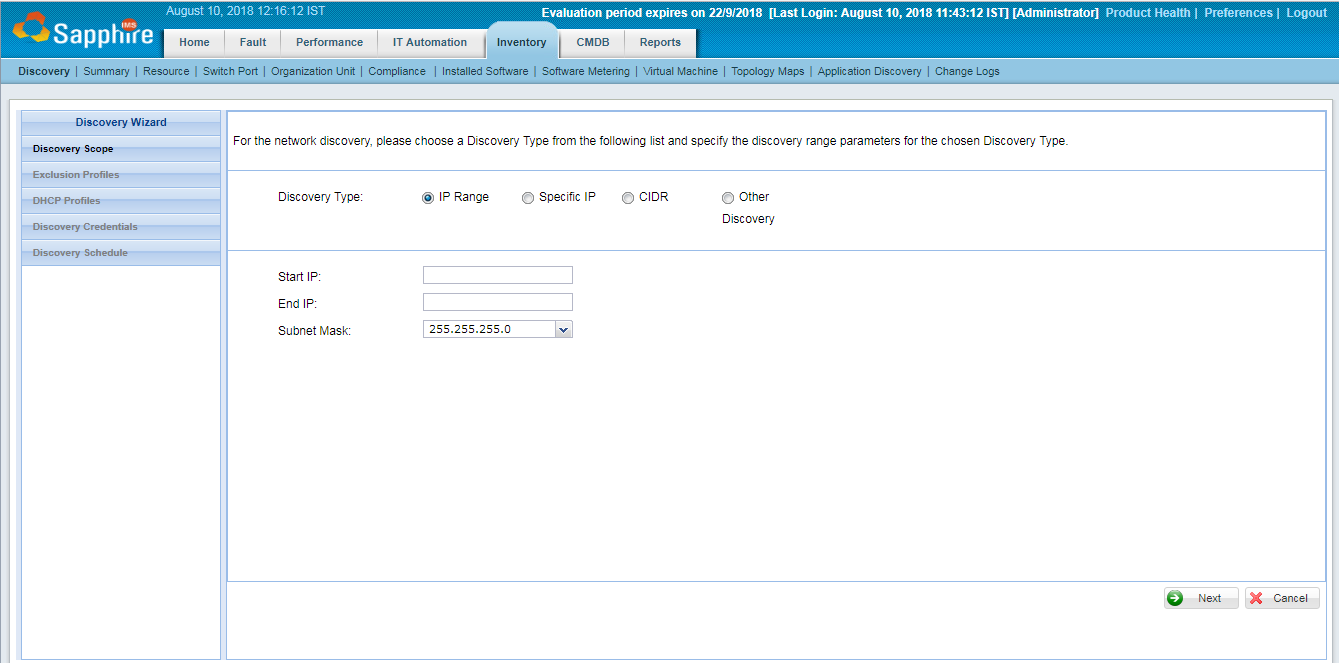
## Note :: The status of the Thin clients can be determined by two ways, one is based on the REST API response from the Dell Wyse Server with respect to the thin client and the other is based on the individual Thin Client ping status. This can be toggled between using a new SettingKey which is going to be introduced.

