

IPMI Remote Management in IEI Solution

IPMI 2.0 Compliant



Introduction

Nowadays, employers keep searching different ways to cost down their expenses to make sure they can get the maximum benefit from their investments. Since more and more businesses start using smart devices in order to increase working efficiency, how to manage those devices became essential issues that need to be solved. The iRIS solution is an easy way to help you save time on controlling your devices via Intranet and Internet to complete your IoT solution.

What is iRIS?

Let's start from IPMI first before we talk about iRIS. IPMI is a standardized computer system interface used by system administrators for out-of-band management of computer systems and monitor and control of their operation. It is a way to manage a computer that may be powered off or otherwise unresponsive by using a network connection to the hardware rather than to an operating system or login shell. iRIS is a modularized IPMI product, which is designed and manufactured by IEI company. iRIS is compliant with IPMI 2.0, and supports out-of-band remote management to allow administrators to manage a system remotely in the absence of an operating system or of the system management software. Thus, IPMI functions can work in any kind of scenarios such as:

1. Before an OS has booted
2. When the system is powered off
3. After OS or system failure or BSOD
4. Cross platform and OS independent

Using a worldwide standardized IPMI 2.0 interface and protocol allows IEI's iRIS technology to assist administrators to remotely monitor and manage all IEI iRIS supported devices by group or individual via Internet communication.

Benefits from Using iRIS

Comparing with traditional troubleshooting, iRIS remote troubleshooting has following advantages.

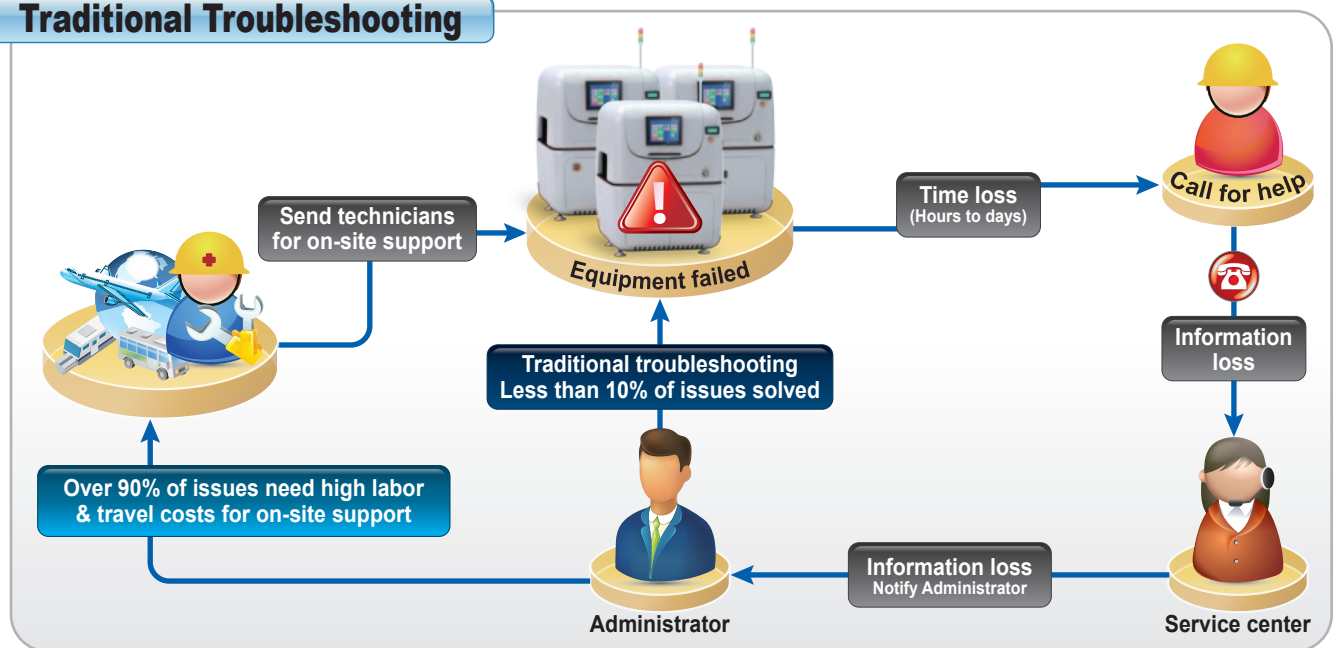
1. Time saving

When equipment failed, administrators are usually not able to discover the problem immediately in the traditional way. By using iRIS solution, people can respond instantaneously without wasting time. It can reduce the cost for repairing equipment.

