



Remote Management
DASH Lan card
User Guide

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Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the machine.
- When adding or removing devices to or from the machine, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing server before you add a device.
- Before connecting or removing signal cables from the machine, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing any component to the machine, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the DASH Lan card.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Installation Information**
This chapter provides instructions on how to install the DASH Lan card to the client device motherboard.
- **Chapter 2: BIOS configuration**
This chapter provides instructions on how to configure DASH BIOS settings and software installation.
- **Chapter 3: Management Software**
This chapter tells you how to use the DASH management console to manage and configure the client device with a DASH Lan card installed.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**
The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.
2. **Optional documentation**
Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to help you complete a task.

Typography

Bold text

Indicates a menu or an item to select.

Italics

Used to emphasize a word or a phrase.

<Key>

Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.

Example: <Enter> means that you must press the Enter or Return key.

<Key1> + <Key2> + <Key3>

If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).

Command

Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets. Example: At DOS prompt, type the command line:

format A:/S

Installation Information

1

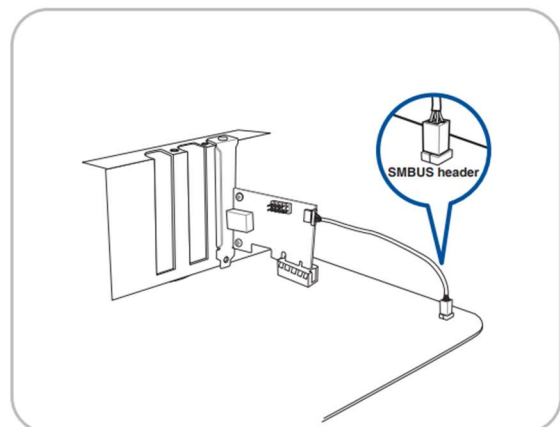
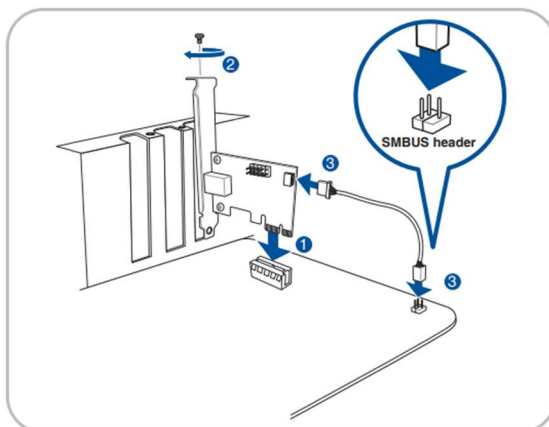
1.1 Before you proceed

Take note of the following precautions before you install the DASH Lan card to the client device's motherboard.



- Unplug the server system power cord from the wall socket before touching any component.
- Use a grounded wrist strap or touch a safely grounded object or to a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1.2 Hardware installation



To Install the DASH Lan card:

1. Install the DASH Lan card to the PCIe x16 slot on your motherboard.

2. Install the bracket to your chassis.
3. Connect the DASH Lan card and the SMBUS header on your motherboard using the bundled SMBUS cable.

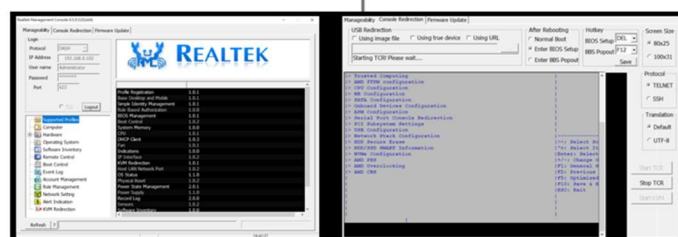
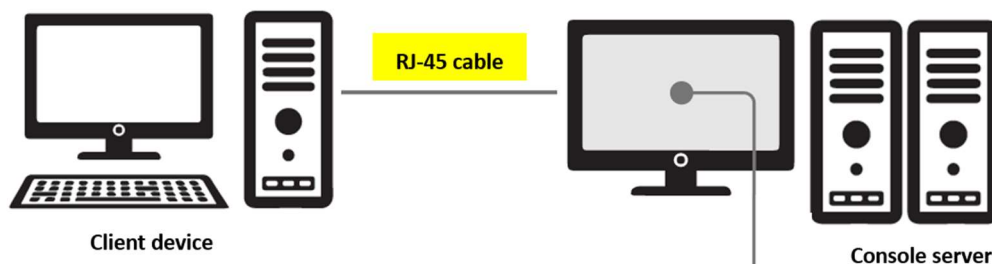


- Shut off power supply when installing the DASH Lan card.
- Before installing and using the DASH Lan card, carefully read the manual that came with the package.
- Use ONLY the bundled SMBUS cable

1.3 Network setup

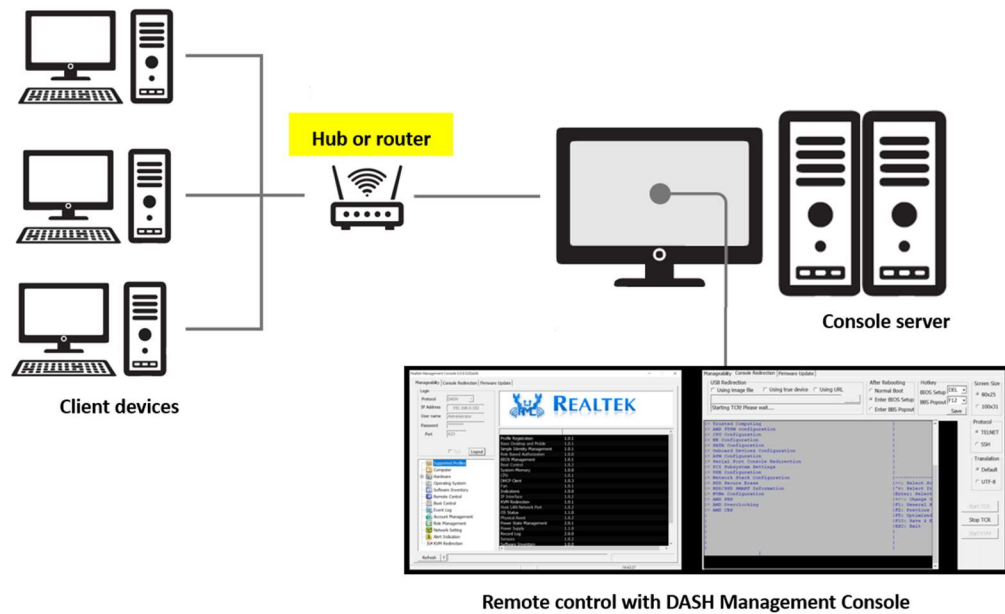
The DASH Lan card installed on the client device motherboard connects to a local/central server via direct LAN connection or through a network hub. Below are the supported network management configurations.

Direct LAN connection



Remote control with DASH Management Console

LAN connection through a network hub



You can configure the IP addresses of Console and Client according to your needs, but please note both console and client IP address should be the same domain.

BIOS Configuration

2

Before using the DASH remote management controller, ensure to download the BIOS version which supports the DASH Lan card for the client device motherboard. Follow the steps below to configure the BIOS settings of the client device after updating the BIOS.

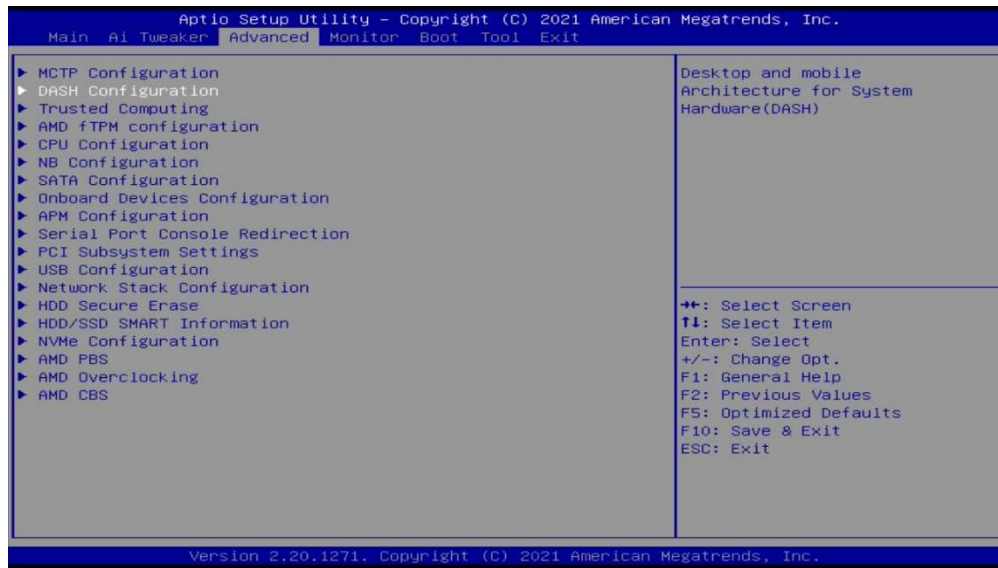


- Update the motherboard BIOS file following the instructions in the other board user guide. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard.
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

2.1 Running the BIOS Configuration

To configure the DASH in the BIOS:

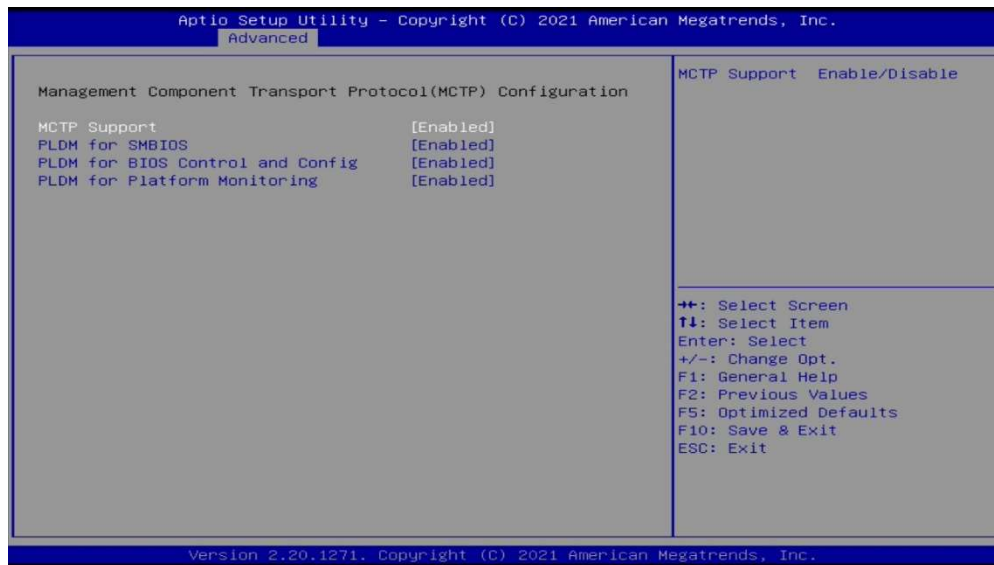
1. Restart the client device, then press or <F2> during POST to enter the BIOS setup.
2. Go to the Advanced menu, then select the MCTP Configuration, DASH Configuration and Serial Port Console Redirection sub-menu to configure the DASH settings.
3. When finished, press <F10> to save your changes and exit the BIOS setup.