## Pre-Requisites

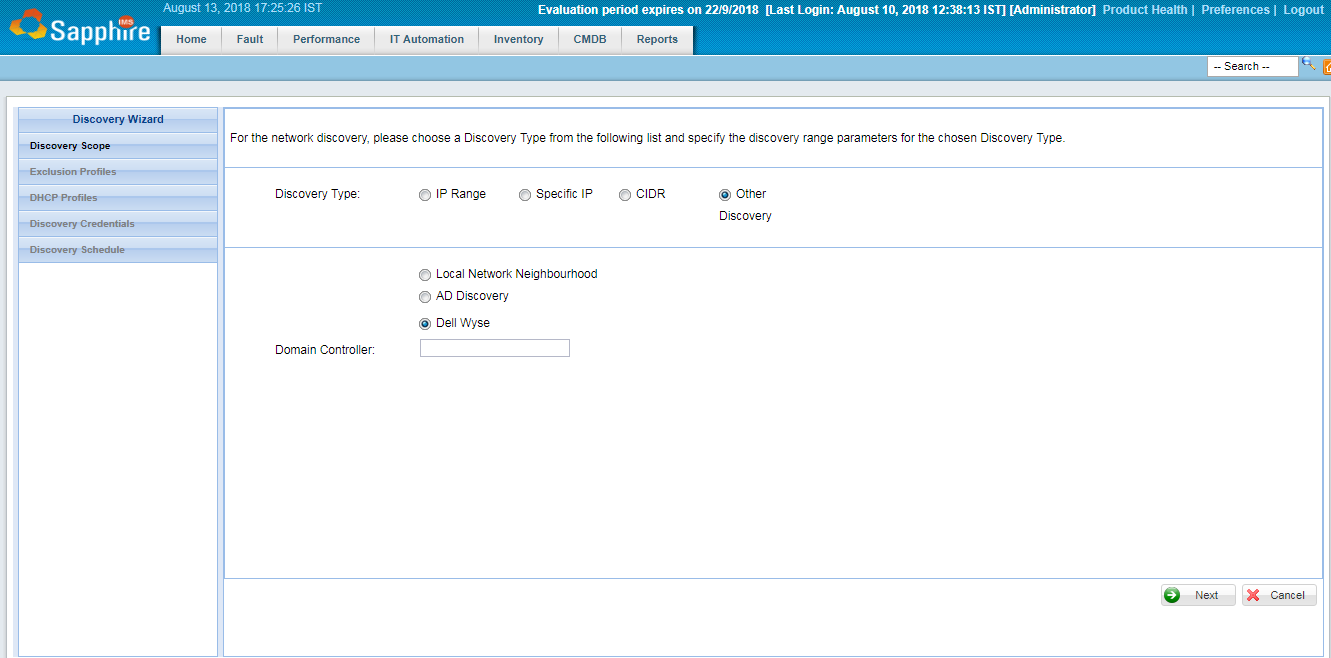
* Need a valid credentials for connecting and retrieving the DELL Wyse Web services
* The Key and IV required to encrypt the password
* The Key and IV must support CBC mode AES encryption
* The DELL Wyse Server must be available for fetching the required details associated with thin client
* The Dell Wyse REST API must be reachable( Version 5.7.2)
* The Server(SapphireServer) must have access to the thin clients, as we are going to ping them for their statuses(Based on the Setting Key)
* All devices view is required
* Dedicated Credential profile is required for the DELL Wyse Server since a same session will be shared by Management portal as well as REST API. This may lead to session time

# UI - Mockup Screens

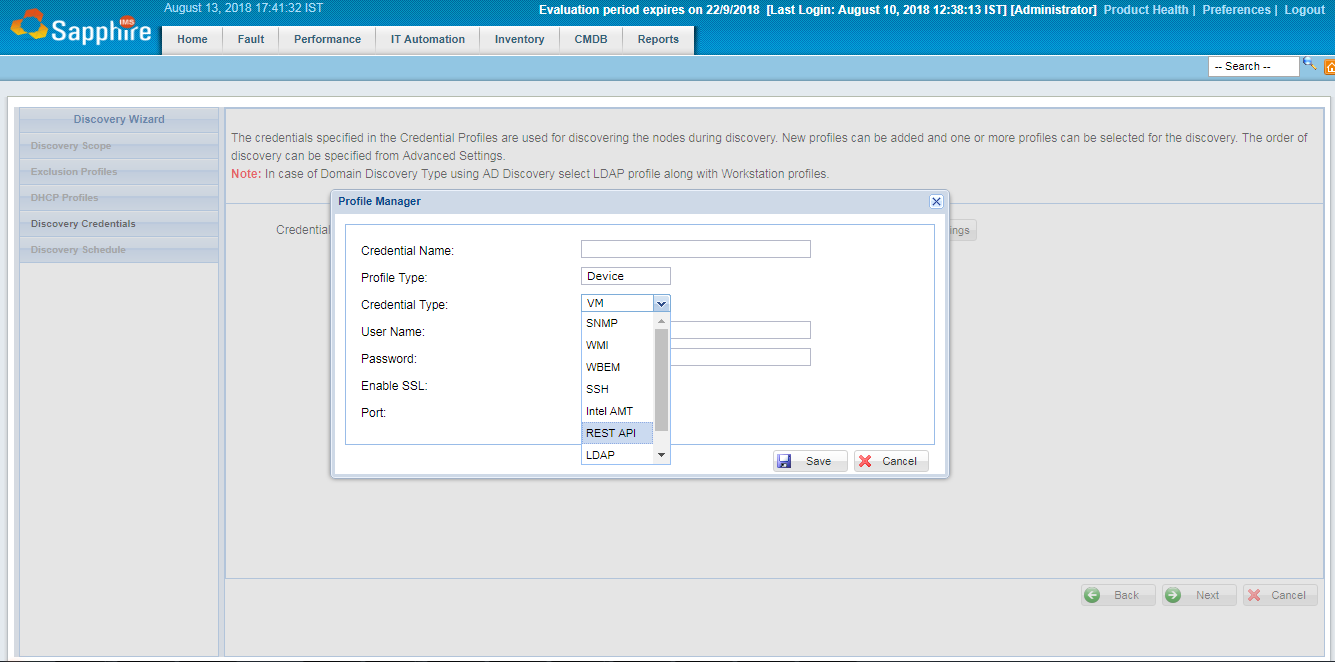
1. Discovery Type Domain to be renamed as Other Discovery under Settings -> Discovery Profiles and Wizard -> Add as shown below



