

KVM-over-IP Benefits in an HP iLO Environment

Almost all modern HP ProLiant servers embed iLO and iLO2 management processors as a standard feature. While some IT administrators find iLO's capabilities adequate for their management needs, many data centers choose to deploy Raritan's KVM-over-IP solution as their preferred out-of-band access infrastructure, even in a predominantly HP iLO environment, as it provides many benefits that iLO lacks.

#1 - Heterogeneous

Raritan's KVM solution provides unified out-of-band management to your entire IT infrastructure, while iLO is specific to HP ProLiant servers only.

iLO2 is embedded in HP ProLiant servers shipping after mid-2006. While some older ProLiant servers may feature iLO, others don't have iLO or iLO2 at all.

This causes problems in each of the following common scenarios:

- Your data center deploys different generations of HP servers.
- You manage servers from mixed vendors, such as IBM or Dell.
- You manage not only Wintel servers, but other elements in your IT infrastructure such as UNIX, routers, switches, PBXs, UPS, etc.
- You have HP servers today, but may switch to a different server vendor in the future.

Hardware and OS agnostic, Raritan's KVM-over-IP solution works with almost any server, from any generation, running any OS, from any vendor; as well as with serially-controlled (RS232) devices such as networking equipment – all accessed from a single tool.

This provides you with the option to switch vendors in the future without losing your out-of-band infrastructure investment and to standardize on a common access management platform.

#2 - Cost

In most cases, Raritan's KVM solution costs less than iLO2.

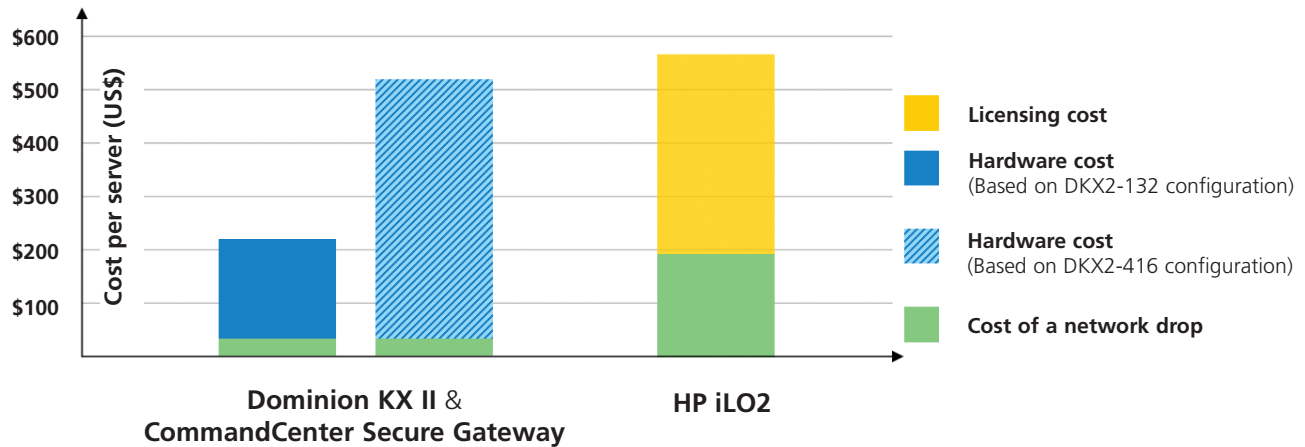
iLO2 chips are included for free in most HP ProLiant servers shipping today. However, using them entails hidden costs.

To better assess the total cost of ownership of using iLO2, you must include: **(a)** Advance Pack licenses of approximately \$350 per server, which are required to access advanced features such as Remote Console Access and Virtual Media; **(b)** the cost of additional network drops to each iLO2, \$200 or more per server in an enterprise-class data center. Therefore, the true cost of using iLO2 totals over \$500 per server.

Having iLO2 share the same network drop ("sideband") with the managed server may reduce costs, but this sacrifices the resilience that true out-of-band infrastructure provides and management best practices dictate.

In contrast, Raritan's KVM-over-IP solution provides true out-of-band access to all your devices at a cost ranging from \$200 to \$500 per server, depending on the models you deploy. This price includes all the superior features that Raritan's Dominion® KX II digital KVM switch and CommandCenter® Secure Gateway management appliance provide.

Cost comparison: Raritan KVM-over-IP vs. HP iLO2



#3 - Local Access

Raritan's KVM solution provides direct access to all your servers while physically in the data center; iLO2 does not.

In the data center, it's critical to have foolproof, direct console access that always works – enabling straightforward server remediation independent of potential network disruption. This is simply not possible when only employing HP iLO2.

Instead of using crash carts to connect to one server at a time, many data centers take advantage of the accessory “local port” of digital KVM switches to gain access to server consoles. Often, users place rackmount LCD / KVM drawers throughout the data center, each connected to local ports of a digital KVM switch for more convenient access.

Raritan's Dominion KX II makes it easy and secure. The browser-based local access interface, identical to the remote interface, is intuitive and requires no training; while still enforcing authentication and audit mechanisms.

#4 - Performance

Raritan's KVM solution provides superior remote console access.