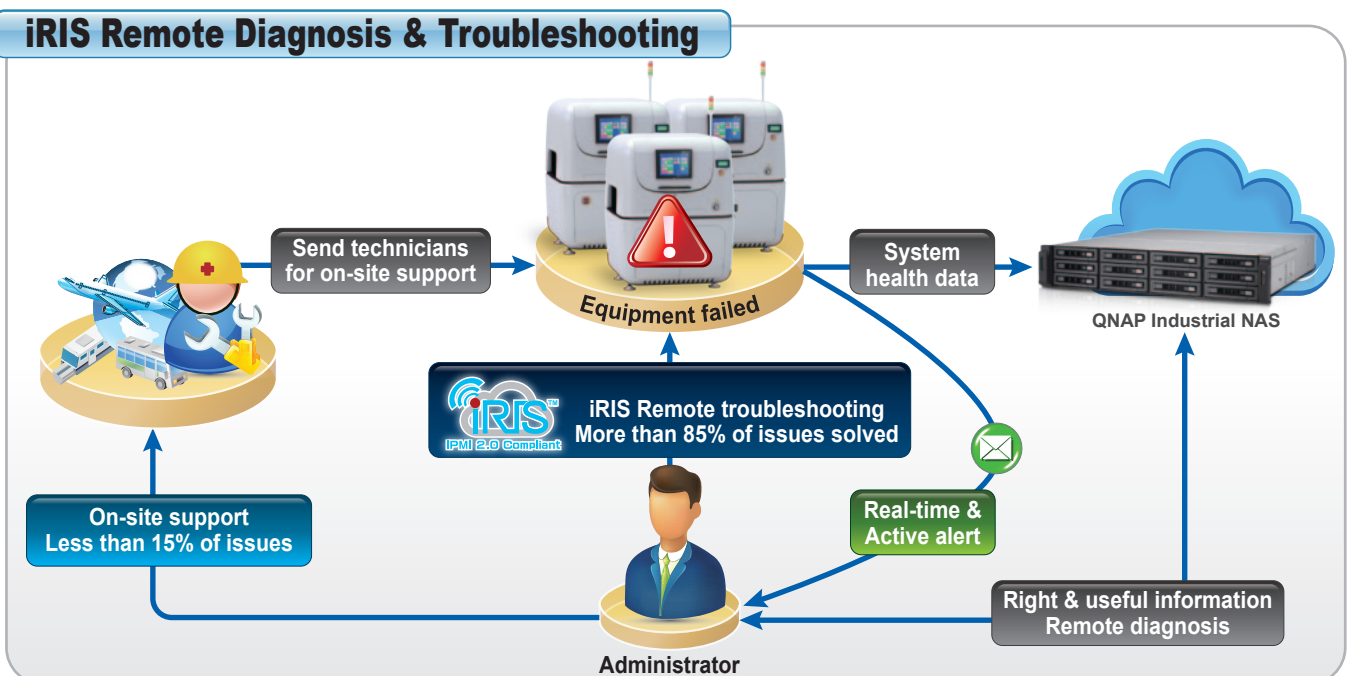
2. Reduce labor and travel costs

According to system failure statistics, over 80% of system failures occur under software crash instead of hardware malfunction. iRIS remote diagnosis and troubleshooting can help administrators to reduce Mean Time to Repair (MTTR), decrease total management costs, solve more than 80% of issues via Internet intranet, and remotely reboot to avoid costly site visits.

