

High Performance Applications with the Dominion KX III

- Broadcast
- Control Room
- Government & Military
- Energy & Utility
- Transportation
- Security

High Performance Application Challenges

Broadcasters, control rooms, 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, and support for high-definition digital video and audio, the ability to switch quickly between applications, low latency, and support for dual video and monitors are common needs. In addition, IT, engineering, and other departments also require access to these computers. Many customers operate in 24x7 or multisite environments 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 PDUs, administrators can power-cycle hung servers remotely, saving them 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 featuring 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 by a single switch.

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

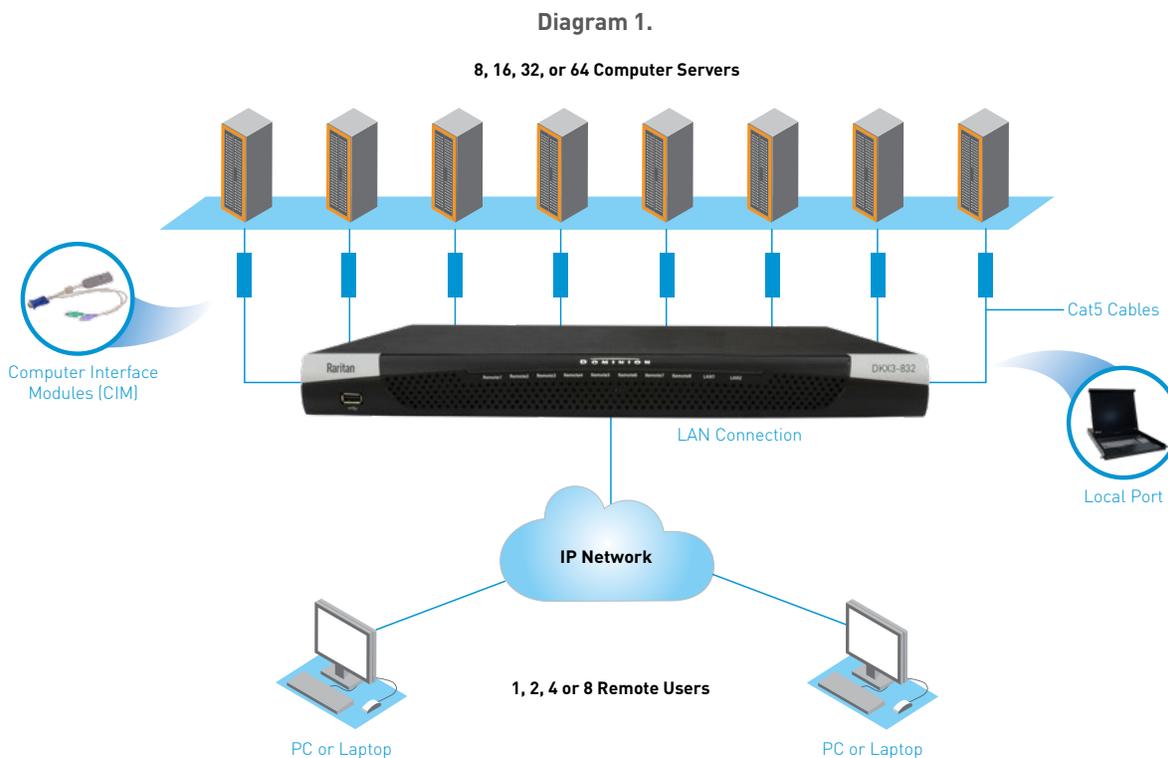
- Users can access servers and workstations across the LAN and WAN.
- Emergency access is possible over the Internet.
- Operators, technicians, engineers, and IT technicians can access applications via User Station or a PC/laptop

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

A large number of productivity enhancing features have been developed over a 14 year period, supporting thousands of customers across the globe. The KX III has many features designed specifically for broadcasting 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 different types of video connections. Since CIMs are less expensive than the typical encoders used by the competition, **the KX III is significantly cheaper than other high performance solutions.** Since the CIM is a Zero-U device and does not require any rack space, the KX III is easier and less expensive to mount in the rack

than competing solutions.