- ▶ **Optimal video quality at any bandwidth:** The video performance of remote graphical consoles using Dominion KX II is far superior to that of HP iLO2. Even in varying network conditions and line speeds including LAN, WAN, DSL, and Cable Modem connections, Dominion KX II provides crisp performance to remote users, and supports up to 1600x1200 video resolutions.
- ▶ **Broader choice of remote client:** With Raritan's Dominion KX II, you have the flexibility of accessing your servers from a remote client that runs Windows, Linux, Mac or Sun operation systems; using Internet Explorer, Firefox, Safari or Mozilla browsers. (iLO2 limits you to IE only on Windows; and Firefox only on Linux).
- ▶ **Common integrated remote console:** No matter which OS or browser you choose, with Dominion KX II you will be using the same intuitive remote client that integrates virtual media, power control and remote console access in one interface. On the other hand, when using Firefox to access iLO2 instead of Internet Explorer, users lose direct control of virtual media and power capabilities.

- **Advanced user control:** Within the same remote console interface, users have far more control with Dominion KX II than iLO2 offers:
 - Full Screen video display makes users feel as if they are directly connected to the target server. (iLO2 only provides full screen video with a wholly-separate client that only runs on Windows IE.)
 - Stretch or compress the remote server video to fit the client window (“scaling”). This allows users to conveniently manage activities on multiple servers on their desktop simultaneously, a feature that iLO2 does not provide.
- **Absolute mouse synchronization** provides perfect mouse synchronization on Windows and Mac servers without the need to adjust mouse settings on target servers.

#5 - Ease of Deployment

Raritan’s KVM solution is easier to install, administer and maintain.

Deploying and managing hundreds of iLO2s is a non-trivial task. Each iLO2 requires a network connection, IP address, firmware updates, and system configuration (e.g. user privileges, SNMP setup, authentication, etc.). Although HP provides scripting to somewhat automate these tasks in large-scale deployments, it adds another level of complexity and hassle to the already busy life of an IT administrator.

Raritan’s KVM-over-IP solution, on the other hand, is far easier to deploy and maintain:

- **Plug and play installation** – Connect Dominion KX II to servers, power up, assign an IP address, and you’re up and running.
- **Ease of configuration and maintenance** – Since one KVM switch manages up to 64 servers, configuring a single KVM switch takes much less time than configuring 64 iLOs. To make it even easier, Raritan allows you to copy the configuration from one switch to another. And CommandCenter Secure Gateway provides automated back up, restore, and firmware update capabilities.

#6 - Single Interface, Multiple Tools.

Raritan’s solution enables you to centrally authorize users and view your entire IT infrastructure from one interface, managing it all with the tool of your choice.

Seamlessly integrated with Dominion KX II, Raritan’s CommandCenter Secure Gateway provides powerful management functions.

- **Authorize users centrally:** Administrators may create sophisticated authorization policies in Raritan’s solution. For example, one user group might be restricted to access only those Linux servers located in New York, running Finance applications, during 8am-4pm on weekdays. In contrast, iLO2 only provides very primitive authorization capabilities, each of which must be configured on every iLO2 processor.
- **Customize your views:** Raritan’s solution provides user-configurable, nested views of managed devices – such as by geographic region, by operating system, by platform, or by department. In combination with Raritan’s “favorites” and “recent” features, users have rapid access to their most commonly-visited servers.
- **Choose among multiple console access and power control tools:** Raritan’s consolidates multiple tools into a single interface. RDP, VNC, SSH, and even iLO/iLO2 appear alongside Raritan’s KVM-over-IP client. Similarly, from the same interface, Raritan provides multiple power control mechanisms: Raritan’s own intelligent power strips, iLO/iLO2, or the emerging IPMI protocol.

Raritan CommandCenter® Secure Gateway

Nov 26, 2007 14:47 EST
User ID: Admin
Logout

Home > Node

Accounting S2 [Add to Favorites](#)

Interfaces:

Type	Name	Status	Availability	Device/IP Address	Virtual Media
Out-of-Band - KVM	WIN Server	Up	Idle	KX2-53-153	Enabled
In-Band - RDP	In-Band - RDP	Up	Idle	192.168.1.1	
In-Band - ILO Processor KVM	iLO Processor KVM	Up		192.168.57.230	
Web Browser	iLO Web GUI	Up		192.168.57.230	

Power Control:
Power Control - ILO Processor : Powered ON
Power Control - Managed Power Strip Interface : Powered ON

Associations:

Category	Element
Global Office Location	Somerset
System Type	Windows 2003

#7 - Higher Availability.

Raritan's KVM solution provides higher-availability access to remote servers.

In a lights-out data center, IT administrators demand guaranteed access to their servers. Only Raritan's KVM-over-IP solution provides this.

- **Dual Gigabit Ethernet NICs** on each Dominion KX II may connect to different switches for failover. (iLO2 has only one network connection; failing over to the server's network drop is no longer out-of-band.)
- **With independent, dual power supplies**, Dominion KX II does not rely on servers for power, while iLO2 does.
- **Optional modem access** provided by Dominion KX II enables IT administrators to access servers even in worst-case scenarios.

#8 - Complete Power Control.

Raritan's solution provides superior remote server power control.

Many customers are unaware that Raritan's KVM solution provides greater remote power control capabilities than the built-in features of iLO2.

- **Control power using IPMI:** Nearly every server shipping since 2002 provides remote shutdown capabilities for free via the emerging IPMI protocol. Raritan's CommandCenter Secure Gateway automatically discovers IPMI agents in your server environment, and seamlessly integrates IPMI power on, off, recycle, and graceful shutdown capabilities.
- **Control power using Dominion PX:** Arguably the most intelligent power strip in the market today, Dominion PX provides power control, environmental monitoring, and power metering (current and voltage) on a per-outlet basis. It integrates seamlessly with Dominion KX II.
- **Control power using HP iLO2:** In addition to the aforementioned mechanisms, Raritan's KVM solution also integrates with iLO2 itself, providing a third, redundant remote shutdown means.