

# Intelligent and Secure $\mu$ BMC

Silicom's Small-Footprint Board Management Controller ( $\mu$ BMC) provides highly secure sideband management and industry-standard support for any type of server or appliance



- Secure  $\mu$ BMC
- Allows remote sideband management
- Works over unsecure channels (e.g. the Internet)
- Supports on-prem appliances, NFV, SD-WAN and many other use cases
- Ideal for monitoring platform health
- Supports IPMI, NETCONF, SNMP and Red Fish

## Overview

Remote platform management is a 'must have' that often becomes apparent only when it is needed: for example, when a technician must be sent to a remote site to reset a CPE (customer premises equipment) box or to upgrade an appliance. In a variety of use cases that utilize small-to-medium sized servers or CPE - for instance, when deploying SD-WAN or NFV - what is needed is a small footprint solution that is able to provide highly secure remote management access.

Recognizing the need, Silicom has developed the Silicom's Small-Footprint Board Management Controller ( $\mu$ BMC), a flexible solution that delivers a long list of features and capabilities.

## Sideband Management

Silicom's  $\mu$ BMC offers a high level of control and monitoring, including:

- Sensor monitoring
  - Heat and voltage monitoring
  - IPMI2.0 support
  - Fan control
- Logs and alerts
  - Alerts when **thresholds are breached**
  - System event logging
  - SNMP traps
- Network management protocols
  - NETCONF / YANG
  - SNMPv3
- Management access
  - Elaborate CLI
  - Intuitive HTTPS-based web GUI
- Remote platform control
  - Serial over LAN (SoL)
  - USB virtual media
  - Switch on / switch off

## Security

Inside the  $\mu$ BMC, Silicom has implemented a robust and hardened system featuring security suites and standards not often found in  $\mu$ BMCs. These features actually allow the sideband interface to be Internet-facing while keeping the remote connection secure and private. The system deployed utilizes:

- An embedded firewall to secure access to the  $\mu$ BMC interfaces
- IPSec tunnels that encrypt all incoming and outgoing management traffic
- TLS-secured web access
- A trusted platform module (TPM) for storing security keys
- Secure and signed system upgrade module
- Role-based user access using TACACS+

## Advanced Options

In addition, Silicom offers several advanced options for completing the solution, including:

- "Dying gasp" circuitry that sends out an alarm if a general power failure occurs
- In-band management to accompany the sideband management, with a high degree of network separation between the two (VRF, firewall)
- Red Fish API
- RTC / NTP options

## Use Cases

- For appliance vendors who offer a variety of platforms, Silicom's  $\mu$ BMC represents a mature, unified solution that is within reach.
- For operators moving to smaller, denser and more capable platforms running NVF installations or SD-WAN solutions, the use of Silicom's  $\mu$ BMC results in a significant reduction of operational pressure. Use of the product makes it possible to securely reinstall NFV service chains or to diagnose CPE boxes.