The KX III is connected to the IP network, enabling LAN, WAN, or even Internet access when protected by 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 technicians, and engineers can use their PCs and laptops to access servers when necessary.**

Dominion KX III Performance Comparison

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

www.raritan.com/kx3-comparison

The Dominion KX III IP User Station

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

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

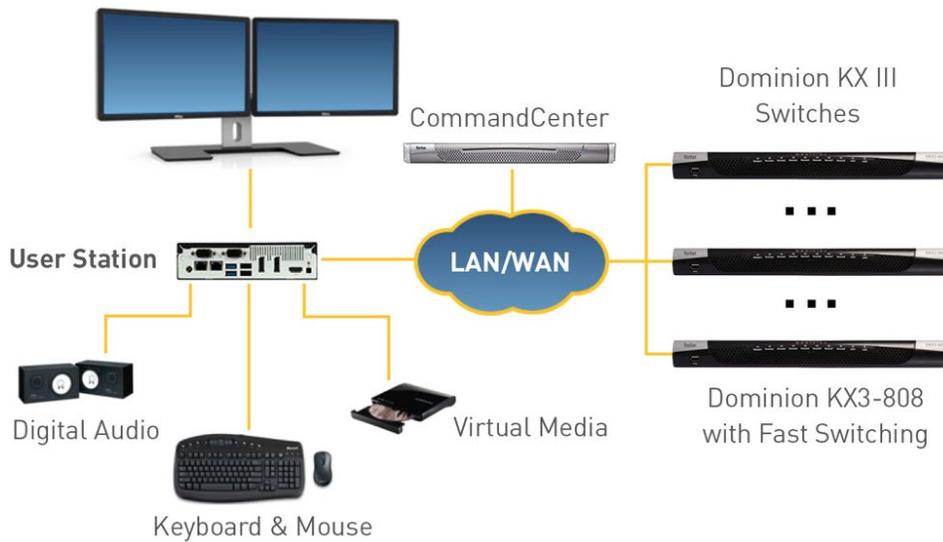
Flexible and easy to deploy — just hook up the User Station to your IP network and then connect to a server linked to any KX III on the network.



The User Station supports key security features for government users, including FIPS 140-2 encryption and smart card authentication.

The User Station in Action

Diagram 2. How the User Station operates to provide scalable IP access



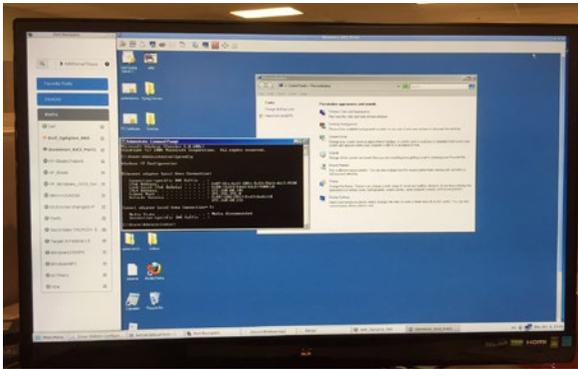
The user can connect a keyboard, a mouse, and optional speakers, virtual media drives, and even a smart card reader. The User Station supports both single and dual monitors with high performance 1080p 30 FPS access and can connect to any Dominion

KX III switch on the LAN/WAN network. It even integrates with **Raritan's CommandCenter centralized management system** for enterprise-wide access. Users log in with their CC-SG credentials and can access any servers they are authorized to access.

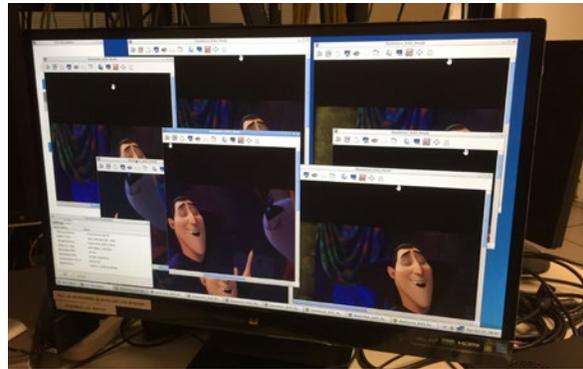
Productive User Station Interface

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 using multiple KX IIIs in different windows. Windows can be moved, resized, or minimized to the toolbar and then instantly recalled when needed. They can also be placed across multiple monitors. A full-screen mode is available, which resembles a direct connection to the server.

