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Thank you for buying Moxa’s DA-820 panel computer. The pre-installed Windows 7 Embedded software platform provides users with a simple and familiar development environment for creating a variety of industrial applications.

See below for the list of Windows Embedded Standard 7 software components pre-installed on the DA-820 computer.

**Core OS:**
- 64-bit support
- Remote Client
- Remote Procedure Call

**Applications and Services Development:**
- .Net Framework 3.5
- Remote Desktop Protocol 7.1
- COM OLE Application Support
- COM+ Application Support
- MSMQ

**Internet Services:**
- Internet Explorer 8.0
- IIS 7.0

**File Systems and Data Storage:**
- Windows Data Access Components
- Windows Backup and Restore

**Diagnostics:**
- Common Diagnostic Tools
- Problem Reports and Solutions

**Fonts:**
- Chinese (Trad. and Simp.), Japanese, Korean, Western, Middle Eastern, South East Asian, and South Asian Fonts

**Graphics and Multimedia:**
- MPEG DTV-DVD Audio Decoder (MPEG-2, AAC)
- MPEG Layer-3 Audio Codecs(MP3)
- MPEG4 Decoders
- Windows Media Video VC-1 (WMV) Codecs
- DirectX and Windows Device Experience
- Windows Media Player 12
- Create and Play DVDs
- Photo Viewer
- Remote media streaming
- Windows Media Center

**International:**
- IME Simplified Chinese Support
- IME Traditional Chinese Support
- IME Japanese Support
- IME Korean Support
Management:
- Group Policy Management
- Windows Management Instrument (WMI)
- Windows Update

Networking:
- Extensible Authentication Protocol (EAP)
- Internet Authentication Service
- Telnet Server
- Bluetooth
- Domain Services
- Network Access Protection
- Network and Sharing Center
- Quality of Service
- Remote Access Service (RAS)
- Telephony API Client
- Windows Firewall
- Wireless Networking

Security:
- Credential Roaming Service
- Credentials and Certificate Management
- Windows Authorization Manager (AZMAN)
- Windows Security Center
- Active Directory Rights Management
- Security Base
- Encrypted File System (EFS)
- MS AntiMalware
- Windows Defender
- Bitlocker Secure Startup
- Applocker

Enterprise Features:
- Enterprise Search Scopes
- BranchCache
- DirectAccess
- Windows XP Mode

Embedded Features:
- Enhanced Write Filter (EWF)
- File-Based Write Filter (FBWF)
- Message Box Default Reply
- Registry Filter
- WSDAPI for .NET

Embedded Self-Health Diagnostics: SNMP-based remote scripting layer for monitoring, reporting, and control
In this chapter, we describe how to initialize the system settings on the DA-820 computer when you boot up the computer for the first time.

The following topics are covered in this chapter:

- Initializing User Settings
Initializing User Settings

As with most laptop computers, for the embedded computer to work properly, you first need to create a user account with a unique username. Take the following steps to do this:

1. When you boot up the embedded computer for the first time, enter the username you will use to log in to this computer.

2. If you would like your username to be password protected, type a password, and then retype the password. In addition, you may also type a password hint in case you forget your password. If you do not want to set a password, leave all three input fields blank. Click **Next** to continue.

3. Select a windows update option.
4. Select the computer’s current location. Windows will automatically apply the correct network settings based on the location of the network.

5. You can now start using your DA-820 embedded computer.
In this chapter, we describe how to configure the DA-820 computer’s serial interface.

The following topics are covered in this chapter:

- Overview
- Configuring the Serial Interface Mode
Overview

The DA-820 has two serial ports, labeled COM1 and COM2. Each serial port can be configured to use any of the following serial interface modes: RS-232, RS-485-2-wire, or RS-422/RS-485-4-wire.

Configuring the Serial Interface Mode

Take the following steps to configure a port's serial interface mode.

1. Open device manager and right-click MOXA CP-102E Series (PCI Express Bus) under Multi-port serial adapters.

2. Select Properties.

3. Click on the Ports Configuration tab, select the COM port whose serial interface you want to configure (e.g., COM1), and then click Port Setting.
4. Select the serial interface from the **Interface** drop-down box, and then click **OK**.