Traditional Troubleshooting

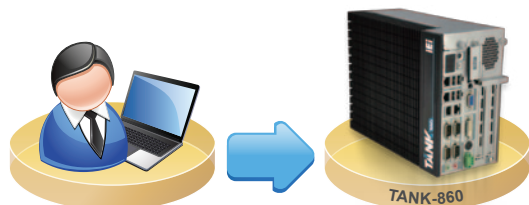


iRIS Remote Diagnosis & Troubleshooting

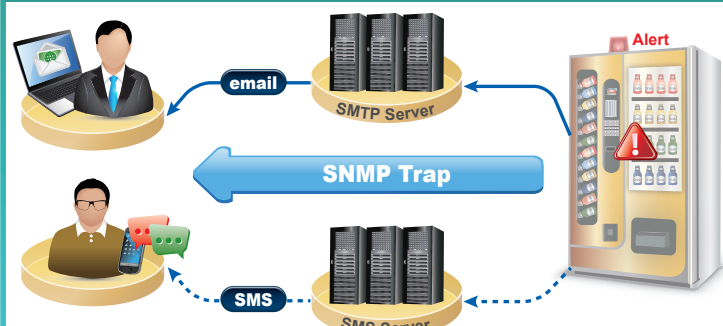


iRIS Key Features

- Reset system
- Power off system – Immediately / Orderly
- Power on system
- Power cycle system
- Group power control



- Instant system alert email
- Instant system alert SMS



- Remote software update
- Remote OS installation & recovery
- Remote KVM
- POST code display

Remote Troubleshooting



Active Alert & Notice

Remote Device Control

- Fan control
- Remote KVM
- Remote BIOS setting
- Remote, Cycling, Scheduling power turn On/Off control

Remote Software Update

System Health Monitor & Diagnosis

Screen Record

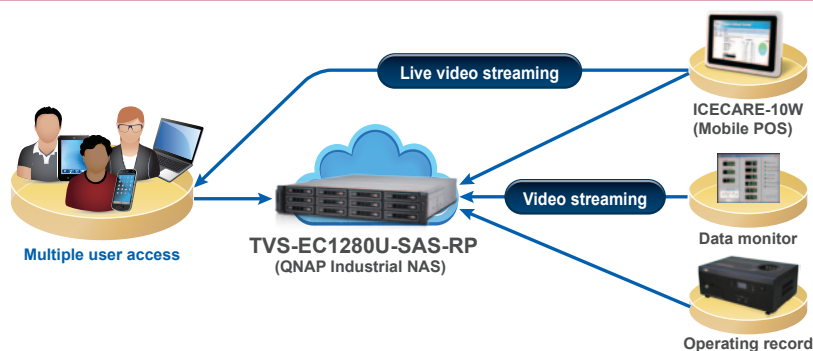
- Hardware monitor
- Health log record & diagnosis
- Event log record & diagnosis

- Software update
- OS installation & recovery
- KVM over IP
- POST code display



- » **Diagnose:**
Check system health, event log & POST code
- » **Update:**
Remote firmware update
- » **Recover:**
Remote OS installation & recovery

- Remote video streaming record
- Event trigger setting & video record



iMAN Utility



iMAN is an utility developed by IEI for configuring IPMI devices. This Utility can be easily installed and help user manage their equipment, monitor system status and remotely control devices.

◆ Key Benefits

- Real time system monitoring
- Lower the costs of server management
- System alert/log management
- Support IPMI 2.0 (iRIS-2400, iRIS-1010)
- Reduce troubleshooting time
- Group management

■ Home Page



■ Device List/ Discover

Devices that support IPMI can be found by searching multiple IP ranges. Devices can be renamed afterward.



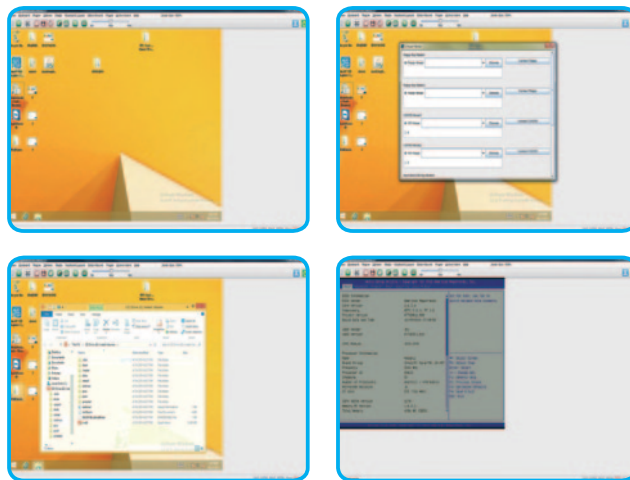
■ Device Info./Control/KVM

The dashboard provides information about devices status, allowing administrators to check device health in real-time.