Not all BIOS items are mentioned in this section as they may vary between system models. Only the DASH related items are mentioned.

2.2 MCTP Configuration

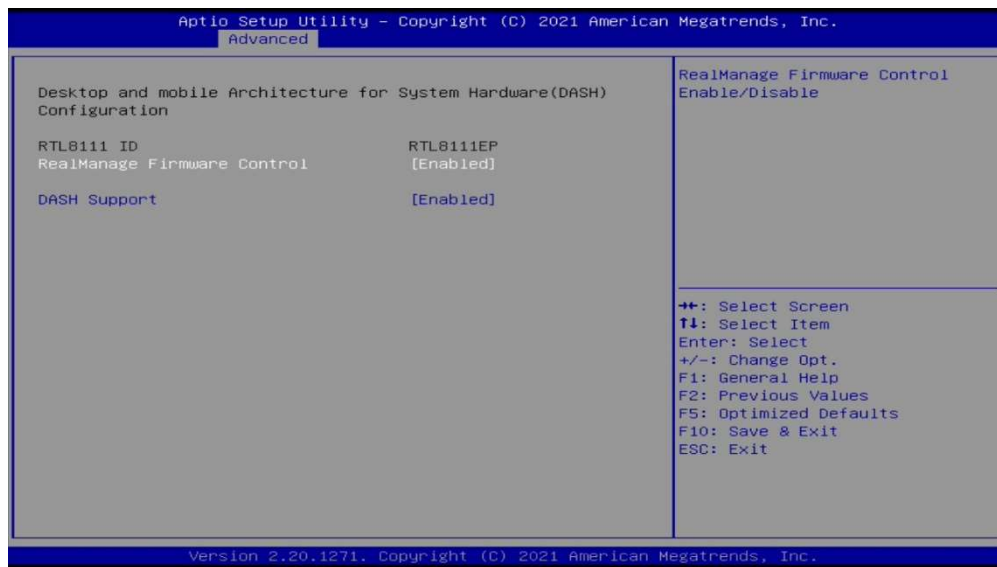
The MCTP Configuration menu displays the Management Component Transport Protocol configuration and allows you to change the settings. Please make sure the configuration of the following items is enabled.



- **MCTP Support:** Allows you to configure the Management Component Transport Protocol support. Configuration options: **[Enable]** [Disable]
- **PLDM for SMBIOS:** Allows you to configure the Platform Level Data Model for SMBIOS. Configuration options: **[Enable]** [Disable]
- **PLDM for BIOS Control and Config:** Allows you to configure the Platform Level Data Model for BIOS control and configuration. Configuration options: **[Enable]** [Disable]
- **PLDM for Platform Monitoring:** Allows you to configure the Platform Level Data Model for platform monitoring and control. Configuration options: **[Enable]** [Disable]

2.3 DASH Configuration

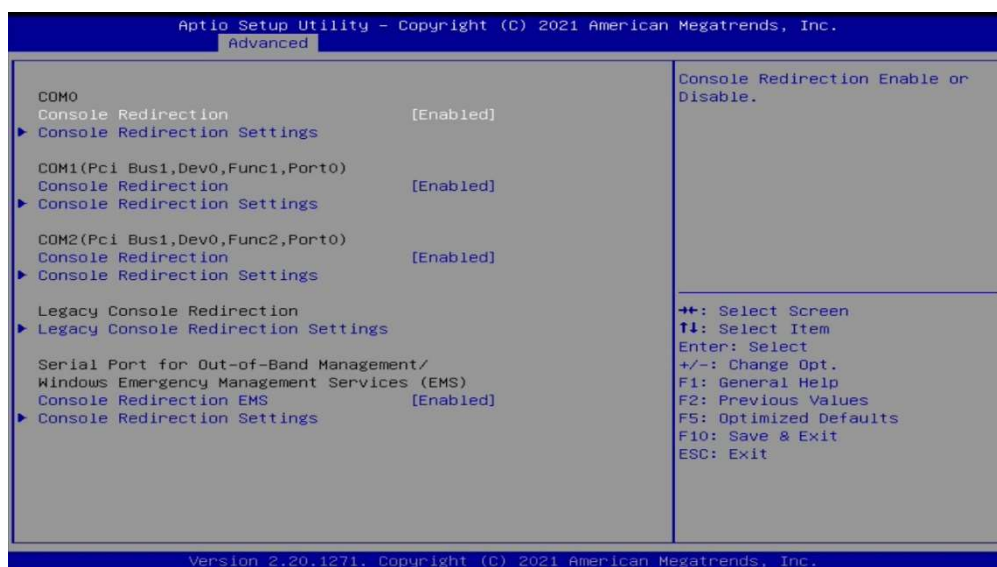
The DASH Configuration menu displays the desktop and mobile architecture for DASH system hardware configuration and allows you to change the settings. Please make sure the configuration of the following items is enabled.



- **RealManage Firmware Control:** Allows you to configure the RealManage Firmware Control. Configuration options: [Enable] [Disable]
- **DASH Support:** Allows you to configure the DASH Support. Configuration options: [Enable] [Disable]

2.4 Serial Port Console Redirection

The Serial Port Console Redirection menu displays the console redirection configuration and allows you to change the settings. Please make sure the console redirection item is enabled before you use the text console redirection (TCR) service.



COM0

- **Console Redirection:** Allows you to configure the console redirection.
Configuration options: [**Enable**] [Disable]
- **Console Redirection Settings:** Allows you to configure the console redirection settings. Press <Enter> to view and set the console redirection settings.

COM1

- **Console Redirection:** Allows you to configure the console redirection.
Configuration options: [**Enable**] [Disable]
- **Console Redirection Settings:** Allows you to configure the DASH Support. Press <Enter> to view and set the console redirection settings.

COM2

- **Console Redirection:** Allows you to configure console redirection. Configuration options: [**Enable**] [Disable]
- **Console Redirection Settings:** Allows you to configure the DASH Support. Press <Enter> to view and set the console redirection settings.

Console Redirection Settings

- **Terminal Type:** Allows you to select the terminal type.
Configuration options: [VT100] [**VT100+**] [VT-UTF8] [ANSI]
- **Bits per second:** Allows you to select the serial port transmission speed.
Configuration options: [9600] [19200] [38400] [57600] [**115200**]
- **Data Bits:** Allows you to configure the data bits.
Configuration options: [7] [**8**]
- **Parity:** Allows you to select the parity.
Configuration options: [**None**] [Even] [Odd] [Mark] [Space]
- **Stop Bits:** Allows you to select the stop bit.
Configuration options: [**1**] [2]
- **Flow Control:** Allows you to select the flow control.
Configuration options: [**None**] [Hardware RTS/CTS]
- **VT-UTF8 Combo Key Support:** Allows you to configure the VT-UTF8 Combination Key Support for ANSI/VT100 terminals.
Configuration options: [Disabled] [**Enabled**]
- **Recorder Mode:** Allows you to configure the recorder mode.

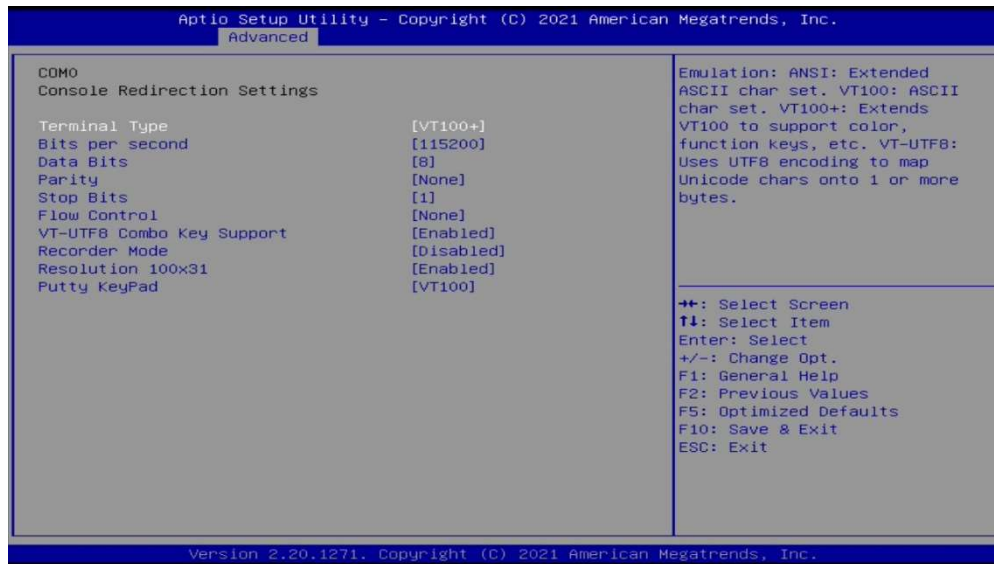
Configuration options: **[Disabled]** [Enabled]

- **Resolution 100x31:** Allows you to configure the extended terminal resolution.

Configuration options: **[Disabled]** [Enabled]

- **Putty KeyPad:** Allows you to select functionkey and keypad on putty.