5. Check to make sure that the serial interface has been changed.
4

Enabling Embedded Filters

In this chapter, we describe how to use the Enhanced and File-Based Write Filters.

The following topics are covered in this chapter:

- **Enhanced Write Filter**
  - Overview
  - Enabling Enhanced Write Filter

- **File-Based Write Filter**
  - Overview
  - Configuring File-Based Write Filter
Enhanced Write Filter

Overview

Enhanced Write Filter (EWF) provides a means for diverting writes from one disk to another, thereby allowing the operating system (OS) to appear to boot from a write-protected hard disk. All data written to an EWF-protected volume (the hard disk in the following figure) is redirected to an overlay (the EWF volume in the following figure). Because EWF does not write data to the hard disk directly, it can protect the hard disk from sudden power losses. The written data is cached in the overlay and made available (seemingly) as part of the hard disk, giving the appearance that the hard disk is writeable. The overlay is an independent storage location in random access memory (RAM). If desired, data stored in the overlay can be committed to the protected volume at a later time. The following figure gives an overview of the EWF structure.

Enabling Enhanced Write Filter

Take the following steps to enable the Enhanced Write Filter:

1. Right-click the lock icon on the left side.

2. Select the volume from the Volume Information list and then click Configure.
3. Select **Enable** from the Pending Command drop-down box.

4. Reboot the system.
5. Check to see if the lock icon has changed to locked state, as shown below.

![Image of lock icon]

6. Click **Configure**. {{where did this screenshot come from; appears automatically after restarting?}}
7. Select the volume, and then select the command you would like to use from the **Pending command** drop-down list.

---

**File-Based Write Filter**

**Overview**

According to Microsoft:

"File-Based Write Filter (FBWF) allows the Windows Embedded platform to maintain the appearance of read and write access on write-sensitive or read-only storage. FBWF makes read and write access transparent to applications.

Writing to storage media may be undesirable or impossible in embedded devices. FBWF redirects all writes targeted for protected volumes to a RAM cache called an overlay. Used in this context, an overlay is similar to a transparency overlay on an overhead projector. Any change made to the overlay affects the picture as seen in the aggregate, but if the overlay is removed, the underlying picture remains unchanged."

FBWF supports an advanced feature not supported by EWF. That is, it lets the user specify which directory on the disk drive data will be written to. The default setting is c:\temp, which means you can read/write the data into disk without commit action.

**Configuring File-Based Write Filter**

Take the following steps to enable file-based write filtering:
1. Right-click the lock icon on the right side.

2. Click **Configure**.
3. On the configuration tab, checkmark **Filter state enabled** and **Cache pre-allocation enabled**. Next, select **C:** from the Volume configuration list, and then click **Protect** and **Apply**, in that order.

4. Reboot the system.

5. Right-click the lock icon.
6. Click **Configure**.

7. Select the **Exclusion List** tab, and then click the browse button.
8. Select which file you would like to exclude from protection, and then click **Open**.

9. Click the + button.
10. Check to make sure that the file path has been added.

11. Select the **Cache Content** tab.
12. Select the file you would like to save to physical disk and then click **Commit**.

13. Reboot the system to activate the changes.
In this chapter, we describe Moxa SynMap, a software package you can use to easily control and monitor your DA-820 computer.

The following topics are covered in this chapter:

- Moxa SynMap Package
  - Overview
  - Moxa SynMap OIDs List
- Installing Windows SNMP Components
- Installing the Moxa SynMap Package
- Installing MXview
- Configuring MxView
- Loading a Moxa SynMap MIB File
- Loading a Host Resource MIB File
- Using Moxa SynMap OIDs
- Using HOST RESOURCE OIDs
Moxa SynMap Package

Overview

SynMap is Moxa’s revolutionary software virtualization, an evolutionary advance in network device control that adapts solid, reliable SNMP into a fully portable remote procedure interface. SynMap allows engineers to automate remote processes using SNMP object identifiers (OIDs) rather than device-specific addresses, making a scripted SynMap procedure fully interoperable with any other SynMap device. This means that a script created for one SynMap device can be directly copied to another, immediately conferring the same functionality. By eliminating the need to rewrite and compile code for newly configured devices, you can significantly reduce the amount of time needed for maintenance and deployment.