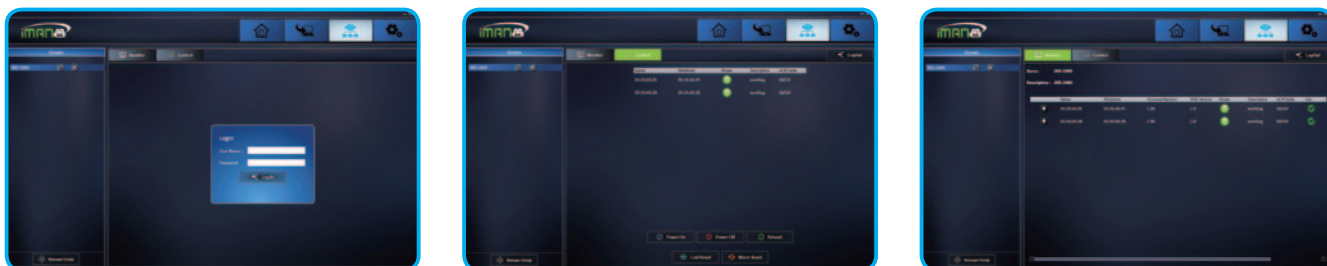
■ KVM/Virtual Media/BIOS

KVM function can help users easily monitor and control system through Internet. Users are able to control servers even when the OS is crashed.



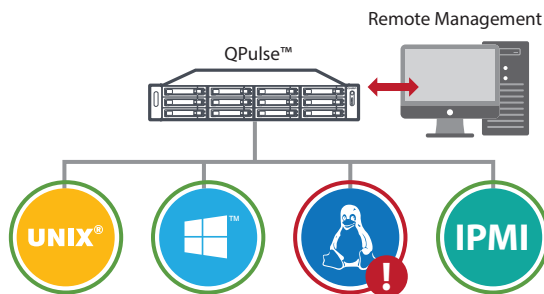
■ Group Management

By setting device into different groups, user can easily control device effectively. From the group management dashboard, administrator is able to manage all devices in one page.



◆ Unified Remote Server Management Solution

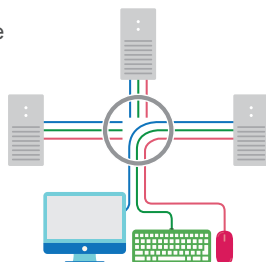
QPulse is QNAP's Centralized Remote Server Management solution designed for IT teams. QPulse monitors and controls the pulse/health of all the mission critical servers in your network. QPulse provides single point solution to discover, map, monitor and manage all the critical computing devices (servers/PCs/thin clients etc.) in your network. Manage your servers from multiple clients with-in or from outside of the same network.



◆ Remote KVM Solution for IPMI

■ Multichannel/Centralized Remote KVM Solution

With QNAP's proprietary KVM proxy solution for IPMI compatible servers, you can remotely control the server even if server is turned off or is in BIOS mode. QPulse KVM solution supports multichannel, so that more than one client can connect to the remote server using KVM at the same time.



◆ Remote KVM Recording and Playback

■ Track all the actions using KVM recording and playback

By enabling KVM recording, all the KVM data will be recorded in video format in the NAS. This way you can playback the recording based on date and time, and track the events. This provides a unique way to administrators to log each action taken on server and to improve the security.

◆ QPulse Function Overview

■ Customizable Dashboards

User can customize their dashboard for their own purpose.



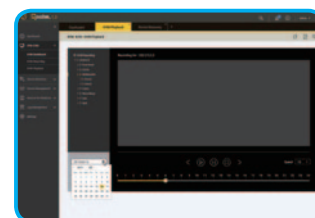
■ QPulse Topology

Customer can discovered devices in the diagram which helps user to find the root cause of the problem.



■ QPulse KVM Playback

Customer can track the specific events from NAS.



