Extend your desktop any distance from the computer over a standard TCP/IP network using HMX Desktop over IP solutions

Desktop over IP solutions are designed for desktop administrators who need to physically separate the computer from the user in the work environment. Physical separation of computer and user can be critical where security and/or environmental issues are major concerns. The Avocent HMX desktop over IP solution provides the ideal solution for these environments. The HMX system can be easily deployed over a Local Area Network, and supports a comprehensive range of peripherals including DVI-I video, CD audio, USB mass storage, keyboard & mouse. The HMX manager provides administration and connection management control from a central location, enabling the desktop administrator to effectively and efficiently manage the desktop computing resource without compromising the user experience.

Enhanced Security

In many modern organizations the competitive advantage, revenue and profitability of the organization is becoming increasingly dependant on the efficient use of computing resources and technology. In fact, more often than not, the revenue of a company may be directly dependant on, or produced on the computing resource of the company. Protecting the data and intellectual property of the company is crucial to the long term success of the company. Most companies provide layers of logical security to protect the company against external attack, but security breaches can happen from within the company. The HMX solution physically separates the computer from the user, and enhances security by adding a physical layer to the security system.

HMX Manager

HMX IQ Module

Gigabit Ethernet

HMX User Station

HMX User Station
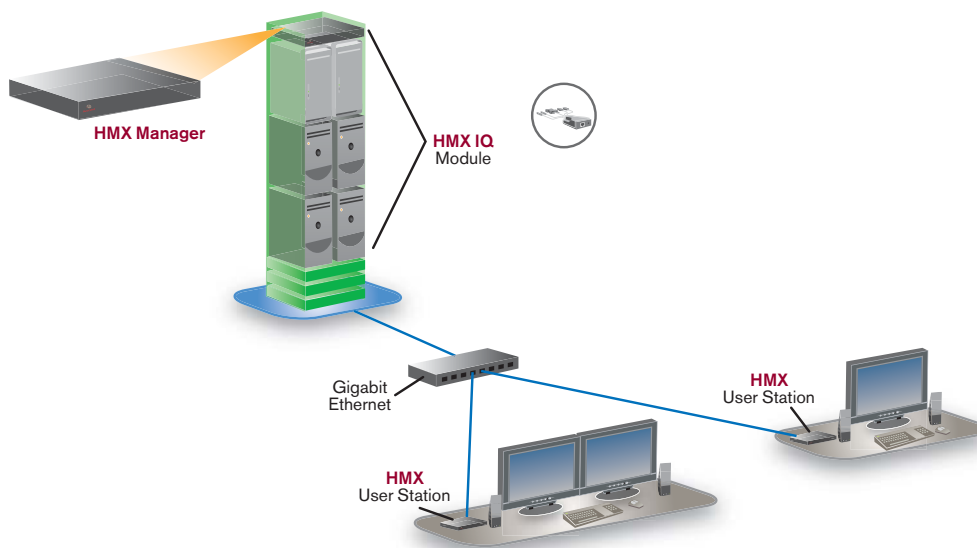
Desktop over IP Solutions

Key Features and Benefits

- **Rich User Experience.** The user gets a rich computer experience, even though the computer is located remotely, including:
  - • Dual Digital DVI Video up to 1920x1200
  - • USB keyboard and mouse
  - • USB Media
  - • CD Audio
- **Central Management.** Manage the entire HMX solution from one central console, including one database to manage user authentication and access. The HMX manager includes features such as:
  - • Flexible Access Modes
  - • Logging and Reporting
  - • Desktop Pooling
- **Secure Access.** 128bit AES encryption on all data passing through the network and authentication guarantee that access to any computing resource is managed securely.
- **Ethernet Operation.** Allows the computer and user to be located anywhere on the 100 or 1000Mbps network with full routing of data across routers, switches and subnets.
- **Full Hardware Solution.** No software or drivers required. Provides access to all computer peripheral ports regardless of the state of the OS or BIOS.
- **Upgradeable.** The HMX system has an embedded Linux® OS, and is fully upgradeable to allow for future feature enhancements.