Configuration options: **[VT100]** [LINUX] [XTERM6] [SCO] [ESCN] [VT400]



The serial port transmission speed must be matched on the other side.
Long or noisy lines may require lower speeds.

Legacy Console Redirection

- **Legacy Console Redirection Settings:** Allows you to configure the Legacy Console Redirection settings. Press <Enter> to view and set Legacy Console Redirection settings

Legacy Console Redirection Settings

- **Redirection COM Port:** Allows you to select a COM port to display redirection of legacy OS and legacy OPRM message.
Configuration options: [COM0] [COM1 (...)] [COM2 (...)]
- **Resolution:** Allows you to select the number of rows and columns supported redirection on legacy OS.
Configuration options: **[80x24]** [80x25]

- **Redirect After POST:** Allows you to select the redirect after POST.
Configuration options: [**Always Enable**] [BootLoader]



When BootLoader is selected, then Legacy Console Redirection is disabled before booting to legacy OS. When Always Enable is selected, then Legacy Console Redirection is enabled for legacy OS.

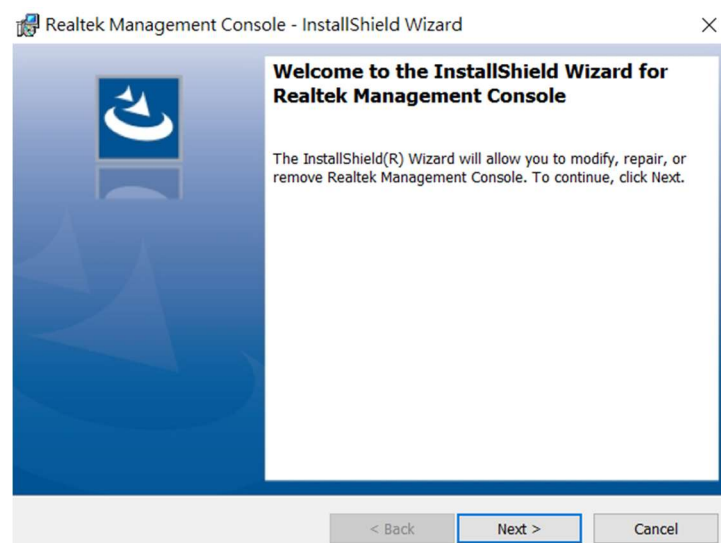
Management Software

3

3.1 Software Installation

Console Tool

Please install the DASH Management Console on console server, doubly click Realtek Management Console Setup.exe to install DASH Management Console.



Client Tool

The client tool is responsible for graceful remote operations, gathering in-band software information, and synchronizing in-band IP address to out-of-band. Please use Realtek DASH all in one driver to install the client tool.

Click the icon on the toolbar to view the client tool and the status of DASH management controller.



3.2 DASH Management Console

The DASH Management Console allows you to monitor the hardware status, remote power control, USB redirection, console redirection, or view the hardware assets information of your client DASH device.



The client device needs to support DASH remote management controller, and DASH function needs to be enabled in the client device's BIOS settings.

3.3 Discovery:

You can use Discovery page to discover your client DASH devices.

DISCOVERY			
Start IP Address	192.168.0.1	to	192.168.0.254
Host Name			
Scan Port Lists	☒ 623 ☒ 664		
SCAN			

☒ All			
Discovered IP	Port	Protocol	Hostname
☐ 192.168.0.102	623	DASH	

IP	Port	Protocol
192.168.0.1	664	DASH-Secure
192.168.0.1	623	DASH

1. Enter the IP range and click Scan.
2. After the scan is completed, you can find the client DASH devices in the window.
3. Select and double-click the discovered IP to switch to the manageability page.

3.4 Login:

In the manageability page, you can log in to the DASH client device.

Realtek Management Console 0.5.9.520(x64)

Discovery Manageability Alert Indication

Login

Protocol

IP Address

User name

Password

Port

☐ TLS

16:34:33

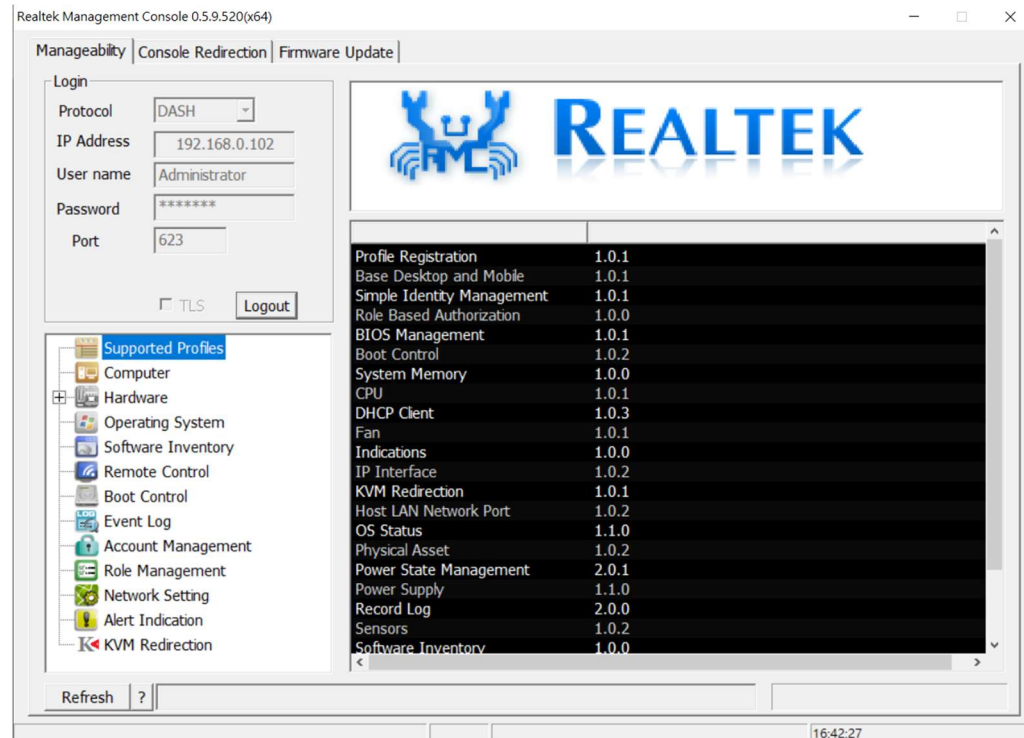
1. **IP Address:** Display/Enter the client IP address
2. **User name:** Enter the account for the client device's DASH remote management controller. (Default account: Administrator)
3. **Password:** Enter the password for the client device's DASH remote management controller. (Default password: Realtek)
4. **Port:** You may choose to enter the port for DASH
5. **TLS:** You may choose to enable/disable the TLS (Transport Layer Security)
6. Click **Login** when you are finished



You can also set the account and password for a single device with DASH through Account Management

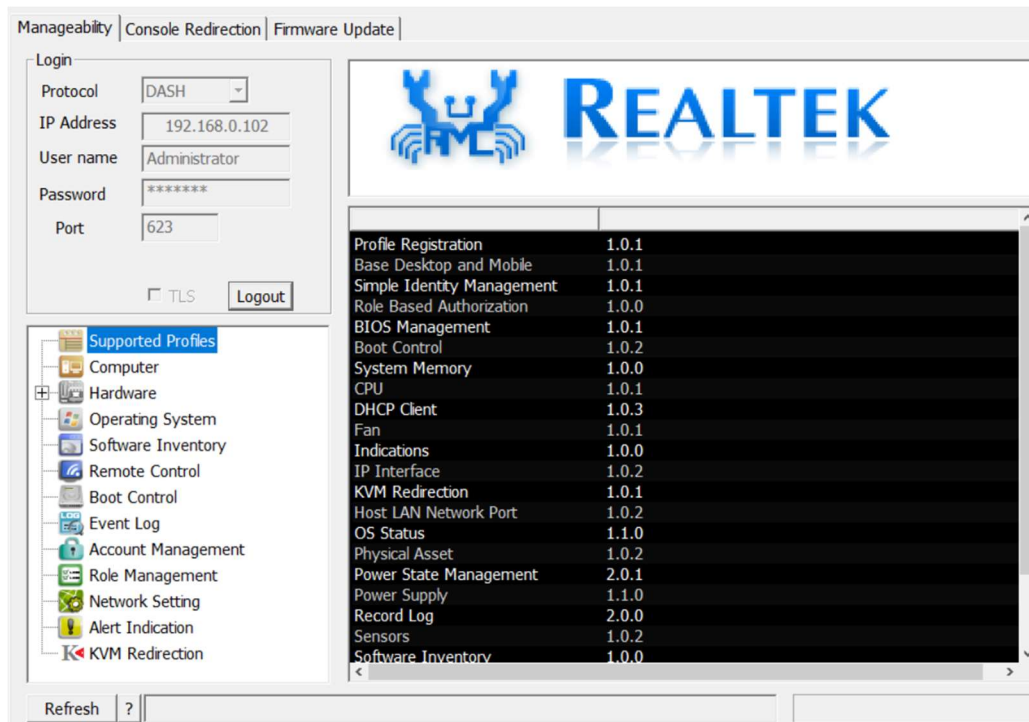
3.5 Manageability Menu

The Manageability allows you to monitor, manage and control your remote DASH device.