◆ Key Benefits

■ Server monitoring made easy

- Increase IT team's visibility across the health of mission critical servers.
- Discover, map, monitor and control your networked resources from single platform
- Centralized web-based solution.
- Keeps track of all important device parameters and provides state of alert/event management
- Generates reports to help you analyze performance of your networked resources
- Support multiple platforms: Windows, Linux, UNIX.
- Supports IPMI 1.5 & 2.0 (IEI iRIS-2400, iRIS-1010 compatible)
- Spend less time in troubleshooting

◆ Application

■ Server management made easy

QPulse is a centralized, web-based solution. IT administrators can access it from any web browser.

QPulse supports various active monitoring like CPU utilization, memory Utilization, CPU temperature, CPU fan speed, etc. This gives complete visibility to administrators across all the mission critical computing devices.



◆ Device Discovery and Topology

■ Discover and map the assets in your network

QPulse identifies all the devices on your network including your routers, switches, servers and many more. Discover all the devices in your network using the IP range scan from start IP to end IP address. QPulse maps

discover devices in graphic topology diagram. Personalize your network using the topology diagram. Network maps are a powerful first response tool that helps you to visualize your networks and quickly isolate the root cause of a problem.

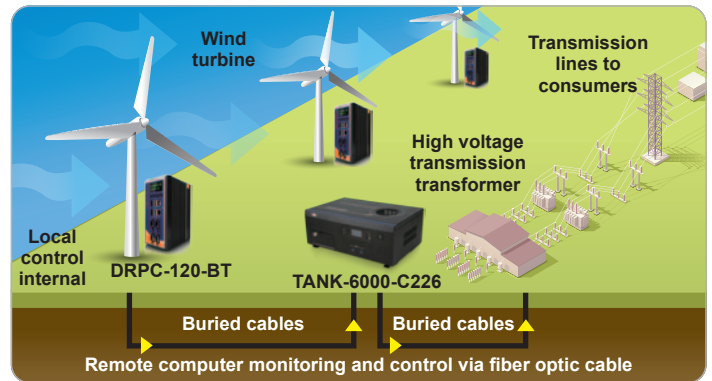


Application for iRIS

◆ Application Scenarios

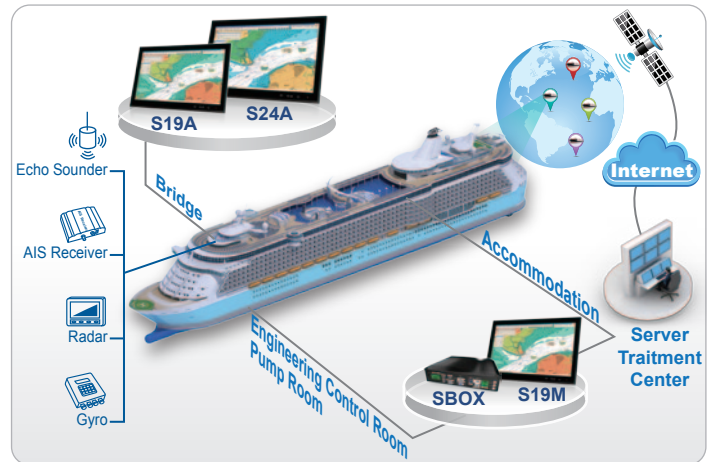
■ Energy Industry

Energy industrial workstation may be located in a ruggedized environment with far away distance from support force. Wide range temperature and remote manageable computers are always required. IEI offers all range of processors to support hardware-based out-of-band management options.



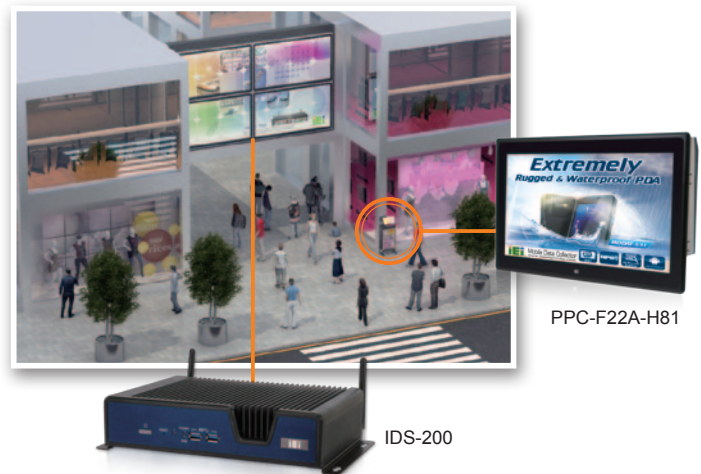
■ Marine Management

It is difficult to send out technical support for maritime field application due to the location limitation. The best way to solve the urgent issue is remote troubleshooting with IEI iRIS solution. IEI marine-grade solutions provide the most convenient method of real-time system alert notice and repair function through iRIS solution to make customer's equipment more reliable and durable in critical environment.



