High Performance Application Challenges

Broadcast, control room and others using high performance applications have many challenging needs. Operators and technicians require ultra-fast access to multiple servers and workstations in time-critical environments. Support for high definition digital video and audio, fast switching between applications, low latency and support for dual video and monitors are common needs. In addition, IT, engineering, and other departments require access to these computers. Many customers operate in 24x7 or multi-site environment requiring LAN, WAN and emergency out of hours access.

Meeting the Challenge with the Dominion KX III

Three generations of Dominion KX switches have provided IT and lab managers anytime/anywhere IP access to a wide variety of applications for over a decade. The KX III provides enterprise-wide, out-of-band, BIOS-level IP access with virtual media and remote power control. The popular virtual media feature allows administrators to load software, transfer files and even boot a server from a USB drive, CD/DVD or ISO image. By connecting Raritan's PX intelligent rack PDU's, administrators can power cycle hung servers remotely, saving trips to the data center.

The KX III's new video engine and IP User Station provide broadcast and control room users with high performance IP access consisting of 1080p video at 30 frames per second, 24 bit color, sub second switching between servers and 50 millisecond latency.

Servers with VGA, HDMI, DVI and DisplayPort video are all supported from a single switch.

The KX III is a flexible and low cost IP solution with the following benefits:

- Users can access servers and workstations across the LAN and WAN
- Emergency access is possible over the Internet.
- Operators, technicians, engineering and IT can access applications via User Station or PC/Laptop.

High Performance KVM with the Dominion KX III

The KX III solution is the only solution powerful enough for high performance applications, inexpensive enough for IT applications, with the flexibility to support both.

A large number of productivity enhancing features have been developed over a 12 year period supporting thousands of customers across the globe. The KX III also has many features specifically for broadcast and other dynamic applications.

How Does KVM-over-IP Work?

The following diagram illustrates how the KX III operates to remotely access servers over IP:
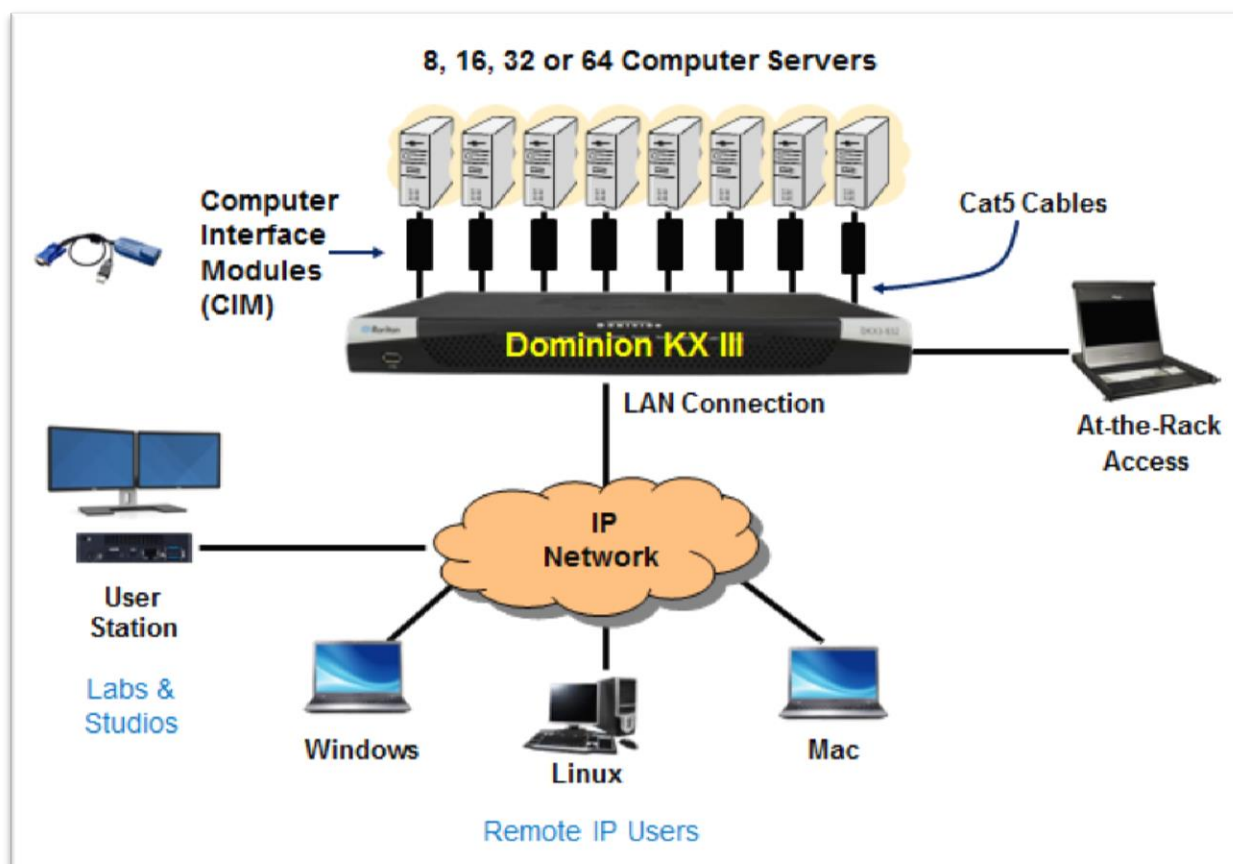
There are 13 different KX III models that can connect to 8, 16, 32 or 64 servers.