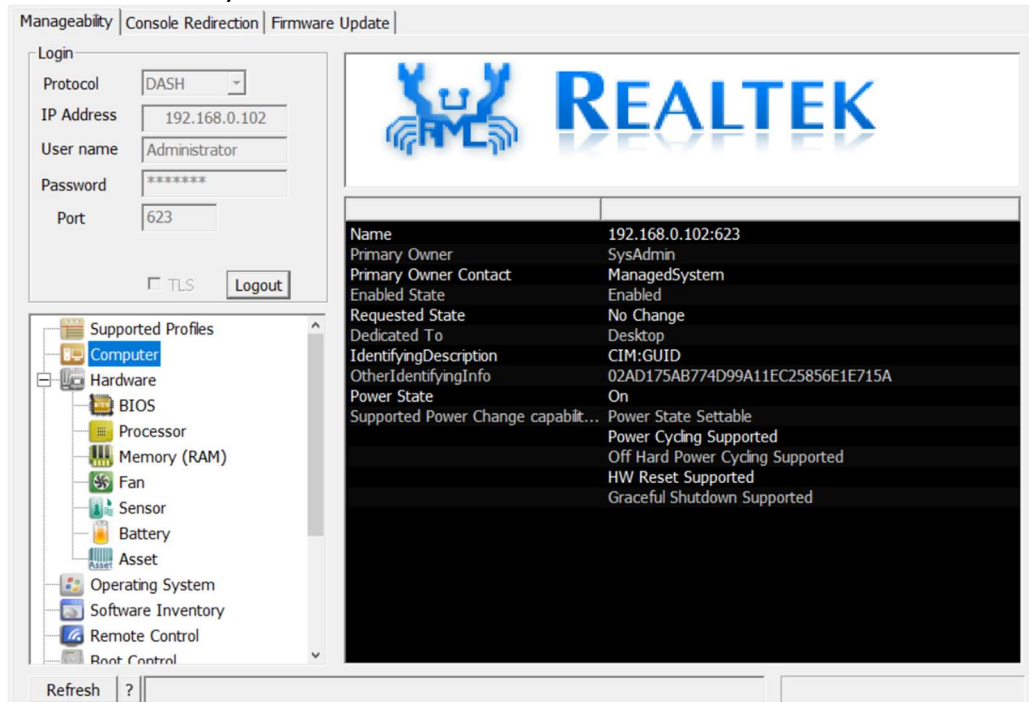
3.5.1 Supported Profiles

Displays the version information for the different profiles of the client device's DASH. This information may vary depending on the support of the client device's DASH remote management controller.



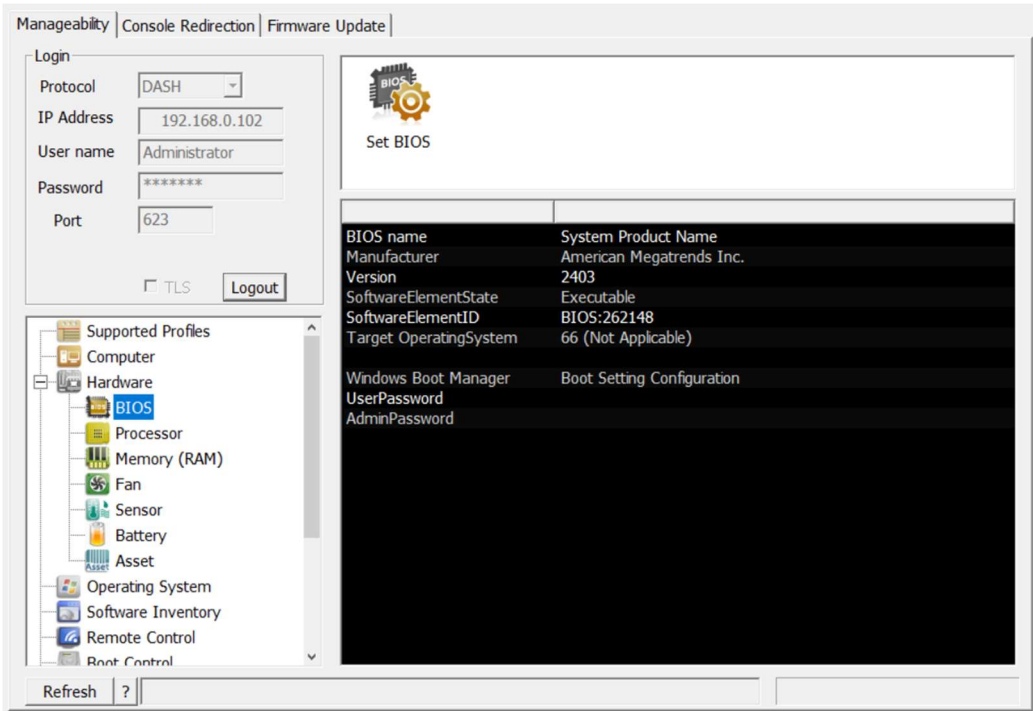
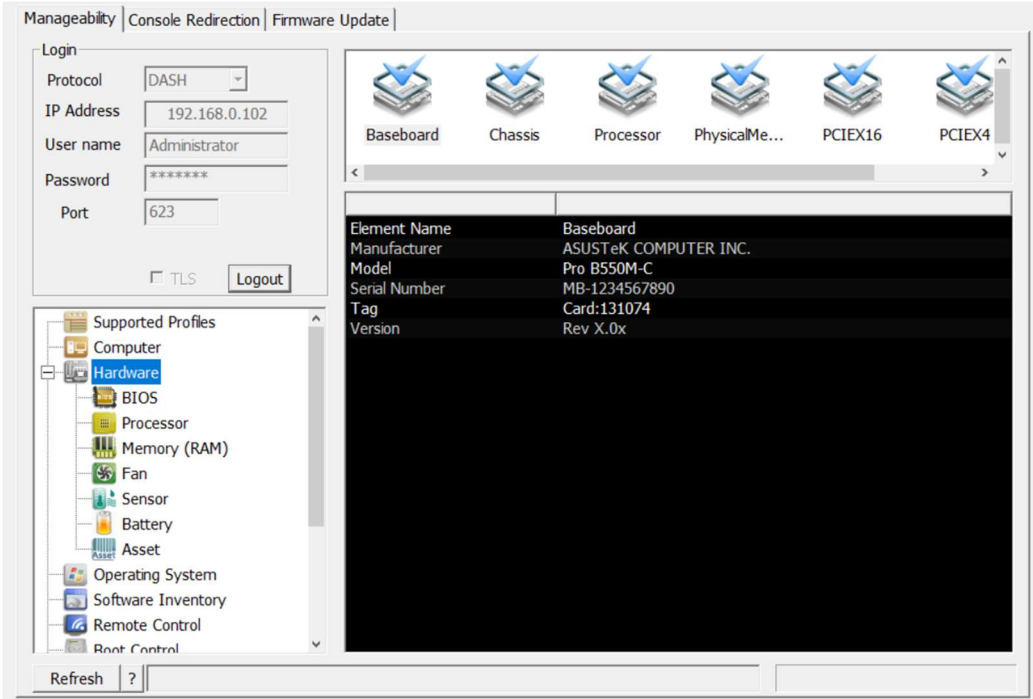
3.5.2 Computer

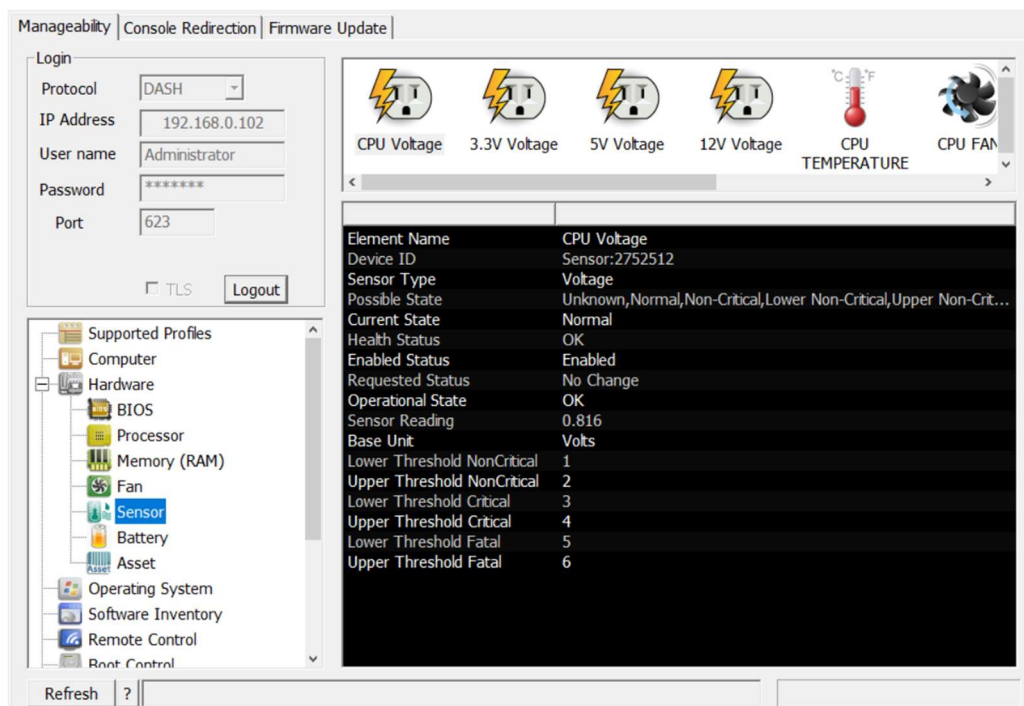
This item allows you to view the current information of the client DASH device.



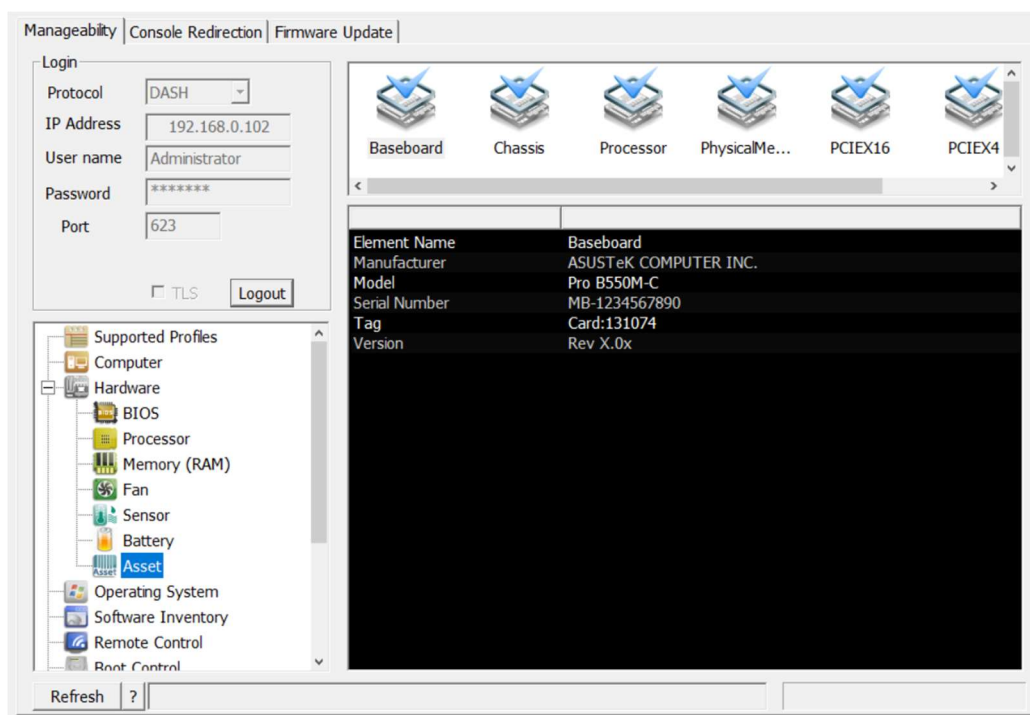
3.5.3 Hardware

This item allows you to view BIOS, Processor, Memory, Fan, Sensor, Battery, and Asset information. You can check the voltage, temperature, and fan rotation information of the client DASH device.