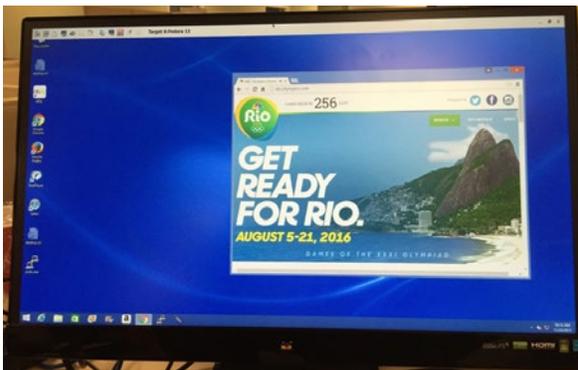
The User Station is a highly productive, flexible, and easy-to-use station, as can be seen in the following screenshots, which showcase its modern desktop, ability to support eight or more simultaneous sessions, full-screen mode—which mimics a direct connection to the server—and single- or dual-monitor capacity.



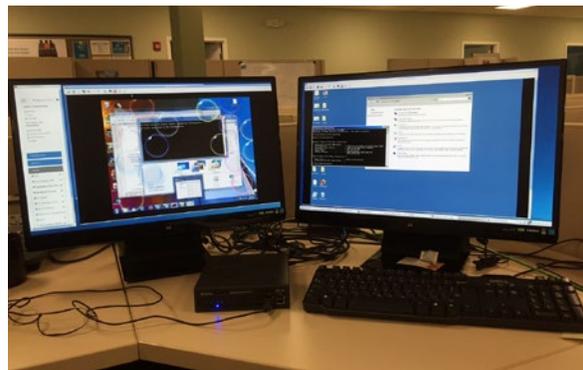
Modern Desktop



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, which is significantly faster than other high performance solutions.

Flexible and Scalable for Small and Large Configurations

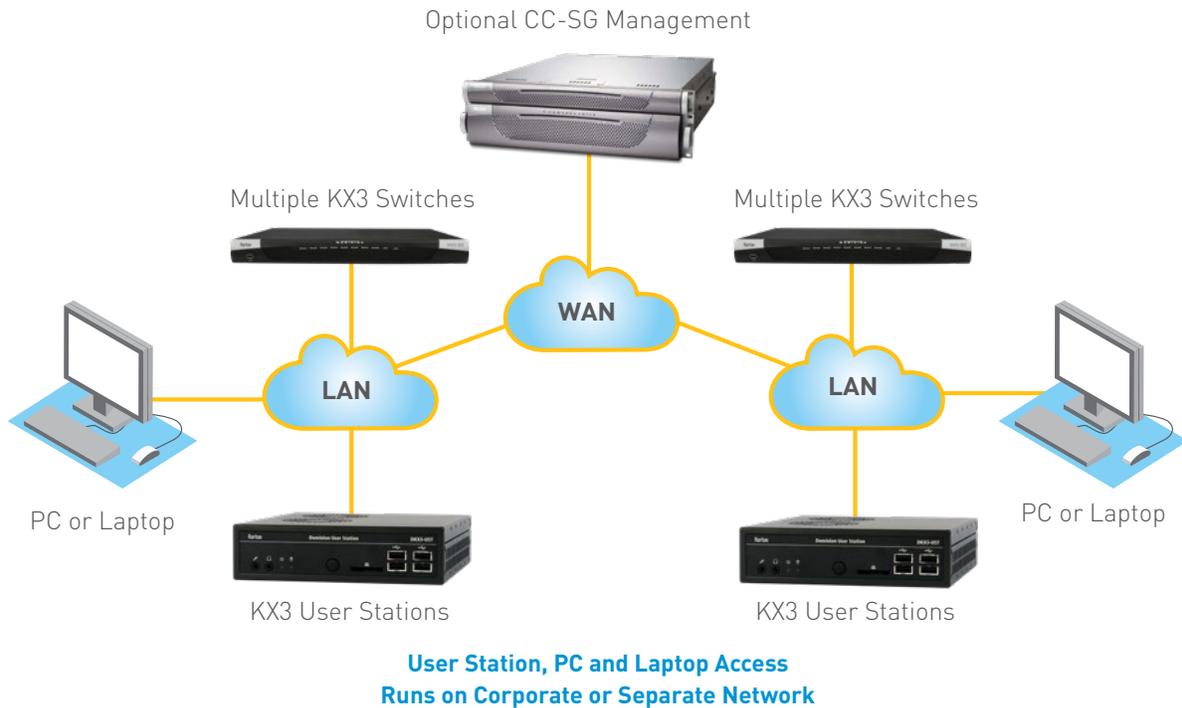
The flexibility of the IP architecture enables a wide variety of configurations, from small, standalone networks to large, multi-site configurations. True enterprise-wide access is supported across the corporate LAN and WAN.

