



## KVM extension, switching, and remote desktop solution

- Switch and extend HD video and USB HID over LAN/WAN.
- Remotely operate, manage, and reboot attached PCs.
- Provides point-to-point extension and cloud-based matrix switching.
- Zero client and operating system (OS) independent.

## IP-based LAN/WAN solution enables point-to-point KVM extension and transition to small, unmanaged matrix configurations.

### InvisaPC

- IP-based LAN/WAN solution for extension and switching of DVI-D video and USB-HID.
- Remote Desktop Protocol (RDP 7.1 and RDP 8 or Remote FX) delivers seamless rich media, USB redirection, and enhanced security and compliance.
- Offers point-to-point extension over IP (in real time over a LAN or with low latency over the Internet) and switched extension with up to 32 virtual RDP machines or physical computers via the transmitter.
- Extremely low bandwidth requirements with maximum 35 Mbps for 1080p motion picture resolution.
- Enables soft migration from desktop computing to virtual computing without sacrificing performance.
- Scalable solution—start small as point-to-point extension and grow to an unmanaged matrix switching system.
- Integrates with Microsoft® MS Server 2008 R2 SP1 and Microsoft Hyper-V Server 2012 for RDP 7.1 Remote FX.
- Maximum resolution up to 1920 x 1200.
- Compact fanless design improves ergonomics at the users' desks.



### Connectivity to virtual machines.

The InvisaPC™ bridges the gap between IP-based KVM extension and switching applications and access to virtual machines. Use an InvisaPC receiver as a direct portal to virtual machines, including Microsoft RDP 7.1 and RDP 8, to redirect digital video plus USB keyboard and mouse to remote users.

The InvisaPC requires that transmitters are connected to a host computer with an operating system. However, the InvisaPC doesn't require any drivers or software to be installed on computers. This hardware-based solution is plug-and-play, connecting directly to the network interface right out of the box.

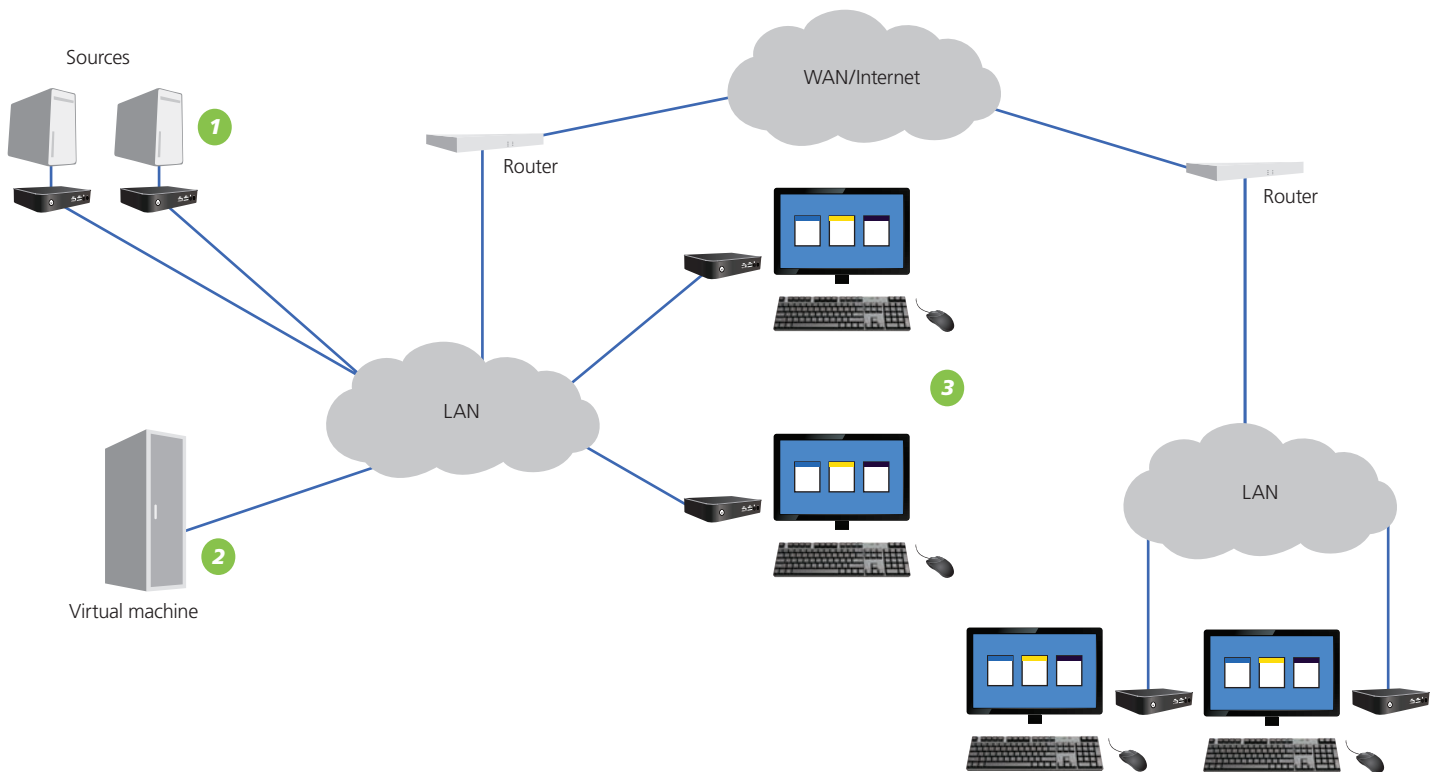
### Traditional point-to-point extension over IP.