SNMP is lightweight and easy-to-configure, and has been used by IT professionals for many years. SNMP also enjoys comprehensive native support in high-level languages, including .NET, Java, Python, and Ruby. The SynMap framework has transformed SNMP into a universal configuration and control interface for remote procedures, adapting it not only to monitor and control device internals like temperature, BIOS parameters, and local interfaces, but also to report on and automate tasks at the process layer as well. Easily integrated into any existing Network Management System (NMS), SynMap devices are a flexible and cost-effective upgrade that returns obvious benefits to any IA network.

SynMap currently allows you to use SNMP for remote monitoring and control of a select set of computer processes, but its list of features is rapidly growing. Using SynMap’s fully portable scripts, engineers will soon be able to:

- Access, monitor, control, and report on digital I/O at both the process and hardware layers.
- Use OIDs to monitor, configure, and give process control over serial ports and other interfaces.
- Monitor and control system attributes and process events via any NMS.
- Build automated remote procedures using SynMap OIDs called by simple shell scripts, or a preferred high-level language such as Python, Perl, or VBScript—all without any need for low-level C APIs, or platform-specific libraries.
- Significantly simplify and reduce development times for custom utilities and automated executables.
- Gain scripting and automation independence from OS-dependent libraries.

All of this can be achieved using SNMP, the simple, reliable, familiar, and easily accessible standard every IT engineer knows. Discover how Moxa is expanding automation frontiers with Moxa’s innovative SynMap.

Moxa SynMap OIDs List

Check Appendix A: Moxa SynMap OID Table to review the complete list of Moxa SynMap OIDs.

Installing Windows SNMP Components

{{missing content}}

Installing the Moxa SynMap Package

To use Moxa SynMap on the DA-820 computer, you will first need to install the SynMap package. Take the following steps to install the Moxa SynMap package:

1. Double click mxSynMap_setup.msi, which is located in the following folder:
   `<software DVD>\utility\1.mxSynMap`
2. Click Next to continue.
3. Select the folder in which you would like to install the package, or simply click Next to continue if you want to use the default folder.

4. Click Next to continue.
5. Click **OK** to continue.

6. When finished, click **Close** to complete the installation.
7. You will need to restart the computer to start using SNMP on your DA-820 computer. Click Yes to reboot the system.

**Installing MXview**

In this section, we demonstrate how to use the MIB browser mxView to monitor and control Moxa SynMap OIDs. If you have already installed your own MIB browser, you can skip this section.

Take the following steps to install the MxView package:
1. Double click **MXView_Trial_V2.3.exe**, located in the following folder:
   `<software DVD>\utility\4.mxViewTrial`

2. Click **OK** to continue.

3. Click **Next** to continue.

4. Select "I accept the agreement" and then click **Next**.
5. Click **Next** to continue.

6. Click **Next** to continue.
7. Click **Next** to continue.

8. Click **Next** to continue.
9. Click **Install** to continue.

10. Wait while the program is being installed.
11. Change the HTTP port to the appropriate number for your setup (e.g., 81), and then click **Next** to continue.

12. Select “Yes, restart the computer now” and then click **Finish** to reboot the system.
13. After rebooting, the MXview shortcut will appear on your desktop.

Configuring MxView

Take the following steps to configure MXview:

1. Double click the **MXview Service** shortcut on the desktop.
2. Click **Start** to continue.

3. Wait for **System Status** to be running, and then click **Launch Client**.

4. MXview will invoke Internet Explorer.

**NOTE** You will need to configure Internet Explorer the first time you launch MXview. Continue with Step 5 below to complete the configuration.
5. Click **Next** to continue.

6. Select the "No, don't turn on" option, and then click **Next** to continue.
7. Select the "Use express settings" option, and then click **Finish** to complete the configuration.

8. To log in, type the default username (**admin**) in the Username field, and leave the password field blank. Click **Login** to continue.
9. If you see the popup message “You should refresh this page after successful install the JRE.” you will need to install the java runtime environment. Click OK to continue.