Servers are connected to the KX III via Computer Interface Modules (CIMS), and inexpensive Cat5 Cables. There are various CIMs for the different types of video connections. Since CIMs are less expensive than the typical encoder used by the competition, **the KX III is up to 50% cheaper than other high performance solutions**. Since the CIM is a Zero-U device, not requiring mounting in the rack, the KX III is easier and less expensive to deploy than competing solutions.
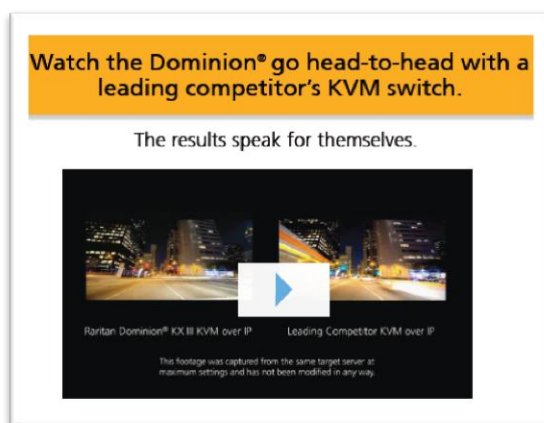
High Performance KVM with the Dominion KX III

The KX III is connected to the IP network allowing LAN, WAN or even Internet Access, when protected via a VPN.

Users in labs and studios can use the KX III User Station for high performance access. Unlike other high performance solutions, managers, IT and engineering can use their PC's and Laptops to access servers when needed.

Dominion KX III Performance Comparison

The Dominion KX III is much faster than traditional KVM-over-IP switches. Click on the image below to see the blazing speed of the KX III relative to its competition.

Watch the Dominion® go head-to-head with a leading competitor's KVM switch.

The results speak for themselves.

Raritan Dominion® KX III KVM over IP   Leading Competitor KVM over IP

This footage was captured from the same target server at maximum settings and has not been modified in any way.

The Dominion KX III IP User Station

For areas such as labs, studios and control rooms where PC's are not wanted, the new Dominion KX III User Station provides high performance IP access for servers connected to the KX III.

The User Station is a self-contained appliance with a productive and powerful user interface supporting dual monitors, simultaneous server connections, fast switching and full-screen mode.

Flexible and easy to deploy - just connect the User Station to your IP network and connect to a server connected to any KX III on the network.

The User Station supports key security features for government users including FIPS 140-2 encryption and Smart Card authentication.

The User Station in Action

This diagram shows how the User Station operates to provide scalable, IP access.
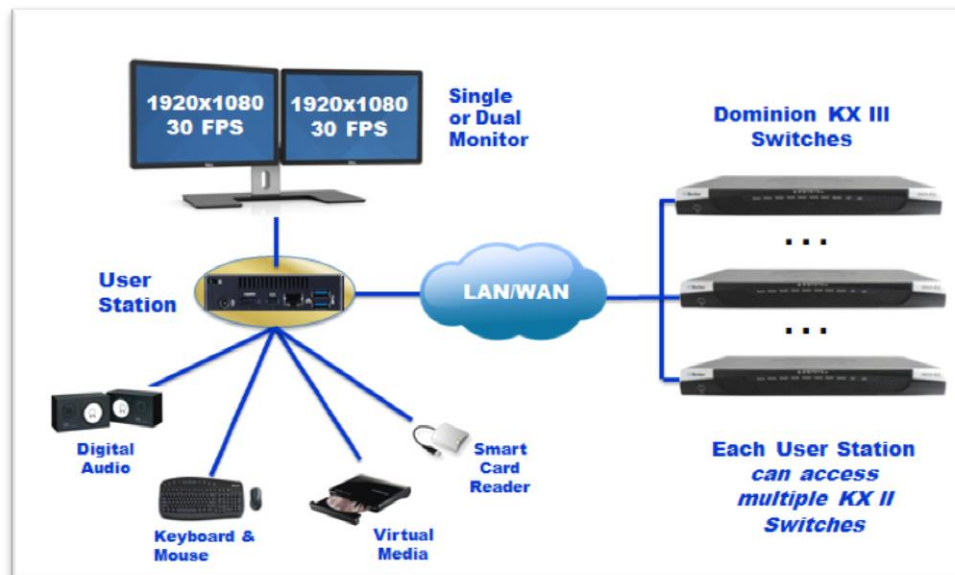
The user can connect keyboard, mouse, and optional speakers, virtual media drives and even a smart card reader.

