

PixelNet 2.0:

The Pixel Perfect Platform

Build your AV distribution system with more pixels, more scalability, and more connections than ever before

On a large corporate campus for a major hardware manufacturer, the ability to display and manage audiovisual data is paramount. From real-time operations room video and security camera footage, to lobby signage, to streaming data and other A/V applications in conference rooms across multiple buildings, critical operations rely on accurate, real-time video data.

The technology company needs a flexible, scalable solution to easily add more inputs and outputs as it grows—including high quality 4K video sources. It also needs a way to easily manage its video and audio distribution system, on all displays and video walls throughout the organization, in one simple to use ecosystem. Most A/V systems have fallen short—until now.

The PixelNet 2.0 Difference

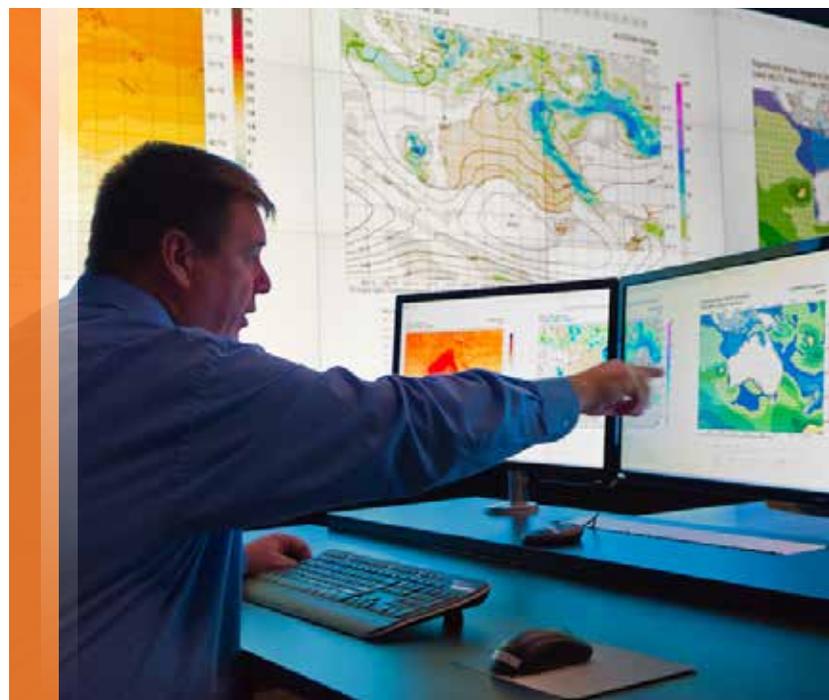
PixelNet 2.0 is a revolutionary new way to capture, distribute, control, and display video and audio sources, both direct and over IP, for audiovisual applications. It provides native support for 4K video, fiber network, and audio for an ultra-high definition distribution system that can support an unlimited number of inputs and displays, at any resolution, in multiple locations. Offering unparalleled scalability, PixelNet can power a single input distributed to a single output, all the way up to hundreds of inputs and outputs, for real-time HD or 4K information display at sites spanning a building, a campus, or a continent.

Easily Manage and Display Video Content

Flexible PixelNet 2.0 hardware can be deployed as a single signage player, matrix switcher, multi-viewer, or video wall processor. Powerful PixelNet Domain Control software (PDC) manages each input and display in the network, allowing users to easily visualize content across a large video wall or on a single screen. Content can be managed simply with the PDC software, which allows users to drag and drop input sources across a display wall mimic, as well as provide control over multiple connected video walls.

Very large video walls composed of an array of enormous numbers of displays can be created with PixelNet 2.0, for use in control rooms and operations centers. In fact, the size of a video wall is only limited by the size of the switch that connects inputs and outputs. Likewise, a system with single displays scattered throughout a building or campus, or even around the world, can be created to keep everyone up to date on operations.

PDC supports multiple walls, with no limit on number of inputs or number of displays. PixelNet 2.0 is easy to configure with PDC's self-configuration feature, which automatically imports all inputs and outputs.