10. Click the “Click here for options…” bar and select File Download Blocked → Download File to continue.
11. Click **Run** to download and install the Java Runtime Environment.
12. Click Run to continue.

13. Click Install to continue.
14. Wait while Java is installed.

15. Click Close to complete the installation process.
16. Click the “Click here for options…” button and then select **Enable Intranet Settings**.

17. Click **Yes** to continue.
18. Click **Run** to continue.

![Warning - Security]

19. Click **Next** to use the Setup Wizard to configure some basic settings, or click **Cancel** to immediately launch MXview first, and then configure the settings without using the Setup Wizard.

![Setup Wizard]

---

**Welcome to the setup wizard.**

**This wizard will help you:**

1. Add scan range
2. Draw Topology (with devices that support LLDP)
3. Set SNMP trap server
20. When MXview is launched, it should appear similar to what’s shown in the following screenshot.

Loading a Moxa SynMap MIB File

Take the following steps to load a Moxa SynMap MIB file:

1. Click the MxView Service shortcut on the desktop.

2. Click Start.
3. Wait for **System Status** to be running, and then select **Launch Client** to continue.

4. Click **Cancel**.
5. On the toolbar, click **MIB → MIB Browser**.

6. In the MIB Browser popup window, click **File → Load MIB**.
7. Navigate to `c:\usr\share\snmp\mibs\MOXA-SYS-MIB.txt`.

8. Check if Moxa SynMap MIB appears in MIB Browser.
Loading a Host Resource MIB File

Take the following steps to load a Moxa SynMap MIB file:

1. Click the **MxView Service** shortcut on the desktop.

2. Click **Start**.

3. Wait for **System Status** to be running, and then select **Launch Client** to continue.
4. Click **Cancel**.

5. On the toolbar, click **MIB \rightarrow MIB Browser**.
6. In the MIB Browser popup window, click **File → Load MIB**.

7. Navigate to **c:\usr\share\snmp\mibs\HOST-RESOURCES-MIB.txt**.
8. Check if HOST-RESOURCES MIB appears in MIB Browser.

Using Moxa SynMap OIDs

Take the following steps to use Moxa SynMap OIDs.

1. Try to get the disk status:
   Double-click
   MOXA-SYS-MIB\VALUES\moxa\embeddedComputer\moxaSystem\PeripheralMgmt\perHddSmart.
2. Click **GetSubTree** to display the information. If you can get the information, your MxView settings are correct.

![Image of MIB Browser](image)

**Using HOST RESOURCE OIDs**

Take the following steps to use HOST RESOURCE OIDs.

1. Try to get the disk usage:
   Double-click **HOST-RESOURCES-MIB\VALUES\host\hrStorage\hrStorageTable\hrStorageEntry**.
2. Select **GetSubTree** to display the information. If you can get the information, your MxView settings are correct.

3. Get the hrStorageAllocationUnits.1 value (4096 in the example shown above).

4. Get the hrStorageSize.1 value (14384127 in the example shown above).

5. Multiply the above two values together to obtain the total disk size:
   
   \[
   \text{total disk size} = \text{hrStorageAllocationUnits} \times \text{hrStorageSize} = 4096 \times 14384127 = 58917384192 = 60 \, \text{GB}
   \]
   
   <Johnny: How did you get 60 GB? I calculated 54.87 GB>

6. Try to get the disk usage:
   
   Double-click **HOST-RESOURCES-MIB\VALUES\host\hrStorage\hrStorageSize**
7. Click Get.

![Get button highlighted in red]

8. Check the physical memory size when the Device Manager window opens.

![Device Manager window with memory size shown]

9. Try to get the disk usage:

   Double-click **HOST-RESOURCES-MIB\VALUES\host\hrProcessorTable\hrProcessorEntry**
10. Click Get SubTree.

11. Check the CPU loading corresponding to each CPU core when Device Manager opens.
In this chapter, we give examples of using some of the DA-820 computer’s various functions.

The following topics are covered in this chapter:

- **Watchdog**
  - Enabling the Watchdog Function
- **LED Test Program**
Watchdog

The DA-820 computers provide example for users to enable the watchdog function. The Watchdog example is under <Software DVD>\examples\Projects\WatchDog and the executable file Watchdog.exe is under <Software DVD>\examples\Release. 