The User Station supports single or dual monitors with high performance 1080p 30 FPS access.

The User Station connects to the LAN, so it can connect to any Dominion KX III switch on the network.

Productive User Station Interface

The User Station has a productive, multi-window desktop user interface, not an old-school OSD. The user can connect to and simultaneously work on multiple servers, from multiple KX III's in different windows. You can move, resize, or minimize windows to the toolbar, and then instantly recall them when needed. Windows can be placed across multiple monitors. A full screen mode is available which is like being directly connected to the server.

The User Station is a highly productive, flexible and easy-to-use station as you can see from the following screenshots that show its modern desktop, ability to support 8 or more simultaneous sessions, single and dual monitors, as well as full screen views that mimic a direct connection to the server.

Modern Desktop

8+ Simultaneous IP Sessions

Full Screen Mode

Single or Dual Monitors

Fast Switching Between Servers

Fast switching and server connections are available with the 8 port, 8 user, Dominion KX3-808 model. Our tests indicate that it takes less than a second to switch between servers connected to the KX3-808 model. This is much faster than other high performance solutions.

Flexible and Scalable for Small and Large Configurations

The flexibility of the IP architecture enables a wide variety of configurations from small standalone networks to large, multi-site configurations. True enterprise-wide access is supported, across the corporate LAN and WAN.
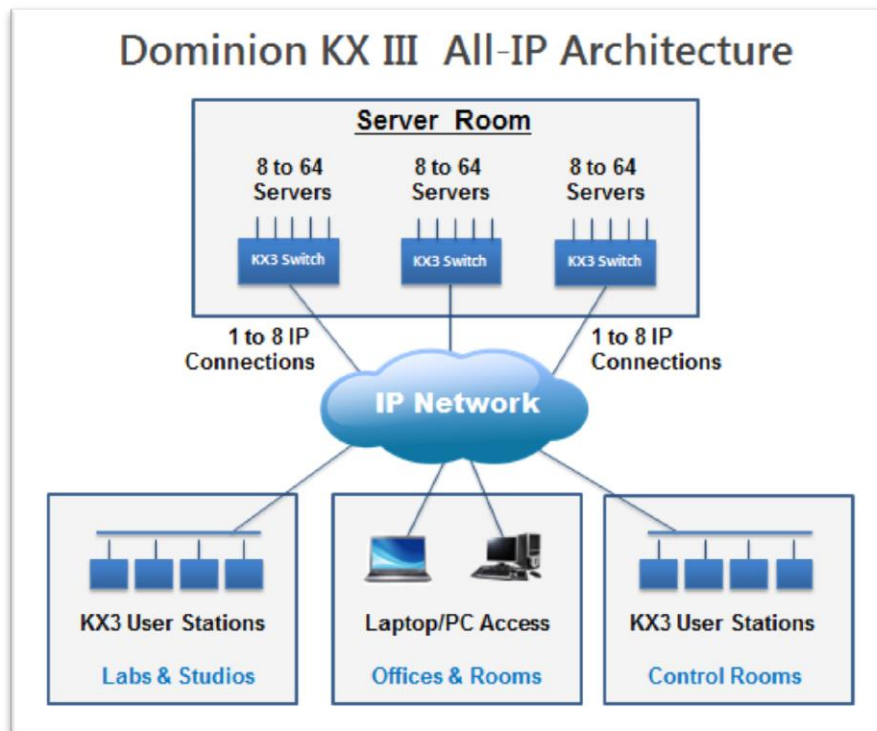
User stations can be used in labs, studios and control rooms by operators and technicians. IT, broadcast engineers and others can also access servers via laptop or PC from their offices and conference rooms. Users can easily access and manage equipment across multiple sites. Emergency access by administrators is possible over the Internet using a VPN. Ultimate scalability is achievable for multiple server rooms and labs across multiple sites.

High Performance KVM with the Dominion KX III

This diagram shows how users can access servers across the LAN and WAN from the User Station.

