OUT-OF-BAND (OOB) REMOTE MANAGEMENT TECHNOLOGY

Uninterrupted Device Management Across Smart, Remote, and Harsh Environments

Premio's Out-of-Band (OOB) management solution provides secure, always-on remote access to industrial edge computers—even when the OS is unresponsive or the primary network is offline. Available as a built-in feature or via the EBIO-OOB Module through EDGEBoost I/O, this solution enables BIOS-level control, power cycling, and real-time system monitoring to reduce downtime and support mission-critical operations in harsh or remote environments.

Secure Remote Access & Control

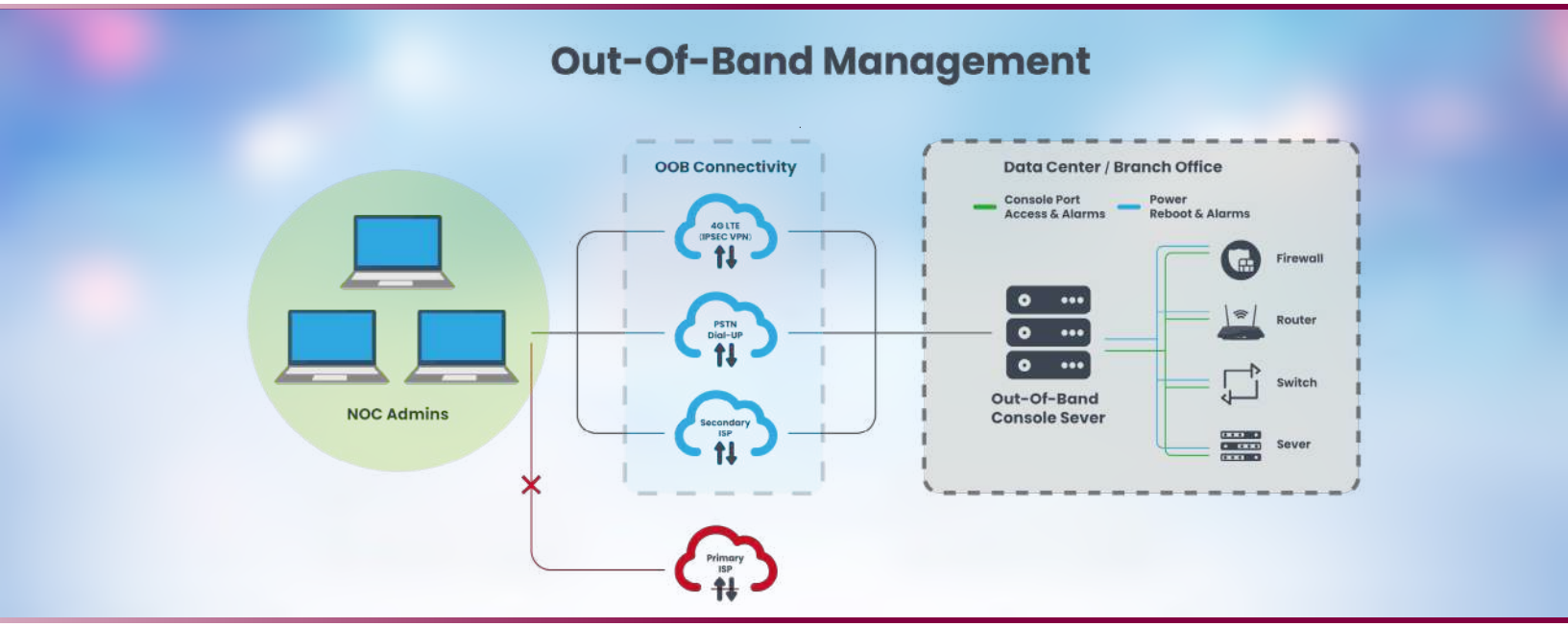
Real-Time Monitoring, Diagnostics & Recovery

Independent Interface & Flexible Integration

Cost Savings & Scalability

Product Brief

Out-of-Band (OOB) Remote Management Technology



What is Out-of-Band (OOB) Management?

Out-of-Band (OOB) management provides an independent communication channel to monitor and control systems—even when the primary network or operating system is down. It operates through a dedicated microcontroller or Baseboard Management Controller (BMC) that functions separately from the main CPU and OS.

This capability is especially valuable for remote and distributed applications where on-site access is limited. By enabling hardware-level control—including remote power cycling, BIOS access, and system health monitoring—OOB allows operators to reboot unresponsive devices, recover from OS failures, and perform diagnostics without relying on the main network. This results in higher uptime, reduced maintenance costs, and improved reliability across smart manufacturing, smart city infrastructure, retail networks, and unattended kiosks.

Benefits of OOB Management

- Emergency Access:
  Fix network failures without being on-site.
- Security: Isolated from the main network, reducing risks of cyberattacks.
- Remote Troubleshooting: No need for physical access to reboot or repair.
- Less Downtime: Speeds up recovery when things go wrong.