You can follow the steps below to test the watchdog function with executable file.

Enabling the Watchdog Function

1. Create c:\programs\example folder and copy the Watchdog.exe into the folder.
2. Execute Watchdog.exe.
3. You need to press Enter in every 10 seconds or the system will reboot.
4. To stop the watchdog function, press q to exit the program.

LED Test Program

The DA-820 software DVD includes two dll files and one exe file that can be used to test the functionality of the DA-820’s LEDs. To do this, take the following steps:

1. Copy the following files from the product software DVD. 

   mxgpio.dll: \DVDDA820-W7E V1.0\examples\lib\mgpio\ 
   mxGeneralIo.dll: \DVDDA820-W7E V1.0\examples\lib\MxGeneralIo\ 
   LED.exe: \DVDDA820-W7E V1.0\examples\Release\ 

2. Type led and then enter to execute LED.exe.
3. Type 1 and then enter to get the current LED value. In the example shown here, LED 0 is the current LED.

4. To set the LED value (or state) of the current LED, type 2 and then enter, and then type 0 to disable {{does this mean turn off the LED light??}} or 1 to enable {{does this mean turn on the LED light??}} the LED and the value.
The DA-820 ready-to-run embedded computers are a Windows Embedded Standard 7 platform. This chapter describes the recovery process in the event of system instability.

The following topics are covered in this chapter:

- **Recovery Environment**
- **Recovery Procedure**
  - Step 1: Prepare your USB drive
  - Step 2: Change the BIOS Settings
  - Step 3: Restore the system from USB drive
  - Step 4: Change BIOS Settings to Boot from the Original Disk
  - Step 5: Reboot the Computer
- **Saving the System to a USB Drive**
Recovery Environment

The recovery environment includes the DA-820 panel computer and a bootable USB disk that has the recovery programs and system image file in on it.

The hardware used includes a PC, a DA-820 computer and a USB disk with the recovery programs. (Note: The USB disk should be at least 2GB.)

Recovery Procedure

Step 1: Prepare your USB drive

1. Execute `tuxboot-windows-23.exe` from the `<Software DVD>\recovery\DA-820-W7E`, then select `Pre Download`, and then click “...”.

![Screenshot of Tuxboot window with highlighted Pre Download button]

3. Select **USB Drive** type, select a **Drive**, and then click **OK** to continue.
4. The boot files will be copied to your USB drive.

5. When finished, click **Exit** to stop the program.

6. Manually copy the **os_image** directory from the `<Software DVD>\DA-820-W7E\recovery` folder to `\home\partimag` on the USB drive.

**Step 2: Change the BIOS Settings**

You will need to change the BIOS settings to boot from the USB disk.

1. Turn on the computer and press **F2** when you hear the beep sound to enter the BIOS setup menu. Select **Boot** and then select **Legacy**. Press **Enter** to continue.
2. Select **Boot Type Order**.
3. Select USB disk and then press "+" to move it to the first boot device position. 
   **Warning:** An incorrect boot priority will lead to recovery failure.

   ![BIOS Boot Menu](image)

   **F1: Help  F4: Select Item  F5/F6: Change Values  F9: Setup Defaults**
   **Esc: Exit  ←: Select Menu  Enter: Select  →: SubMenu  F10: Save and Exit**

4. Press **F10** and then press **Enter** to save and exit BIOS setup.

**Step 3: Restore the system from USB drive**

Connect the USB disk to any of the DA-820’s USB ports and then reboot the computer. The system will boot from the USB disk and the Pre-installation Environment and the recovery utility will appear.

1. Select **clonezilla live restore disk**.
2. Wait for the USB drive boot process to finish.

3. Enter y to continue the restore process.
4. Enter `y` to confirm again.

5. Wait for the process to finish.
6. Select (0) Poweroff to power off the computer.

7. Remove the USB drive after the computer has been powered off.

### Step 4: Change BIOS Settings to Boot from the Original Disk

Now you will need to change the boot priority so that it can boot from the original disk. As the system reboots, press **F2** to enter the BIOS setup menu.