Extending the reach of the computer

Many companies would like to extend and expand the reach and use of computers in the workplace. The challenges presented to the desktop administrator in this environment are very different to those encountered in a typical desktop/office environment. The challenges/problems include:

- The local environment of the computer may not be suitable for a person because of noise, heat, chemical or dust pollution, electromagnetic fields or excessive vibration.
- The operator needs to operate several machines or production lines from one central location.
- The noise and heat of the computer may not be desirable in the vicinity of the working location.
- The administrator needs to provide redundancy in control computers to prevent downtime of the production line.
- Working conditions can be impacted by the proximity of a computer (i.e. Test labs, sterile lab environments, etc.).

All of these problems can be solved by moving the computer and/or user away using the Avocent HMX desktop over IP solution.

HMX User Stations

Users can connect to a comprehensive range of peripherals using a number of different HMX User Stations. User station selection depends on the type and number of displays to be supported and the video to be shown on these displays. The HMX User Station has an Ethernet connection to allow for connection to the TCP/IP network and to communicate across the network to a Computer Interface Module. All information and data received from the Computer Interface module is encrypted to 128bit AES SSL.

HMX Computer Interface Modules (HMX IQ)

Target computers can be connected to the TCP/IP Area Network using a number of different HMX IQ modules. HMX IQ selection depends on type and number of displays to be supported and the video that is generated by the computer. All HMX IQ modules are hardware based and require no software or drivers to be loaded on to the target computer. All HMX IQ modules are operating system (OS) independent, enabling the solution to function with Windows®, Mac®, Linux or Sun® computers.

HMX Manager

The HMX Manager provides administration and connection management for Avocent HMX system components along with a rich suite of access profiles and internal authentication options. The HMX Manager is delivered as a hardened appliance with secure browser based access. The HMX Manager can be connected to two simultaneous networks allowing one network to be used for deployment of the HMX system and the other network to be used by the desktop administrator to monitor, manage and control the HMX system.
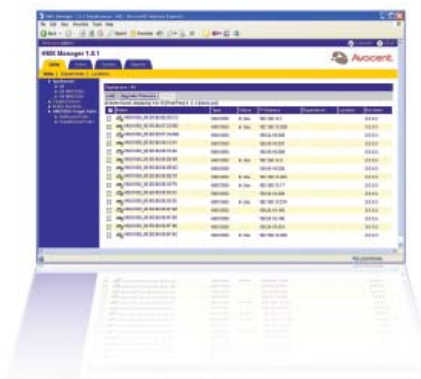
Increased Productivity and Efficiency

- **Reliability and Service:** In the event of a fault, users can be 'remapped' to an alternate computer, so reducing their down time and improving the service provided by the desktop administrator.
- **Increased Productivity:** Remapping the user to another computer enables the desktop administrator to conduct fault analysis and repair "offline" ensuring there is no impact on productivity of the user .
- **Access:** Placing the computers in a central location simplifies the task of the desktop administrator gaining access to the computers.
- **Ease of migration:** Desktop administrators can easily install and deploy new computing resources. Migrating users is achieved without impacting productivity, ensuring users gain access to the latest versions of computing power without disruption.
- **Improved Virus Control.** The computers are now situated remotely from the user, so the introduction of virus infected files is more difficult and, through the use of appropriate software policies, can be eliminated completely.