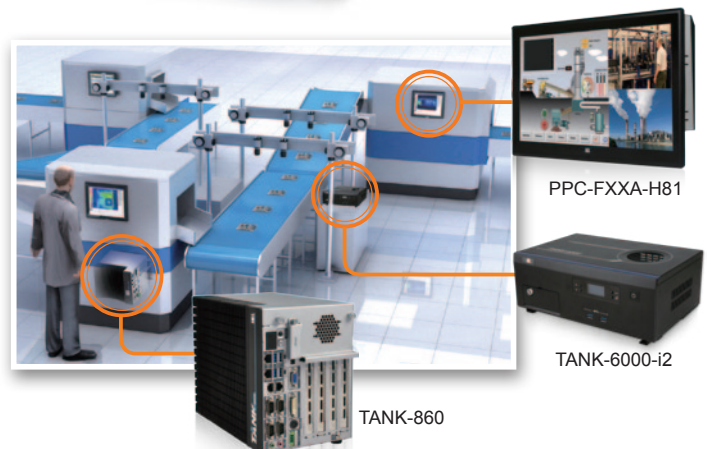
■ Retail Industry

Retail industry relies on software more than pure hardware architecture. Maintenance cost is the highest cost since service location could be everywhere, and any shutdown will cause business lost. Graphics performance with hardware management is the requirement for retail application such as digital signage, vending machine, kiosk, and ATM machine. IEI offers AMD graphics solution with IPMI module to fulfill application needs.



■ Factory Automation

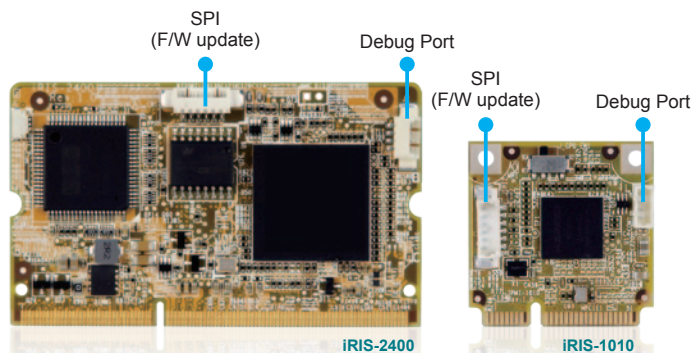
Each production line has its own computer systems to do automated control of production processes. Active system alert could help to monitor all systems in production lines with less human resources, and instant notice and detailed event log with screen record could save time for troubleshooting. IEI provides a variety of solutions with iRIS support to save both time and human resources, and achieve less loss in production capacity.



iRIS Series

◆ Specifications

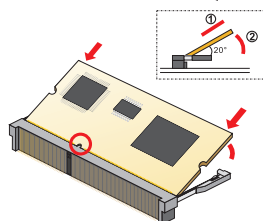
- ◆ IPMI 2.0 Based Management
 - » BMC stack with a full IPMI 2.0 implementation
 - » Customizable sensor management
- ◆ OS Platform Independent
- ◆ Hardware Health Monitor
 - » System/CPU temperature
 - » Fan speeds
 - » Voltage
 - » Chassis intrusion
 - » Power supply failed
 - » FRU (Field Replaceable Unit)
- ◆ Event Log
 - » BIOS event
 - » Hardware health monitor event
 - » Sensor readings
- ◆ Notifications
 - » Email alerts
 - » SNMP traps
- ◆ LDAP Support
 - » Direct LDAP support from the device
 - » Open LDAP (Generic LDAP) supported
- ◆ Media Redirection
 - » Simultaneous floppy, Hard disk or USB and CD or DVD redirection
 - » Efficient USB 2.0 based CD/DVD redirection with a typical speed of 20XCD
 - » Support for USB key
 - » Completely secured (Authenticated or Encrypted) remote KVM or virtual media