Key Markets and Applications

Smart Manufacturing

Transportation & Fleet Management

Smart Cities & Surveillance

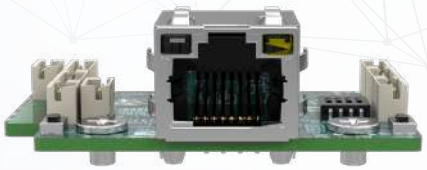
Retail & Smart Kiosks

Railway Operations

Premio OOB Management for Industrial Edge Computers

Premio's Out-of-Band (OOB) management solution ensures reliable, always-on remote access to industrial edge computers—even when the operating system is unresponsive or the primary network connection fails.

To support a wide range of deployment needs, OOB functionality is offered in two forms across Premio's rugged edge platforms:



OOB Module

- Embedded OOB Module – Available on select systems with a dedicated 1x RJ45 LAN port reserved for OOB access, allowing users to enable remote management by adding an external OOB module.

- EBIO-OOB Module – A specialized version of EDGEBoost I/O that adds a dedicated 1x RJ45 LAN port for modular OOB functionality via I/O expansion.

EBIO-OOB

EBIO-OOB-J

Our OOB Capabilities: Out-of-Band and In-Band Features at a Glance

Premio's OOB module brings a comprehensive set of remote management tools that operate both out-of-band and in-band, ensuring complete visibility and control over your edge systems—whether the OS is running or not.

Premio partners with Allxon, a leading device management platform, to enable seamless and secure remote access through a centralized dashboard. With Allxon integration, users can take full advantage of Premio's OOB capabilities for edge deployments in AI, robotics, and critical infrastructure.

All OOB and in-band features listed below can be easily executed via the Allxon Portal, giving IT and operations teams full visibility and control from anywhere.

- **Out-of-Band Features**

Enable direct access at the hardware level—even when the OS is unresponsive or the primary network is down.

Standard Feature	Description
Power Switch	Remotely power ON or OFF the device through the management platform.
Force Shutdown	Forcefully powers OFF the device in case of system hang or failure.
Power ON/OFF Scheduling	Schedule automatic power ON or OFF events at specific times.
Device Always ON	Keeps the device powered ON by monitoring and restoring its power status if it shuts down unexpectedly.
Power ON/OFF Detection	Monitors the real-time power status of the device and reports it through the platform.
OOB Cloud Serial Console (UEFI or BIOS Remote Control)	Enables remote access to BIOS/UEFI settings and boot sequences—even when the OS is unresponsive.

- **In-Band Features**

Work in tandem with the operating system to support real-time monitoring and device management during normal operation.

Feature	Description
Alert Notification	Provides real-time alerts via Email and Slack for critical system events.
Logs Collection	Access and retrieve device logs remotely for monitoring and diagnostics.
Software Watchdog	Monitors system and application health to ensure stable operation.
GPU Performance Monitoring	Enables real-time remote tracking of CPU and GPU usage.
Plugin Station	Centralized hub for installing, managing, and monitoring plugins across devices.
Reboot	Remotely restart the device's operating system without physical access.
Send Command	Execute remote commands across one or multiple devices in real time.
Take Screenshot	Capture a real-time screenshot of the edge device remotely.
OTA (for NVIDIA® Jetson™ devices)	Manage and monitor remote software updates for Jetson-based devices.
Fleet Provisioning	Automates the setup and deployment of multiple edge AI or IoT devices.

To activate and configure the Out-of-Band Management services on your edge computers, see here.

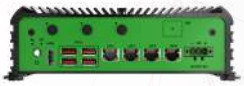
Premio's OOB Supported Computers

NVIDIA

JCO-1000-ORN Series

Entry-Level Edge AI Computer

NVIDIA® Jetson Orin™
NX/Nano Super



JCO-3000-ORN Series

Mid-Range Edge AI Computer

NVIDIA® Jetson Orin™
NX/Nano Super

JCO-6000-ORN Series

High-Performance Edge AI Computer

NVIDIA® Jetson AGX Orin™

intel

DCO-1000-ASL Series

DIN-Rail Fanless Embedded Computer

Intel® Atom® x7433RE Processor

RCO-3000-RPL Series

Super-Rugged Small Form Factor Computer

12/13th Gen Intel® Core™ Processor

RCO-6000-RPL Series

Super-Rugged AI Edge Inference Computer

12/13th Gen Intel® Core™ Processor

Supported products may be updated. See our website for the latest list.

We Design, Manufacture, and Service customers around the world

OOB-MODULE SERIES PROPRIETARY MODULE

MCU	Nuvoton NUC980DR63YC
SDRAM	Built-in 64MB DDR2 SDRAM Memory (16KB data cache)
LAN	1x RJ45 (10/100 Mbps)
On-board LED	LED Indicator Light • Power LED (Color: Blue) • MCU Activated LED (Color: Green) • Allxon Service Activated LED (Color: Yellow)
DIP Switch	4x2 DIP Switch for General Setting • USB or SPI Flash Switching • Wi-Fi or Debug Switching • Enable PWR OK Detection
Operating Temp.	-40°C to 85°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Protection	1.5KV
Standards & Certifications	UL, CE, FCC