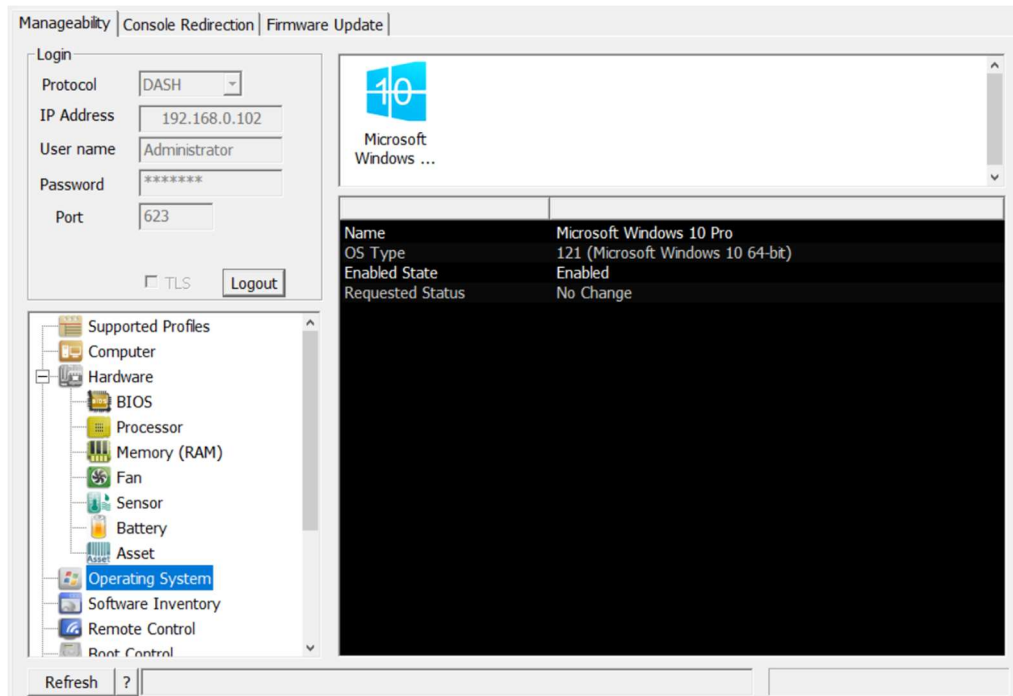


Voltage	Displays the voltage of the device hardware.
IP Address	Displays the temperature of the device hardware.
Subnet Mask	Displays the fan rotation speed of the device hardware.



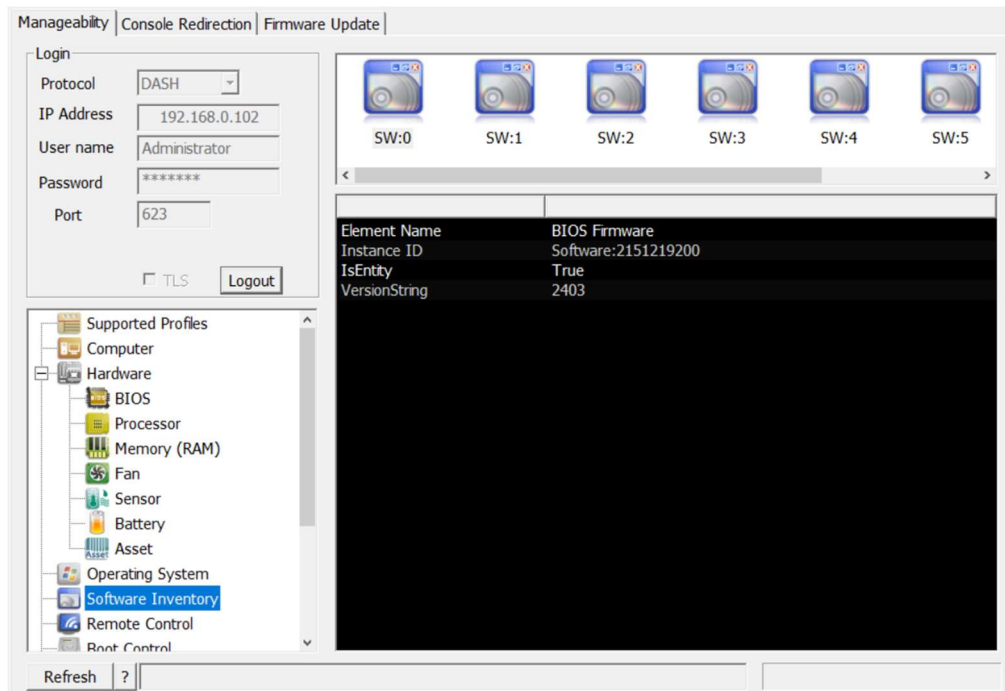
3.5.4 Operating System

This item allows you to view the operating system information of the client DASH device.



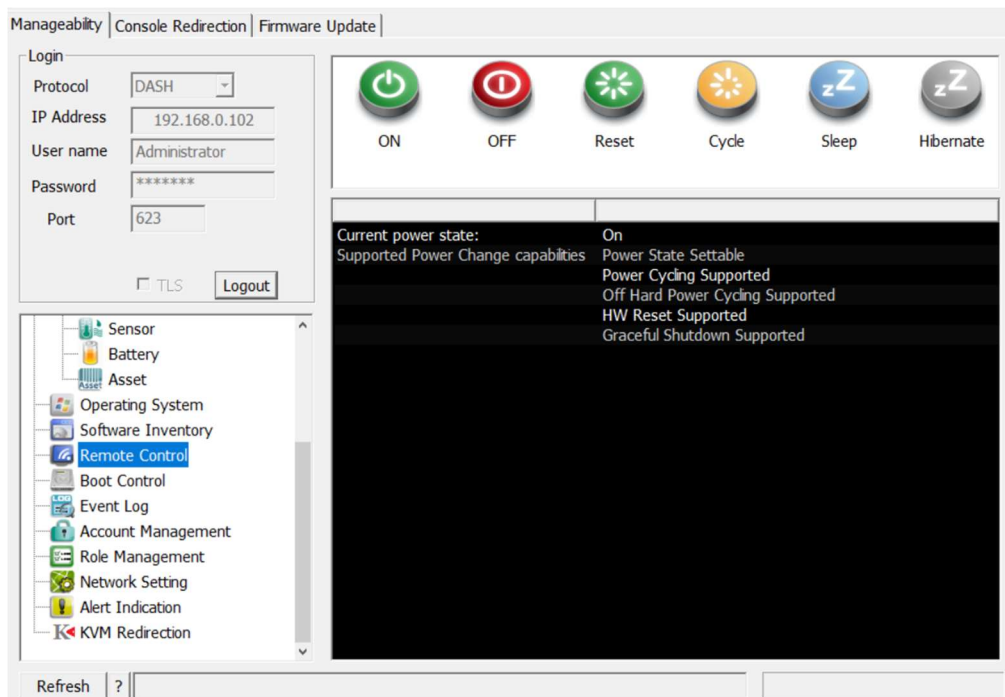
3.5.5 Software Inventory

This item allows you to view the Bios and NIC Firmware information.



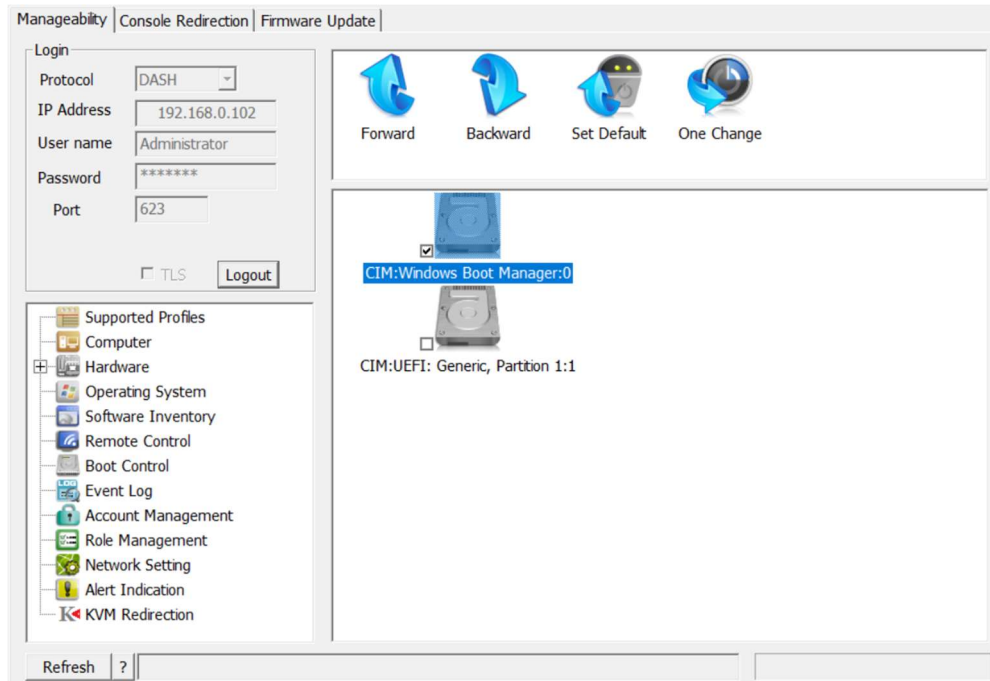
3.5.6 Remote Control

Allows you to remotely execute power control functions on the client device through the DASH remote management controller, such as a system restart.