With the InvisaPC solution, computers are removed from the desktop, relocated within a secure, climate-controlled equipment room, and connected to an InvisaPC transmitter. Each user has his/her own keyboard, monitor, mouse, and peripheral setup connected to an InvisaPC receiver. The receiver delivers a high performance, real-time experience, just like running any application on a local CPU without any performance issues.

The clients and the back-racked servers are connected via standard local area network (LAN) or wide-area network (WAN) infrastructure. The bandwidth requirements of the system are very low. For example, with the InvisaPC, transmitting a 1080p movie only requires 35 Mbps bandwidth. The low bandwidth requirements enable extension over the Internet with very low latency and sharing over corporate networks.

### Flexible extension.

Connected to a virtual machine, one InvisaPC receiver can support up to 32 RDP, RDP 7.1/8 targets. The same receiver can also be connected with up to a total of 32 InvisaPC transmitters. That way each InvisaPC receiver supports switching between a total of 32 soft and hard targets. The setting can be copied from one receiver to another to simplify setup, while user profiles may be configured on the receiver to restrict targets. Multiple receivers may be used to create a matrix switch via the network, too, without any management requirements.



1. InvisaPC transmitters (DTX1000-T) with source CPUs.

2. Host server with RDP, such as MS Server 2008 R2, and CALs for RDP virtualized sessions.

3. Workstations with keyboard, monitors, and mouse setup, and an InvisaPC receiver (DTX1000-R) for remote access to CPUs and server. InvisaPC can extend to a maximum of 32 targets.

**Adapts to growing needs.**

InvisaPC can easily be adapted to meet your requirements. Start with a small switching system that enables one user access to different computers and virtual machines. Gradually, the system can be expanded into a switching matrix. Future management software will also enable larger switching matrices, as well as integration into existing network authentication systems such as LDAP or Active Directory.

**Flexible remote access ensures a convenient working environment.**

The clients operate extremely quietly—no fan noise to distract users from their work. The power consumption is about three watts per unit which, compared to a desktop PC, is 100 times more energy efficient. The InvisaPC receiver, with its space-saving design, can even be mounted behind the monitor screen.

Moving to cloud computing with a zero client device like the InvisaPC enables IT managers to make their departments more flexible and responsive.

**Soft migration from real to virtual machines.**

The InvisaPC solution provides the ability of a smooth migration from real desktops towards a virtual server landscape. The system provides integrated support for back-racked PCs and virtual desktops. In particular, the design addresses applications with a mix of both worlds—without changing the front end for the user. Desktop virtualization is deployed through a server that hosts multiple virtual desktops. The virtual desktops can be running Linux® or Microsoft® operating systems.

Using an InvisaPC transmitter, the system supports digital video, keyboard, and mice across IP networks. It is standards-based, so there are no upgrades to equipment, software licensing, or remote management—plus, no time-consuming IT visits.

## Take a test drive.

Try the InvisaPC in your own office! Contact Black Box pre-sales engineering if you are interested in evaluating the InvisaPC as a remote desktop application. You'll get a receiver unit enabled for Remote Desktop Protocol to connect to a transmitter at Black Box.



Call 724-746-5500 or visit [blackbox.com/InvisaPC](http://blackbox.com/InvisaPC).



### Applications

**Mobile Broadcasting:** Outside broadcast vans (OBVs) and satellite news gathering (SNG) vehicles are often equipped beyond their approved weight loads. With the InvisaPC on board, heavy computers are replaced with a single server with multiple virtual machines.

In no way does this switch compromise the number of requests or performance. Additionally, the solution means more room in a small space, reduced noise, and reduced heat and thermal radiation from multiple computers.

**Graphic Design:** InvisaPC enables graphic artists in various fields to share expensive software hosted on one or multiple back-racked target computers. For instant orders, the user will always get immediate remote access to the server pool. Even for design applications requiring high performance, InvisaPC users experience no difference at the display, and no drop in usability compared to a local workstation.

**Education:** In a school setting, whether K-12, higher education, or computer labs, the InvisaPC can be used to access remote physical computers and run virtualized RDP sessions via a Server 2008 R2. InvisaPC gives several users simultaneous access, and the user experience is just like running the program on a desktop. This application can reduce equipment costs.

**Manufacturing:** Move vulnerable equipment away from noise, vibration, and dust by relocating computers to a secure, climate-controlled equipment room. Connect them to an InvisaPC transmitter, and use existing infrastructure to extend KVM. Receiver and transmitter appliances are quiet, fanless, and solid, so nothing can get in to ruin the internal component.

**Engineering:** Running program simulations eats up a lot of time. With InvisaPC, an engineer can access the simulation servers with a keyboard, mouse, and video displays from a remote location. He or she can monitor simulations to check their progress and interact with the simulation to change views or parameters without running a remote access client. InvisaPC can boost productivity by enabling remote starts on other simulations when one is complete.

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