1. Select **Hard Disk Boot Priority** and then press + to move to the first boot device position, and then press **Enter**. Make sure the hard disk has first boot priority.
2. Press **F10** and then press **Enter** to save and exit BIOS settings.

**Step 5: Reboot the Computer**

You need to wait about 10 to 15 minutes for the system to restart two times automatically, since the system configuration files will be initiated while booting up for the first time. **Do not turn off the computer or shut down the computer** while the system is restarting; otherwise, the IIS service will be terminated. When the operating system has successfully launched, you will need to restart your computer so that the new settings can be activated.

![Image of Windows Embedded Standard 7 setup screen]

**Saving the System to a USB Drive**

You may also save the current system to the USB drive for system recovery in case the system crashes. Before saving the system to the USB drive, we suggest you remove all files under `\home\partimag` on the USB drive. In addition, change the BIOS settings to make the USB drive the first boot priority.

When the system has been launched, take the following steps.

1. Select **clonezilla live save disk**.
2. Wait for the USB drive boot process to finish.

3. Enter `y` to continue.
4. Wait for the process to finish.

```
/dev/sdb1: read failed after 0 of 2048 at 0: Input/output error
No volume groups found
No volume groups found
Finished shutting down the Logical Volume Manager
Checking the integrity of partition table in the disk /dev/sda...
Reading the partition table for /dev/sda... NETVL=0
Done!
```

5. Select (0) **Poweroff** so that the computer will power off when the process is finished.
System Recovery

Restoring the first 446 bytes of MBR data, i.e. executable code area, for sda... done!

Resizing the partition for sda1

ntfsresize -f /dev/sda1

ntfsresize v2.0.0 (libntfs 101010)

Device name: /dev/sda1

NTFS volume version: 3.1

Cluster size: 2048 bytes

Current volume size: 204851848 bytes (2005 MB)

Current device size: 204851884 bytes (2005 MB)

New volume size: 204851884 bytes (2005 MB)

Nothing to do. NTFS volume size is already Ok.

The grub directory is NOT found. Maybe it does not exist (so other boot manager exists) or the file system is not supported in the kernel. Skip running grub-install.

Found NTFS boot partition among the restored partition(s): /dev/sda1

Head and sector no. of /dev/sda1 from EDB: 54, 69.

The start sector of NTFS partition (/dev/sda1): 61

Adjust filesystem geometry for the NTFS partition: /dev/sda1

Running: parted/dev/sda1 -a -h 64 -r 63 -s 53 /dev/sda1

ntfsinstall version 0.3

done!

This program is not started by Clonezilla server, so skip notifying it the job is done.

Finished!

Now syncing - flush filesystem buffers...

"os-live-restore" is finished.

Now you can choose to:

(0) Poweroff
(1) Reboot
(2) Enter command line prompt
(3) Start over
(4)
In this appendix, we describe the Moxa SynMap OID Table.

The following topics are covered in this appendix:

- Moxa SynMap OID Table
- HOST RESOURCE OID Table
# Moxa SynMap OID Table

The following table shows the full list of the Moxa SynMap OID.