3.5.7 Boot Control

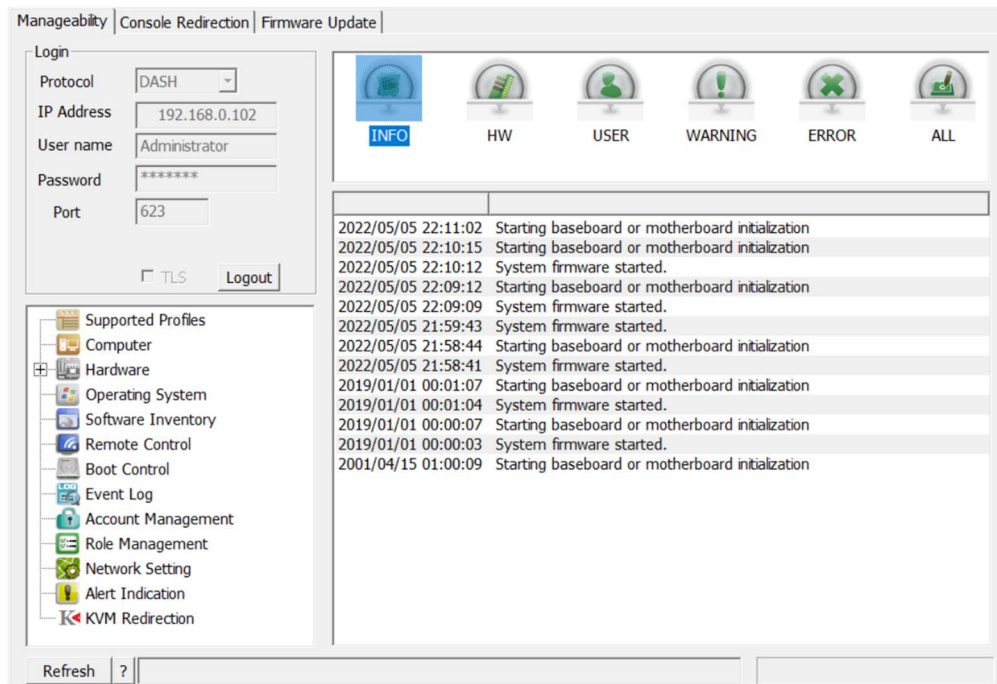
Allows you to set the client device's boot order through the DASH remote management controller.



- **Set Default:** System always boot from the selected hard disk.
- **Once Change:** System boot one time from the selected hard disk.

3.5.8 Event Log

This item allows you to view system issues or problems of the client DASH device.

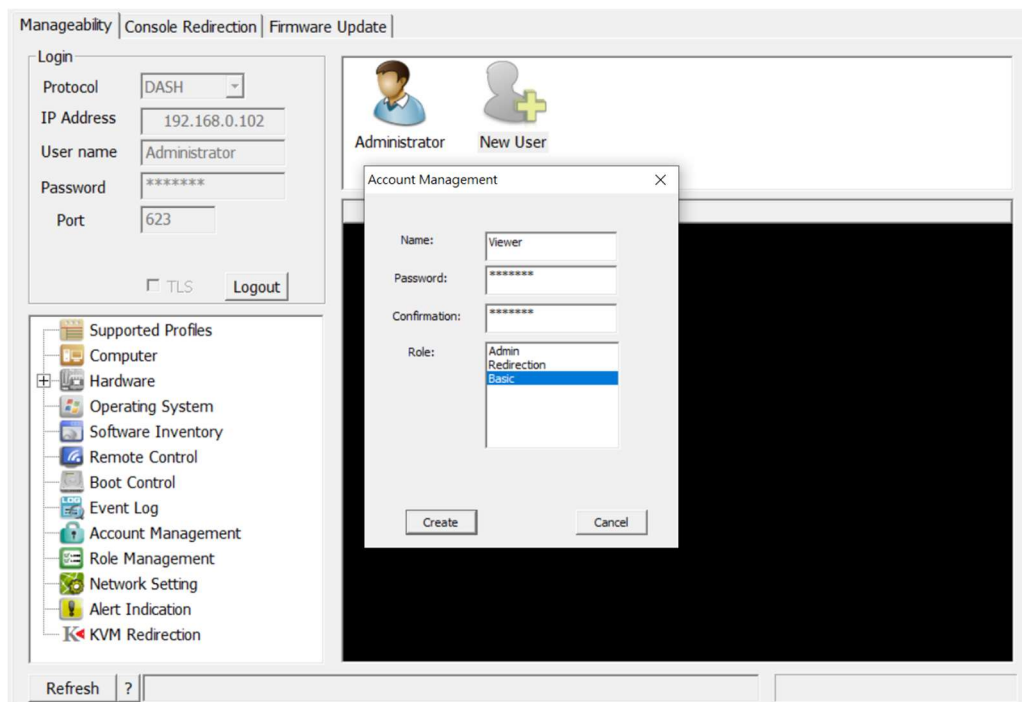


3.5.9 Account Management

This item allows you to add, delete, enable, or disable a DASH remote management controller account.

Adding a new account

1. Click on **New User**.
2. Enter the information of the new account and select the role of the account
3. Click on **Create**.

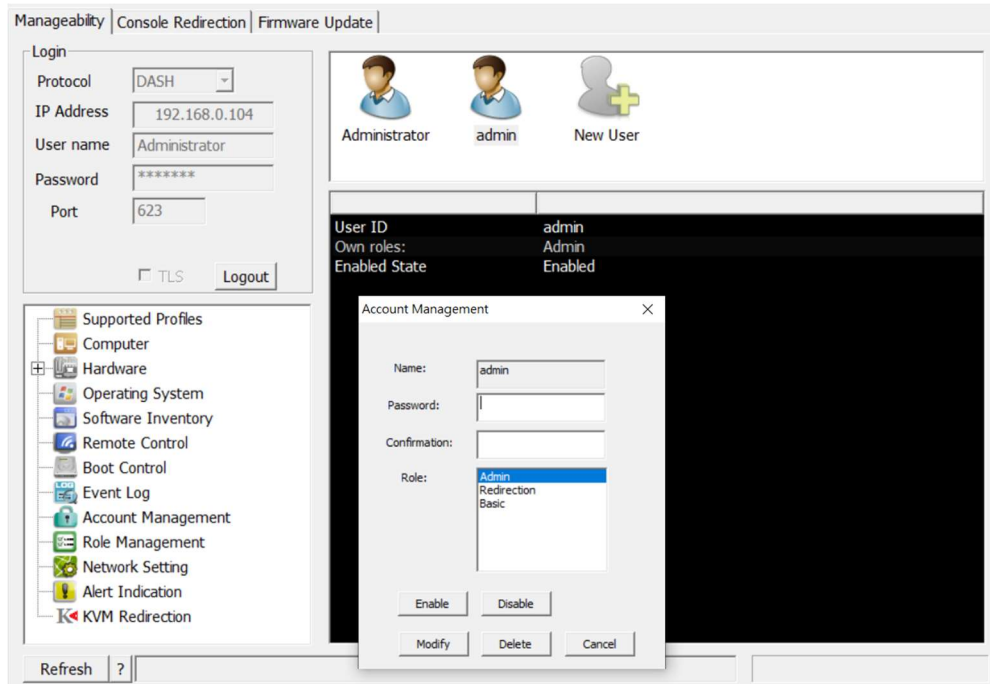


Username	Enter the username.
Password	Enter the password.
Confirm Password	Re-enter the password.
Role	Select the role for the account.

Editing or deleting account

Only newly added account can be deleted. The default administrator account can only be edited and cannot be deleted.

1. Select and double-click the account.
2. You may edit the Password 、 Enable 、 Disable or Delete the account.
3. If you chose to edit the account, click on **Modify** once you are finished.



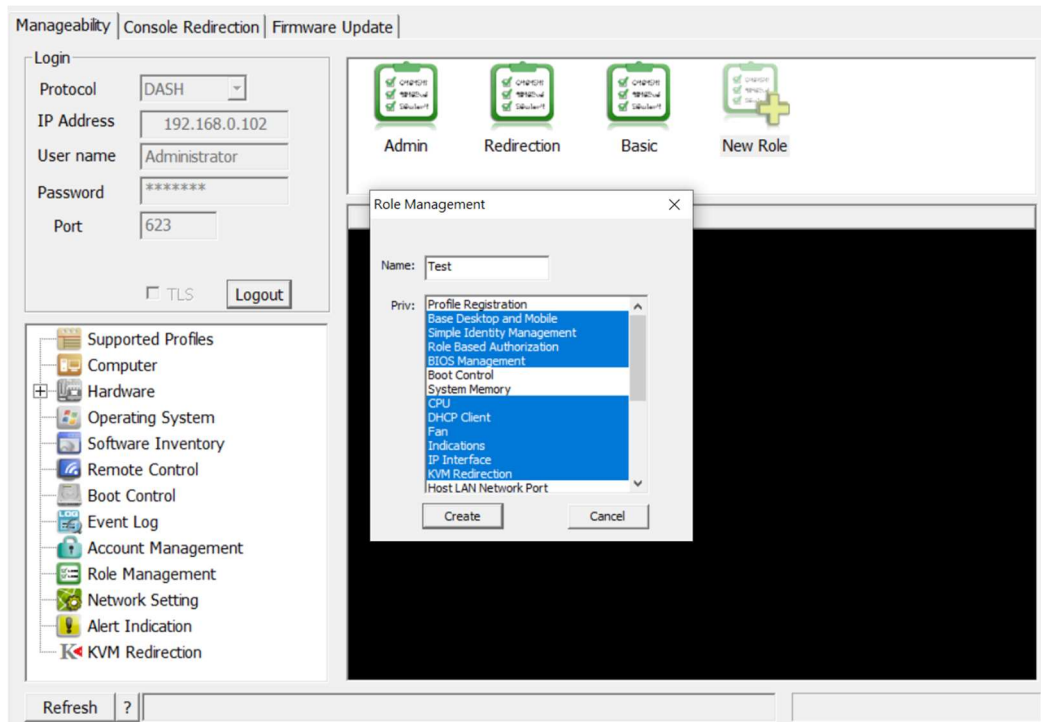
- The account and password for the DASH remote management controller is limited to 15 characters.
- Only newly added accounts can be deleted. The default administrator account can only be edited and cannot be deleted.