The User Station can be used in labs, studios, and control rooms by operators and technicians. IT technicians, broadcast engineers, and others can also access servers via their laptops or PCs from their offices and conference rooms. Users can easily access and

manage equipment across multiple sites. Emergency access for administrators is possible over the Internet using a VPN, and ultimate scalability is achievable for multiple server rooms and labs across multiple sites through Raritan's CommandCenter centralized management system.

Diagram 3 shows how users can access servers across the LAN and WAN from the User Station.

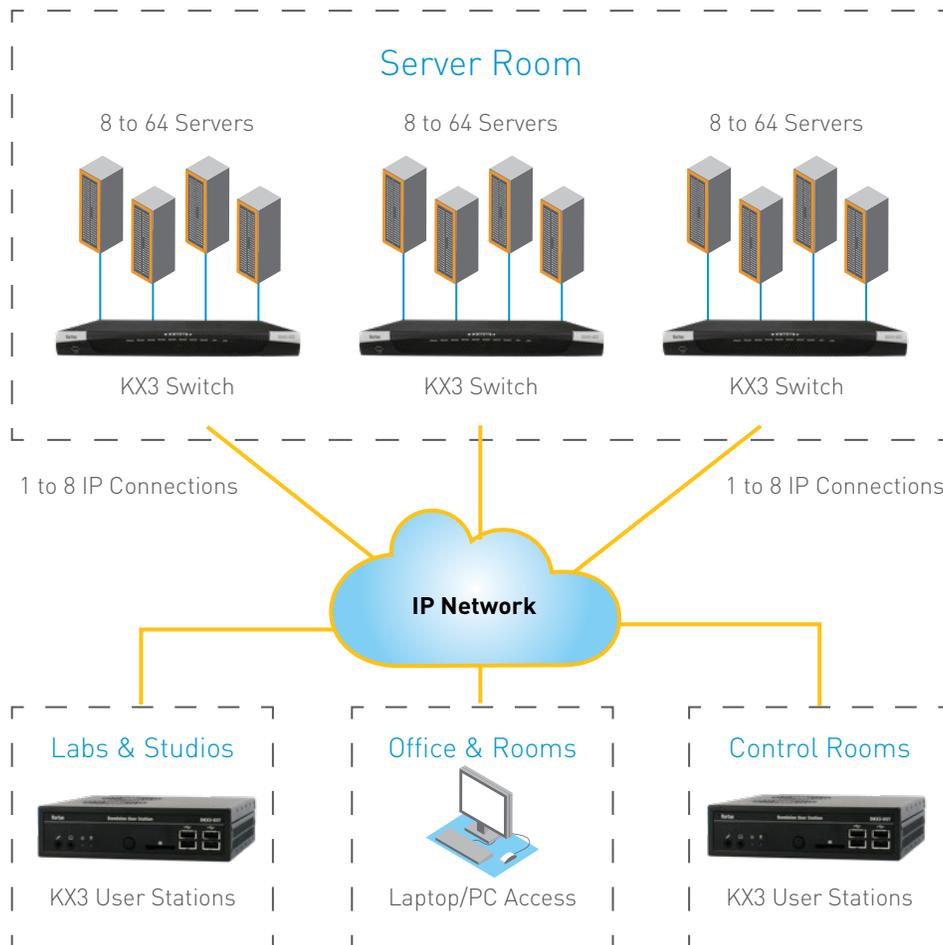
Diagram 3. Enterprise Wide Access Across LAN & WAN



Flexible and Scalable for Small and Large Configurations (cont.)

Diagram 4 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.

Diagram 4. 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 highly mature system and is no longer for sale.

The KX III and the 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. | No longer for sale as of December 31, 2017. |
| 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 the following:

- Smart card and common-access card authentication
- An 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 when working with broadcast media and other high-performance applications. Raritan's Dominion KX III KVM-over-IP switch family can help them 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 broadcasters, control rooms, and military and government customers.

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

- Is less expensive
- Is more flexible, secure, and reliable
- Is easier to deploy and expand
- Provides high-performance User Station access
- Provides PC/laptop access to engineers, IT technicians, and managers

For more information, please check out 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 request a quote, call us at 1.800.724.8090 or send an email to sales@raritan.com.

Learn more at www.raritan.com/kvm

About Raritan

Raritan began developing KVM switches for IT professionals to manage servers remotely in 1985. Today, as a brand of Legrand, we are a leading provider of intelligent rack PDUs. Our solutions increase the reliability and intelligence of data centers in 9 of the top 10 Fortune 500 technology companies. Learn more at Raritan.com