Technical Specifications

HMX1050 & HMIQDI	Computer Interface Module (HMX IQ)	HMX User Station
Connections		
USB	2 x USB	4 x USB
PS/2		2 x PS/2
Video	1 x DVI-I	1 x DVI-I
Speakers	1 x 3.5mm Stereo Speakers Jack	1 x 3.5mm Stereo Speakers Socket
Microphone	1 x 3.5mm Mono Microphone Jack	1 x 3.5mm Mono Microphone Socket
Network	1 x RJ45	1 x RJ45
Performance		
Network	100Mbps or 1Gbps	100Mbps or 1Gbps
Encryption	SSL/AES 128 bit	SSL/AES 128 bit
USB	USB keyboard & mouse, and mass storage devices	USB keyboard & mouse, and mass storage devices
Audio	Stereo speakers 32 bit 44.1kHz, Mono microphone 16bit 44.1Khz	Stereo speakers 32 bit 44.1kHz, Mono microphone 16bit 44.1Khz
Video	Analog or digital video up to 1280 x 1024 @ 60Hz	Analog or digital video up to 1280 x 1024 @ 60Hz
Mechanical		
Format	Self-enclosed module	Desktop mounting metal case with external power supply
Height	0.83 in. (21 mm)	1.04 in. (26.5 mm)
Depth	6.02 in. (153 mm)	5.12 in. (130 mm)
Width	2.68 in. (68 mm)	8.27 in. (210 mm)
Weight	0.66 lbs (0.3 Kg)	1.54 lbs. (0.7 Kg)
Environmental / Power		
Operating Temperature	32° to 95° F (0° to 35° C)	32° to 95° F (0° to 35° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)	-4° to 140° F (-20° to 60° C)
Humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)
Power In	5VDC / 1.1A	100-250VAC / 50-60 Hz
Power Consumption	6W	20W
Standards		
Approved Agency	cUL, UL, CE, FCC15 Class A	cUL, UL, CE, FCC15 Class A

HMXMGR

Network	
Type	(2) Ethernet, 10BaseT, 100BaseT, GigE Connector
Connector	RJ-45
Serial Port	
Type	(1) RS-232 serial port
Connector	DB-9 male
Mechanical	
Size (H x W x D)	1.7 x 16.8 x 14 in (4.3 x 42.7 x 35.6 cm), 1U form factor
Weight	13 lbs (5.9 Kg)
Environmental / Power	
Operating Temperature	32° to 95° F (0° to 35° C)
Storage Temperature	-31° to 158° F (-35° to 70° C)
Humidity	10% to 90% (non-condensing)
Power In	100-120VAC / 50-60 Hz
Power Consumption	260W
Standards	
Approved Agency	cUL, UL, CE, FCC15 Class A, TUV

Technical Specifications

HMX2050 & HMIQDHDD	Computer Interface Module (HMX IQ)	HMX User Station
Connections		
USB	1 x USB	4 x USB
Video	2 x DVI-D	2 x DVI-I
Speakers	1 x 3.5mm Stereo Speakers Jack	1 x 3.5mm Stereo Speakers Socket
Network	1 x RJ45	1 x RJ45
Performance		
Network	100Mbps or 1Gbps	100Mbps or 1Gbps
Encryption	SSL/AES 128 bit	SSL/AES 128 bit
Audio	Stereo speakers 32 bit 44.1kHz,	Stereo speakers 32 bit 44.1kHz
Video	Analog video up to 1600 x 1200 @ 60Hz (Note analog connection at monitor ONLY) Digital video up to 1920 x 1200 @ 60Hz	
Mechanical		
Format	Metal cased module with external power supply	Desktop mounting metal case with external power supply
Height	1.10 in. (28 mm)	1.10 in. (28 mm)
Depth	7.87 in. (200 mm)	6.06 in. (154 cm)
Width	5 in. (127 mm)	8.19 in. (208 mm)
Weight	1.65 lbs (0.75 Kg)	2.09 lbs. (0.95 Kg)
Environmental / Power		
Operating Temperature	32° to 95° F (0° to 35° C)	32° to 95° F (0° to 35° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)	-4° to 140° F (-20° to 60° C)
Humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)
Power In	100-250VAC / 50-60 Hz	100-250VAC / 50-60 Hz
Power Consumption	20W	20W
Standards		
Approved Agency	cUL, UL, CE, FCC15 Class A	cUL, UL, CE, FCC15 Class A

Part Number	Description
Ordering Details	
HMX 1050	HMX user station, single head DVI-I
HMIQDI	HMX IQ Module, single head DVI-I
HMX 2050	HMX user station, dual head DVI-I
HMIQDHD	HMX IQ Module, dual head DVI-D
HMXMGR	HMX management appliance