3.5.10 Role Management

This item allows you to manage role privileges of a DASH account. To access Role privileges, click on the **Role** you would like to manage role privileges of.

Adding a new role

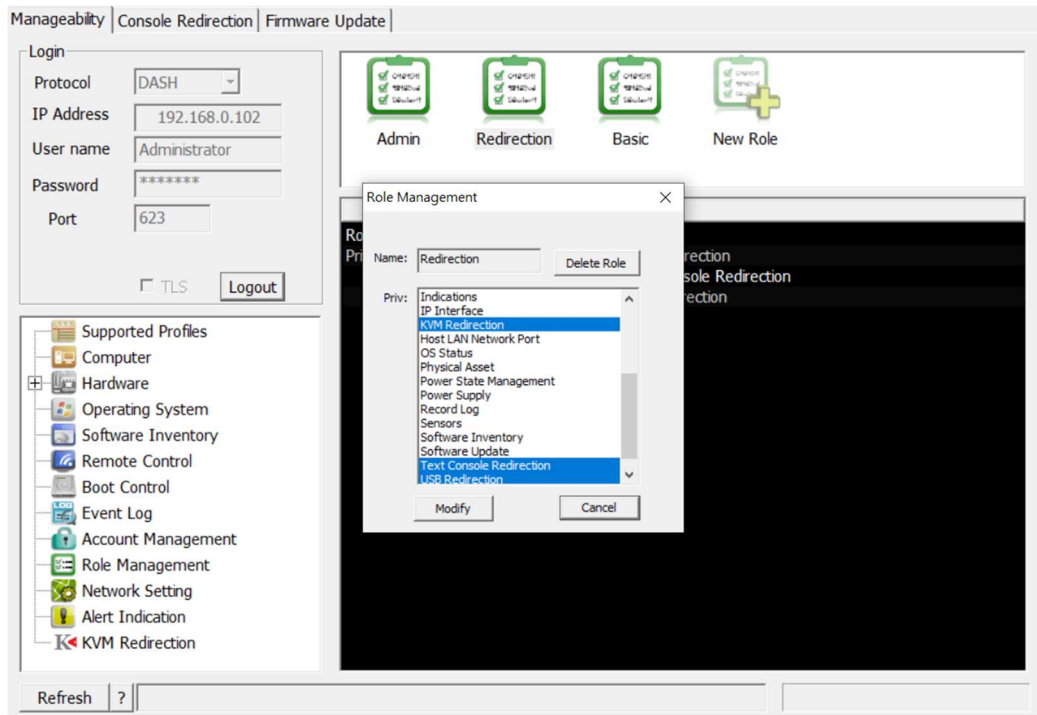
1. Click on **Add New Role**.
2. Enter the **Role Name**.
3. Select the privileges the new role will have from the **Privilege Configuration** list.
4. Click on **Create**.



Editing or deleting a role

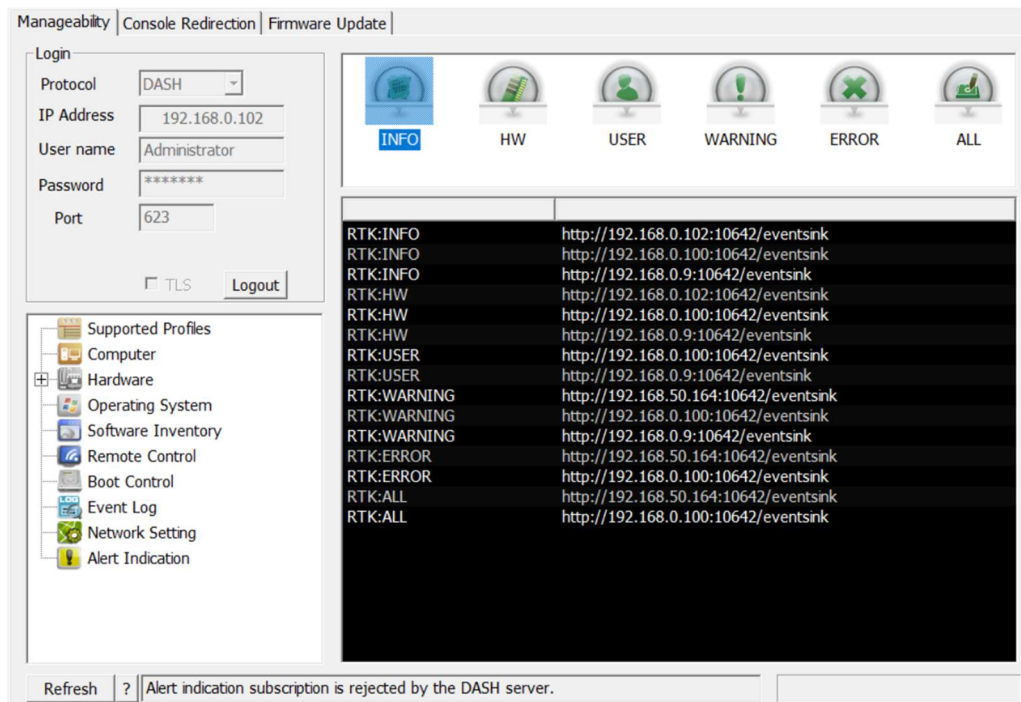
Only newly added roles can be deleted. The default administrator role can only be edited and cannot be deleted.

1. Click on the role you would like to edit or delete.
2. You may edit the role name and role privileges, or click **Delete** to delete the role.
3. If you chose to edit the role, click on **Modify** once you are finished.

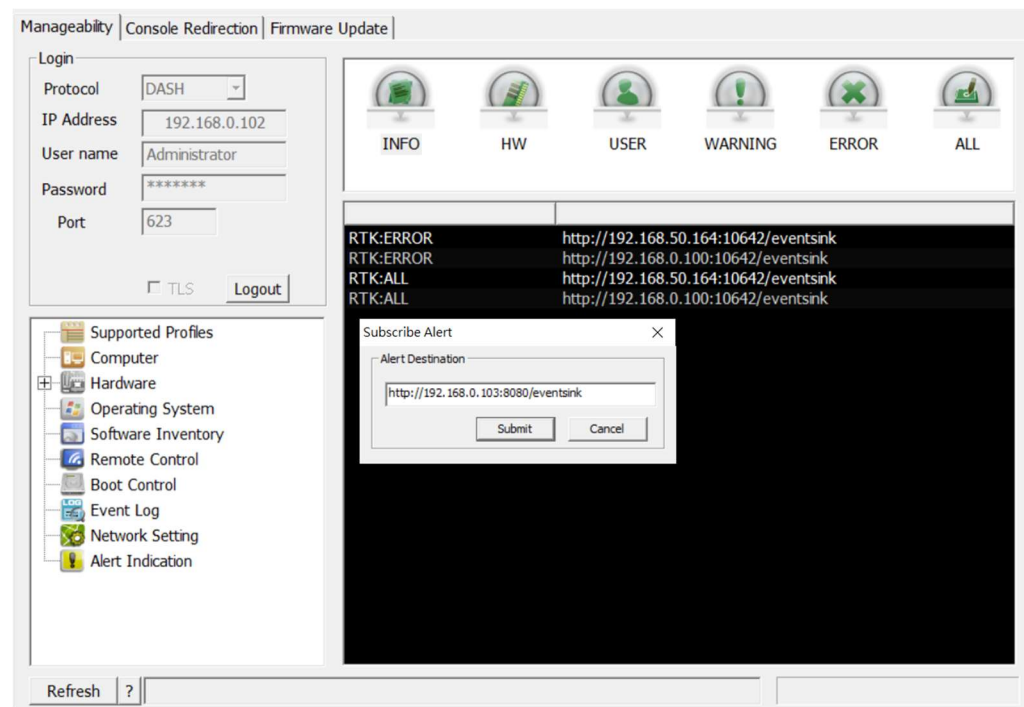


3.5.11 Alert Indication

Allows you to set the client device's DASH platform event alert indications. You can configure alerts to monitor the client system from selected event log (INFO, HW, USER, WARNING, ERROR and ALL).



1. Select and double-click the event.
2. Click on **Submit**.

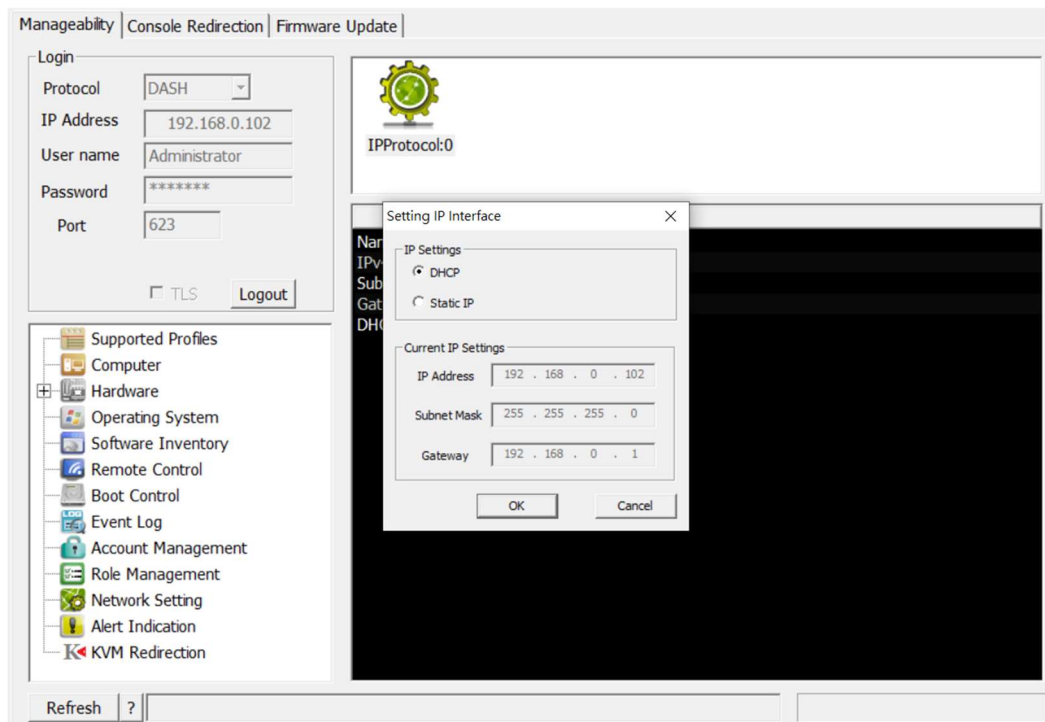


The Alert Indication categories you can set may vary depending on the support of the client device's DASH remote management controller.