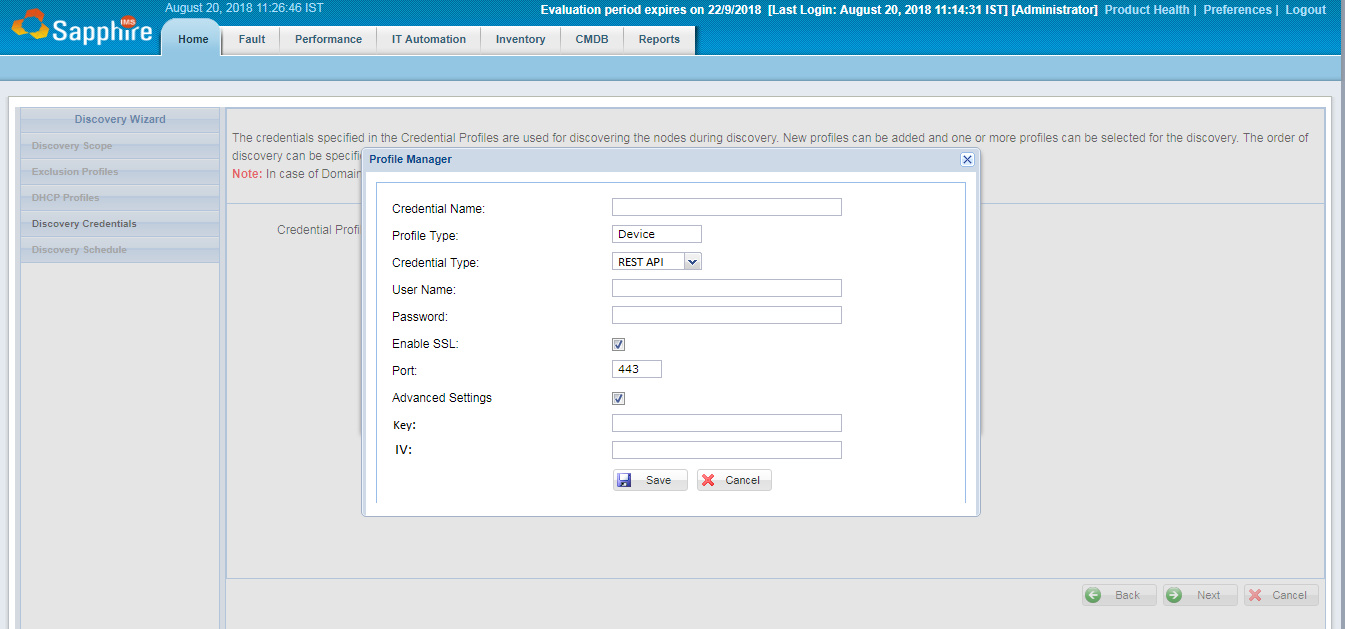
2. New Discover Type "Dell Wyse"to be added under Settings -> Discovery Profiles and Wizard -> Add -> Other Discovery as shown below



3. New Credential Profile Type "REST API" to be added under Settings -> Discovery Profiles and Wizard -> Add -> Next -> Next -> Next -> Add New Profile -> Credential Type as shown below



4. On selecting the REST API category it should show a page to get the credentials as shown below with an option to provide Key and IV when Advanced settings is selected



5. The above screens are for making the configurations only but after the discovery and inventory parameters are collected the data will be listing in appropriate pages same as that of the other data collection types

# Parameters to be collected

We have considered collecting the data which are already being shown in the Dell Wyse portal for the Thin clients.