<table>
<thead>
<tr>
<th>Item Name</th>
<th>OID</th>
<th>MAX-Access</th>
<th>Description</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>productName</td>
<td>1.3.6.1.4.1.8691.17.1.1.1</td>
<td>read-only</td>
<td>product name</td>
<td>✓</td>
</tr>
<tr>
<td>productDesc</td>
<td>1.3.6.1.4.1.8691.17.1.1.2</td>
<td>read-only</td>
<td>short product description</td>
<td>✓</td>
</tr>
<tr>
<td>productVersion</td>
<td>1.3.6.1.4.1.8691.17.1.1.3</td>
<td>read-only</td>
<td>product version</td>
<td>✓</td>
</tr>
<tr>
<td>productBuildDate</td>
<td>1.3.6.1.4.1.8691.17.1.1.4</td>
<td>read-only</td>
<td>product’s last build date (YMMDDHH)</td>
<td>✓</td>
</tr>
<tr>
<td>biosVersion</td>
<td>1.3.6.1.4.1.8691.17.1.4.1</td>
<td>read-only</td>
<td>BIOS version</td>
<td>✓</td>
</tr>
<tr>
<td>biosSaveSetting</td>
<td>1.3.6.1.4.1.8691.17.1.4.2</td>
<td>read-write</td>
<td>Write 1 to save the bios setting; if you read 0, the “save bios” request has been applied.</td>
<td>✓</td>
</tr>
<tr>
<td>biosSettingStatus</td>
<td>1.3.6.1.4.1.8691.17.1.4.3</td>
<td>read-only</td>
<td>Shows a comparison of the bios CMOS setting and bios new setting.</td>
<td>✓</td>
</tr>
<tr>
<td>bootDeviceStatus</td>
<td>1.3.6.1.4.1.8691.17.1.4.4.1</td>
<td>read-only</td>
<td>current support boot device</td>
<td>✓</td>
</tr>
<tr>
<td>firstBootDevice</td>
<td>1.3.6.1.4.1.8691.17.1.4.4.2</td>
<td>read-write</td>
<td>read show current first boot device, write set boot device.</td>
<td>✓</td>
</tr>
<tr>
<td>pwrOnAfterPwrFail</td>
<td>1.3.6.1.4.1.8691.17.1.4.8.1</td>
<td>read-write</td>
<td>Select “power on” after power fails.</td>
<td>✓</td>
</tr>
<tr>
<td>pwrLanWakeUp</td>
<td>1.3.6.1.4.1.8691.17.1.4.8.3</td>
<td>read-write</td>
<td>Enable/Disable wake on LAN functionality.</td>
<td>✓</td>
</tr>
<tr>
<td>tempSensorsIndex</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.1</td>
<td>read-only</td>
<td>Reference index for each observed device.</td>
<td>✓</td>
</tr>
<tr>
<td>tempsensorsDevice</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.1</td>
<td>read-only</td>
<td>Name of the temperature sensor being read.</td>
<td>✓</td>
</tr>
<tr>
<td>tempSensorsValue</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.1</td>
<td>read-only</td>
<td>Temperature of this sensor, in mC.</td>
<td>✓</td>
</tr>
<tr>
<td>voltSensorsIndex</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.2</td>
<td>read-only</td>
<td>Reference index for each observed device.</td>
<td>✓</td>
</tr>
<tr>
<td>voltSensorsDevice</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.2</td>
<td>read-only</td>
<td>Name of the device being read.</td>
<td>✓</td>
</tr>
<tr>
<td>voltSensorsValue</td>
<td>1.3.6.1.4.1.8691.17.1.5.1.2</td>
<td>read-only</td>
<td>Voltage in mV.</td>
<td>✓</td>
</tr>
<tr>
<td>ioDiNumber</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-only</td>
<td>Number of digital input pins in the current system.</td>
<td>✓</td>
</tr>
<tr>
<td>diIndex</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-only</td>
<td>Reference index for each digital input pin.</td>
<td>✓</td>
</tr>
<tr>
<td>diPort</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-only</td>
<td>The port number of a digital input pin.</td>
<td>✓</td>
</tr>
<tr>
<td>diValue</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-only</td>
<td>The digital input status (0 is low, 1 is high).</td>
<td>✓</td>
</tr>
<tr>
<td>diTrapEnable</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-write</td>
<td>When this object is enabled, agent will send trap message when digital input pin status is changed.</td>
<td>✓</td>
</tr>
<tr>
<td>ioDoNumber</td>
<td>1.3.6.1.4.1.8691.17.1.6.1.1</td>
<td>read-only</td>
<td>Number of digital output</td>
<td>✓</td>
</tr>
</tbody>
</table>
### HOST RESOURCE OID Table

The following table shows the Host Resource OID.

<table>
<thead>
<tr>
<th>Item Name</th>
<th>OID</th>
<th>MAX-Access</th>
<th>Description</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>hrProcessorTable</td>
<td>1.3.6.1.2.1.25.3.3</td>
<td>read-only</td>
<td>CPU usage</td>
<td>✓</td>
</tr>
<tr>
<td>hrStorageTable</td>
<td>1.3.6.1.2.1.25.2.3</td>
<td>read-only</td>
<td>Disk and memory usage</td>
<td>✓</td>
</tr>
</tbody>
</table>