Click on **Start listening alert** bottom in the Alert Indication tab of DASH Management Console, the event server will start automatically.

3.5.12 Network Setting

This item allows you to set the wired and wireless network settings of the client DASH device.



You can only configure the network settings if the client device has not booted into OS. Once the client device has booted into OS, you can only view the network settings and will not be able to configure the settings

IP Settings	Select to use Static IP address , or Automatically use DHCP server for the client device's IP
IP Address	Displays the IP state or allows you to set the IP address.
Subnet Mask	Displays or allows you to set the Subnet Mask.
Gateway	Displays or allows you to set the Gateway.

3.6 Text Console Redirection (TCR)

This item allows you to redirect a USB storage device or image file 、 perform KVM or console and keyboard redirection of a client DASH device

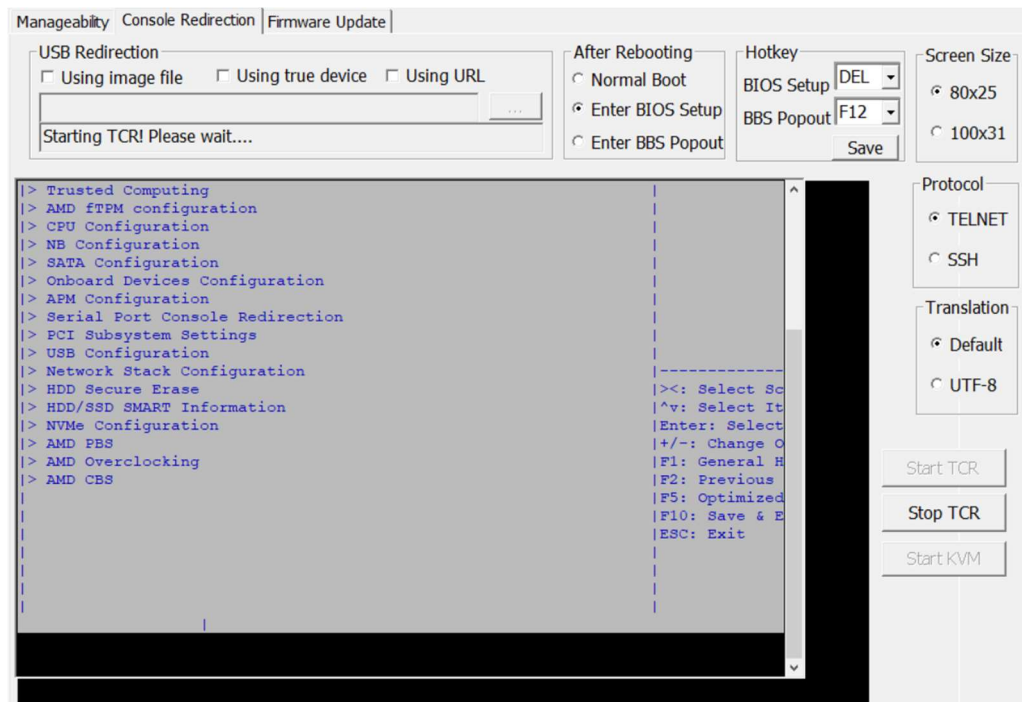


Before using the Text Redirection function, ensure to complete the COM Port settings for Serial Port Console Redirection connection in the client device's BIOS.

After Booting	Select if the next reboot will be a normal boot 、 enter BIOS setup or BBS Popout
Screen Size	Select the resolution of the console.
Protocol	Select the connection method between Telnet or SSH.
Encode	Select the character encryption between UTF-8 or default.
Hotkey	Select a hotkey for powering on.

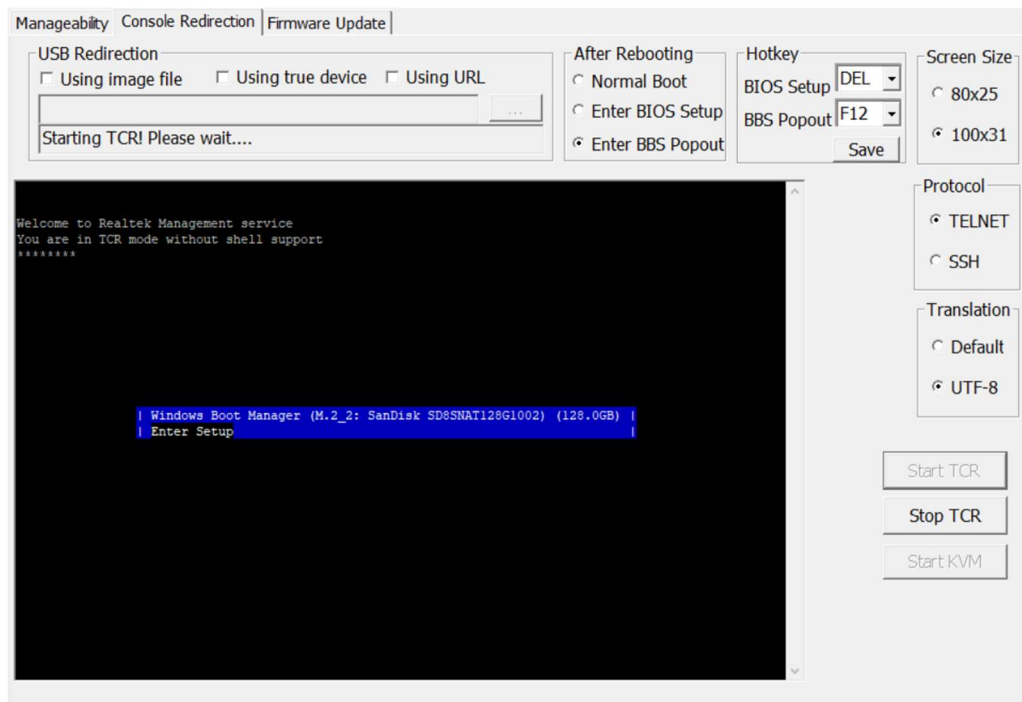
Enter BIOS Setup

1. Select **Enter BIOS Setup**.
2. Setup the Hotkey as needed.
3. Click "**Start TCR**".
4. Reboot the system.



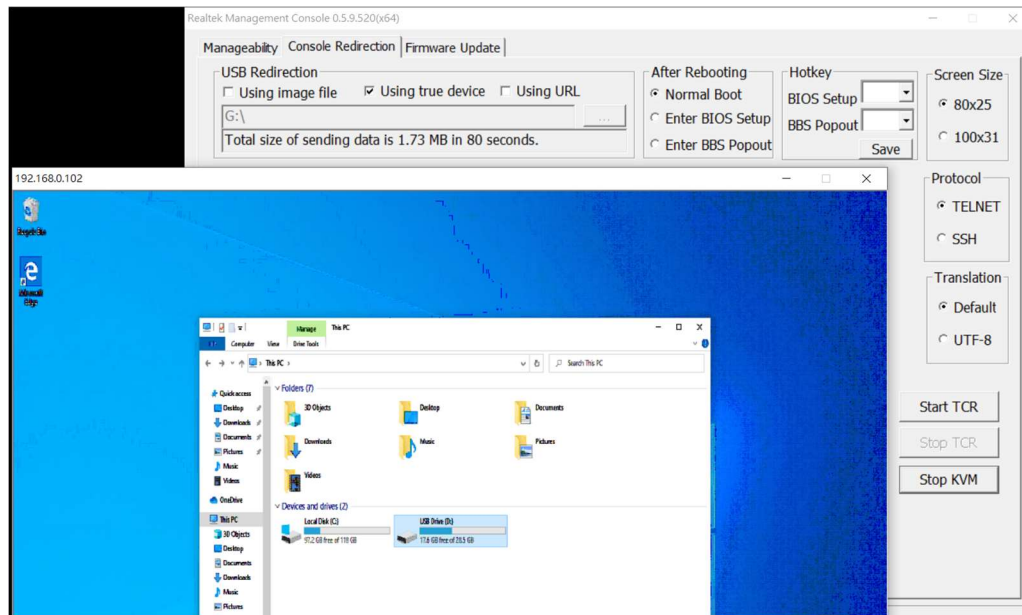
Enter BBS Popout

1. Select **Enter BBS Popout**.
2. Setup the Hotkey as needed.
3. Click "**Start TCR**".
4. Reboot the system.



USB Redirection & KVM

1. Select **using image file** (from server's image files) 、 **using true device** (from server's removable USB devices) or **using URL**.
2. Click **"Start KVM"**.



Using image file	Select an image file you wish to mount onto the client device.
Using true device	Allow the client device access to a selected USB storage device connected to the main server device.
Using URL	Enter the link to an image file you wish to mount onto the client device.

3.7 Firmware Update

This item allows you to update the firmware of the DASH remote management controller, and also displays the results of the firmware update.

1. Select **Legacy** or **UpdateFormURI**.
2. Choose the file.
3. Click **Start Update**.

Manageability | Console Redirection | Firmware Update

Firmware Update

☒ Legacy

☐ UpdateFromURI

C:\Users\kuowei_huang\Desktop\Jenkins-113-signed-68EPSPIB-5.0.23-bb1ba15a-amd-UI-2MB-relea

...

Start Update