## Discovery parameters

### Summary Page

1. System( OS )
2. OS Image
3. Agent
4. Registered
5. ClientID
6. Serial Number
7. TimeZone
8. HostName

## Inventory Parameters

### Hardware -> Processor Page

1. Processor
2. Processor speed
3. Media size
4. Installed Memory(RAM)
5. Serial Number
6. Manufacture date
7. Hardware revision
8. TPM Enabled
9. Protection Status
10. Encryption Status

### Hardware -> Physical Memory Page

1. Size
2. Format
3. Allocation Units
4. Used Space
5. Free Space

### Hardware -> Disk Page

1. Name
2. Size
3. Allocation Units
4. Partitions

### Hardware -> Network Adapter Page

1. Sent
2. Received
3. IP Address
4. Subnet
5. Subnet Mask
6. Gateway
7. Domain
8. Preferred DNS server
9. Alternate DNS Server
10. Preferred WINSS
11. Alternate WINSS
12. Communication Port

### Hardware -> BIOS Page

1. BIOS Version
2. NISTBIOS
3. UEFIBIOS

### Hardware -> Multimedia or Peripherals Page

1. Video Adapter
2. Sound Adapter

### Software -> Operation System

1. OS
2. OS Image

### Software -> Installed Software

#### Installed Software

* + - 1. Name
      2. Version

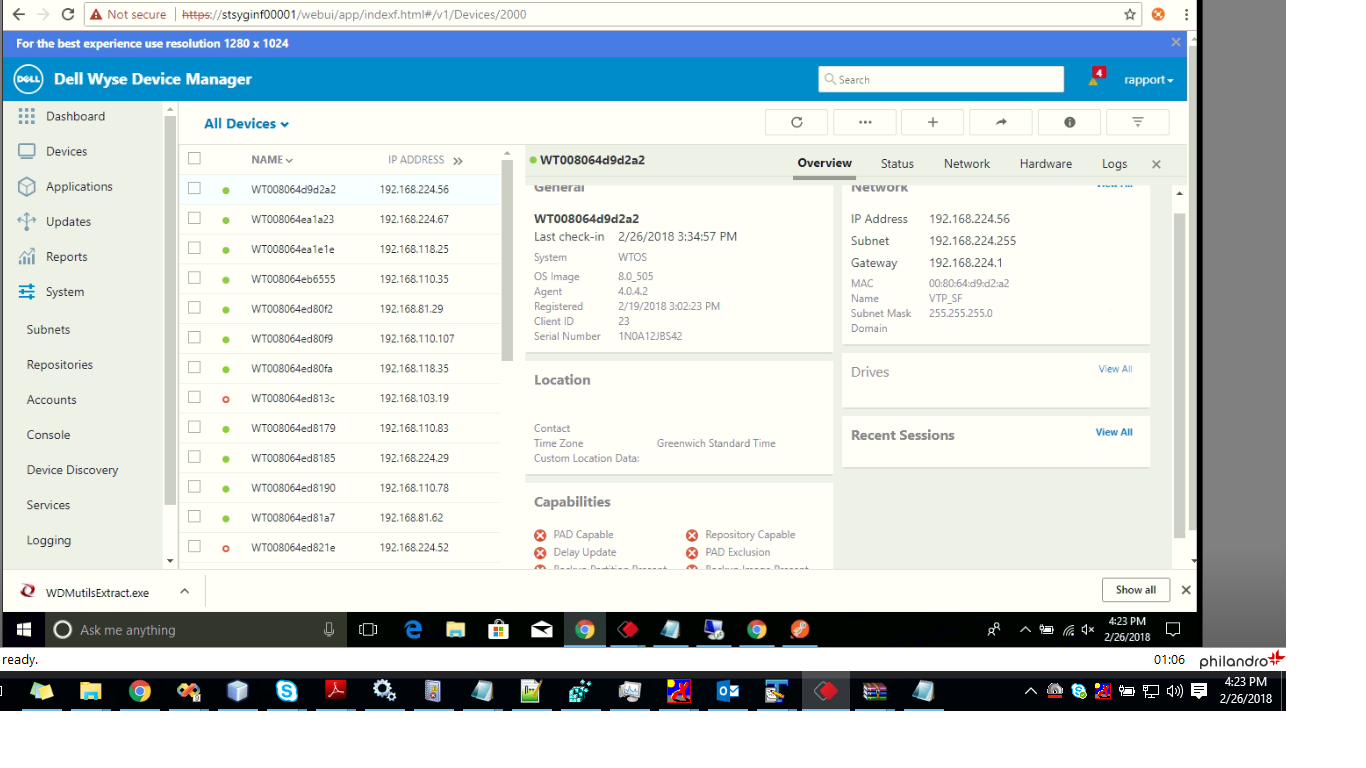
#### Patches

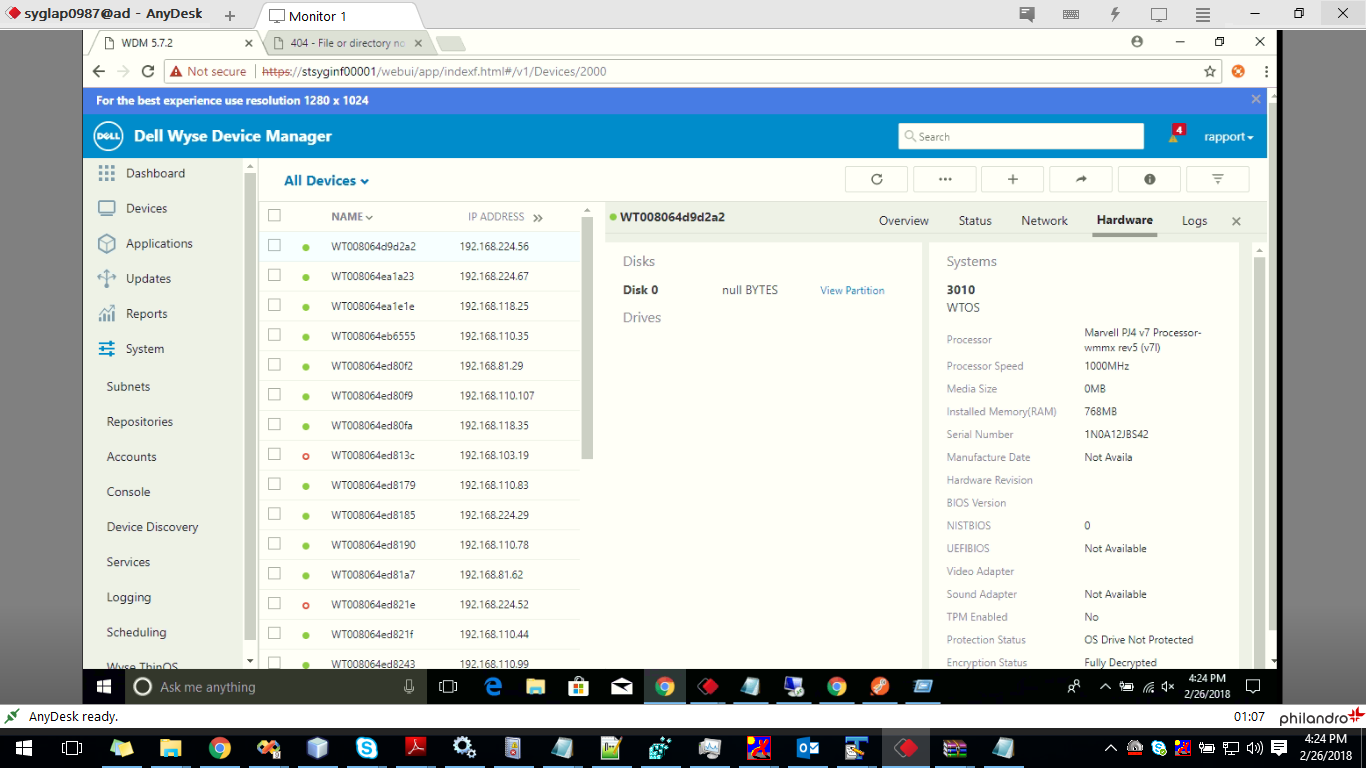
1. Name(KBARTICLE)