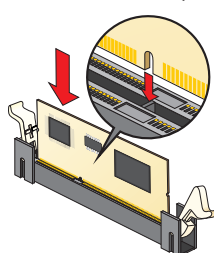
- ◆ Remote Power Control
 - » Remote power control
 - » Keyboard, Video & Mouse (KVM) over IP (iRIS-2400 only)
 - » Serial over LAN (SOL)
- ◆ User Management
 - » IPMI based user management
 - » Added security with SSL (HTTPS)
 - » Multiple user permission level
 - » Multiple user profiles
- ◆ Web-based Configuration
 - » Full configuration using web UI
 - » Fail-safe firmware upgrade
 - » Multi-language support in Web interface with English as the currently supported language

◆ Easy to Install

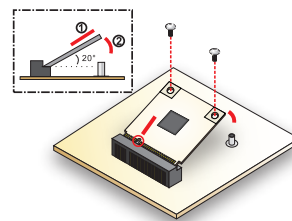
■ iRIS-2400 slot (90°)



■ iRIS-2400 slot (180°)



■ iRIS-1010 slot



Conclusion

As mentioned in the introduction, more and more devices need to be organized by a smart way. iRIS module is able to support a variety of working environments, and to run in different operating systems. Moreover, iRIS solution can not only help you to manage devices, but also bring more convenience into your business for increasing working efficiency and reducing system failure probability.

IEI iRIS Solution

Intel® Skylake Project		
Project	Form Factor	IPMI Solution
IMBA-Q170-i2	ATX	iRIS-2400
Intel® Broadwell-DE Project		
IMBA-BDE	ATX	iRIS-2400 (on board)
Intel® Haswell Projects		
SPCIE-C2260-i2	PICMG 1.3	iRIS-2400
PCIE-Q870-i2	PICMG 1.3	iRIS-2400
IMBA-C2260-i2	ATX	iRIS-2400
IMBA-Q870-i2	ATX	iRIS-2400
IMB-Q870-i2	microATX	iRIS-2400
IMB-H810-i2	microATX	iRIS-2400
KINO-QM871-i1	Mini-ITX	iRIS-1010
NANO-QM871-i1	EPIC	iRIS-1010
WAFER-ULT2-i1	3.5"	iRIS-1010
Intel® Bay Trail		
KINO-ABT-i2	Mini-ITX	iRIS-2400
NANO-BT-i1	EPIC	iRIS-1010
WAFER-BT-i1	3.5"	iRIS-1010
AMD R-series		
KINO-DA750-i2	Mini-ITX	iRIS-2400
KINO-AA750-i2	Mini-ITX	iRIS-2400

AMD G-series		
Project	Form Factor	IPMI Solution
KINO-KBN/SE-i2	Mini-ITX	iRIS-2400
NANO-KBN/SE-i1	EPIC	iRIS-1010
WAFER-KBN-i1	3.5"	iRIS-1010
Embedded Box		
IDS-200-i2	AMD R-series (A70)	iRIS-2400
TANK-6000-i2	Intel® Haswell (C226)	iRIS-2400 (on board)
TANK-760	Intel® Haswell (HM86)	iRIS-2400
TANK-860	Intel® Haswell (HM86)	iRIS-2400
TANK-801	Intel® Bay Trail (J1900)	iRIS-2400
DRPC-120	Intel® Bay Trail (E3845)	iRIS-2400
SBOX-QM87	Intel® Haswell (QM87)	iRIS-2400
ECN-380	Intel® Haswell (QM87)	iRIS-1010
ECW-281B-BTi	Intel® Bay Trail (J1900)	iRIS-1010
Panel PC		
PPC-FxxA-H81	Intel® Haswell (H81)	iRIS-2400
PPC-FxxA-BT	Intel® Bay Trail (J1900)	iRIS-2400
PPC-FXXB-BT	Intel® Bay Trail (J1900)	iRIS-2400
POC-W22A-H81	Intel® Haswell (H81)	iRIS-2400
SxxA-QM87	Intel® Haswell (QM87)	iRIS-2400