Enterprise Wide Access Across LAN & WAN
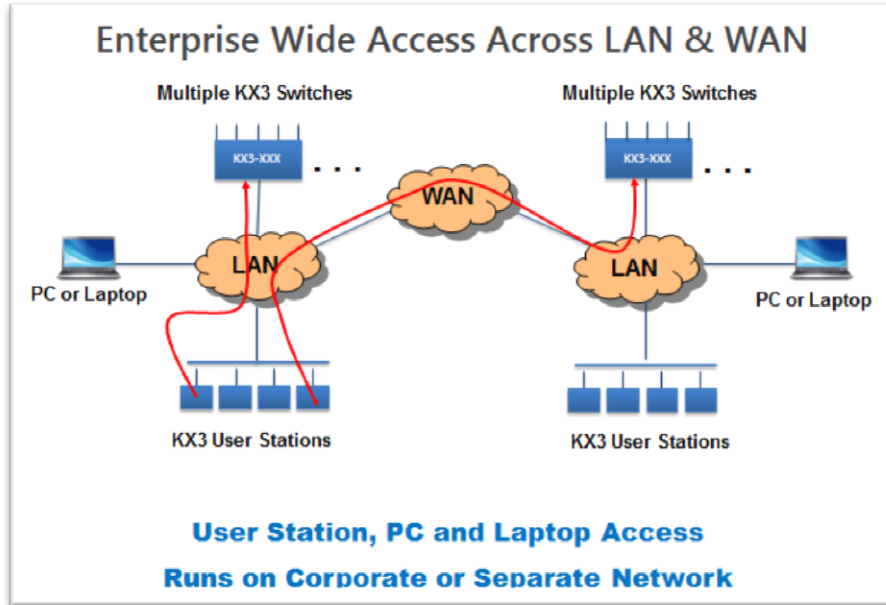
This diagram shows the scalability of the KX III architecture with User Station access from labs, studios and control rooms, together with PC/laptop access from offices and conference rooms.

Dominion KX III All-IP Architecture

Paragon II Users: Trade Up to the Dominion KX III

Many broadcast and control room customers have used Raritan's Paragon II system for high performance access. Launched in 2004, the Paragon II system is a very mature system and will go end-of-life in a few years. The KX III and associated User Station can replace Paragon in most environments. The KX III, as an IP based system, is a much more flexible and productive system with many features and benefits:

Top 10 Reasons for Paragon Users to Upgrade to the Dominion KX III

Feature	Dominion KX III	Paragon II
Lifecycle	Under active development and enhancement. User Station in 2015.	Towards end of lifecycle. EOL possible in a few years.
Video	VGA, DVI, HDMI & DisplayPort video	Only supports VGA video
Distance	Unlimited distances via IP	1,000 feet distance limitation
Virtual Media	Remotely install software, transfer files, back up data and boot OS	Not available
Audio	Digital audio available over USB	Not available
User Station	Connects to multiple switches over IP	Only connects to one UMT
User Station Connections	Simultaneously connect to 8+ servers across dual monitors	Only connects to one server at a time on a single monitor
IP Access	IP access via PC/laptop freely available	Requires additional hardware
Scalability	Easy to add switches and user stations	Complex tiering and stacking

You can Trade in your Paragon Equipment for KX III

Attention Government and Military Customers

In addition to great performance, government and military customers require a highly secure and reliable system for server access.   The KX III supports many specialized security features including:

- SmartCard and Common Access Card authentication
- FIPS 140-2 Encryption Module
- IPv6 Networking
- AES Encryption

Raritan products are used by hundreds of government agencies and all branches of the military.

In Conclusion

Users face many difficult challenges working with broadcast and other higher performance applications. Raritan's Dominion KX III KVM-over-IP switch family can help meet those challenges.

As the first KVM-over-IP switch supporting both traditional IT and high performance applications, the KX III provides a unique solution for broadcast, control rooms, military and government customers.

Compared to other high performance access solutions, the IP-based Dominion KX III:

- Is less expensive
- More flexible, secure and reliable
- Easier to deploy and expand
- Provides high performance User Station access
- Provides PC/laptop access for engineers, IT and managers
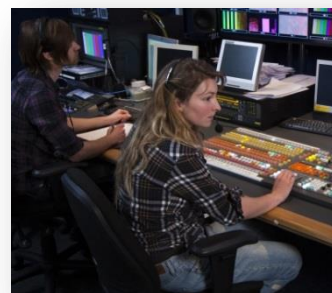
For more information, click on the following:

Dominion KX III Product Page

Dominion KX III Data Sheet

Dominion KX III User Station Brief

Dominion KX III Video Comparison

To discuss your unique needs and/or get a quote, call us at 1.800.724.8090 or sales@raritan.com

Learn more at www.raritan.com/kvm