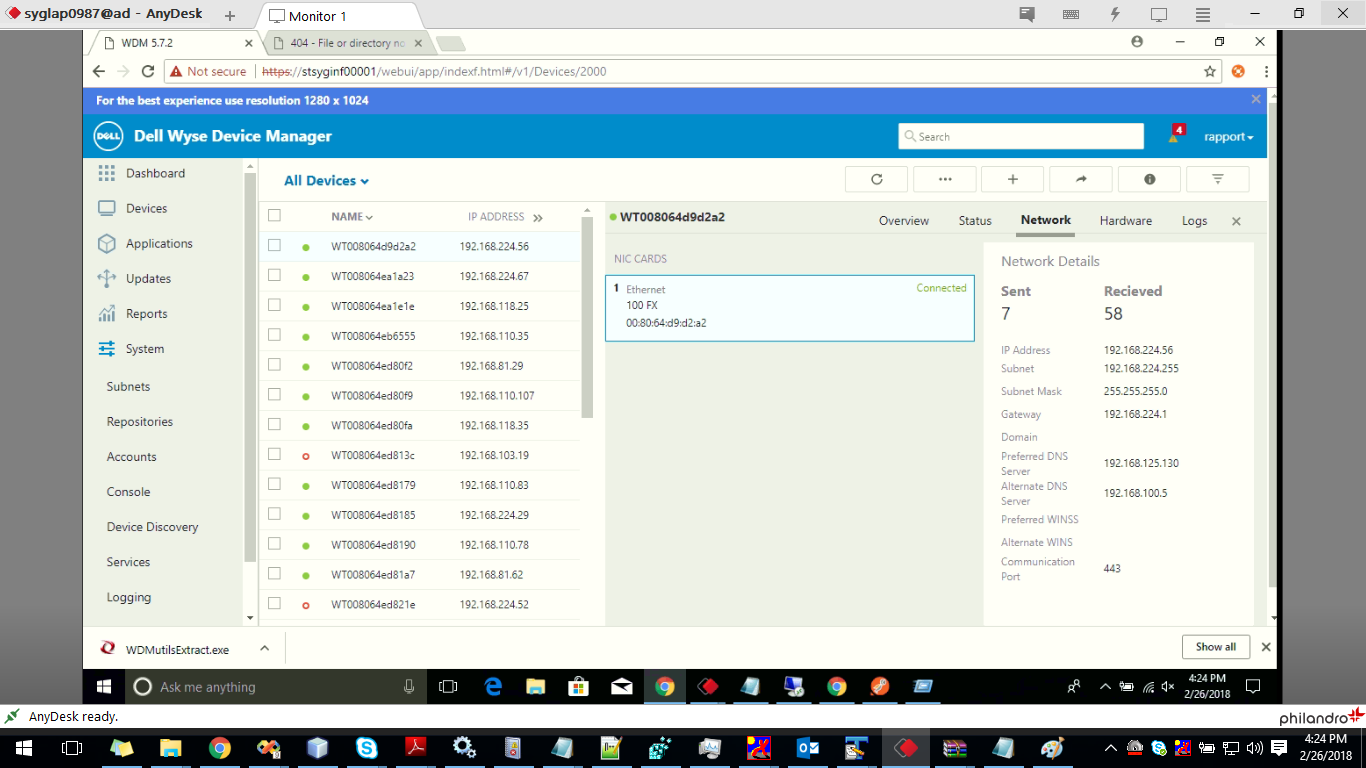
### Resource -> Process

1. Name

# Captures of Dell Wyse Portal For Reference







# Impacted Modules

## Engine

1. New Data Collection type will be added.

2. Separate Discovery and Inventory collection logic will be implemented by reusing the existing CurlLib layer.

3. Change-log is applicable.

## UI

1. Discovery Page.

2. Inventory Page.

3. Dell Wyse thin clients will only be shown in the above two pages.

4. Inventory Reports is supported.

## DB

1. Existing tables will get reused for the data collection purpose

2. New table must be introduced to maintain the relationship between SiteID, SystemID, Credential ProfileID, ClientID and its associated Dell Wyse Server.

3. The Table will look like the below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *SiteID* | *SystemID* | *ClientID* | *CredProfileID* | *DellWyseServerIP* |
| 1 | 2 | 3 | 5 | 172.16.11.11 |
| 1 | 3 | 4 | 6 | 172.16.12.12 |

4. Once the discovery is successful the above table is filled with appropriate details for the further data collection.

# Conclusion

Hence, I conclude that this is the design we are going to follow for supporting Dell Wyse Thin Client in our Product.