Dramatic Scale, Bandwidth, and Cost Savings

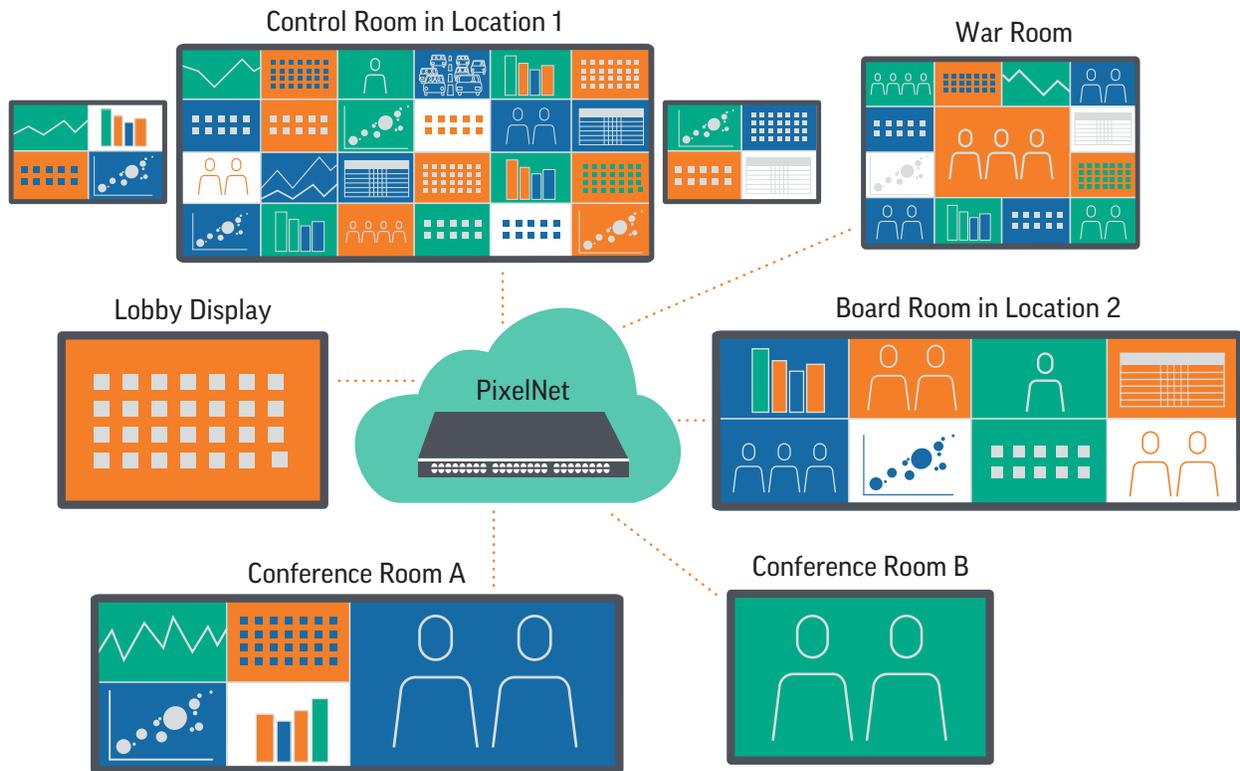
PixelNet 2.0 delivers a significantly increased density of processing power and connectivity, which yields a per channel price reduction of 30-40% over its predecessor. Each PixelNet 2.0 Input Node allows the connection of four 4K or eight 1080p inputs, while each Output Node provides up to four 4K or six 1080p outputs, all 1RU in size. New datacenter-grade Jupiter by InFocus switches support up to 100Gb/s QSFP+ ports. Users from enterprise to government to education will benefit from reduced project costs or the ability to expand the size of projects.



Setting New Industry Standards	
Uncompressed Video	PixelNet's proprietary uncompressed video protocol enables pixel perfect video quality with high frame rate and low latency.
Native Support for 4K	Native 1080p and 4K resolution support with all PixelNet 2.0 hardware covers any future requirement for higher resolution.
Fiber Network Capabilities	The SFP+ interface enables both copper and optical fiber for large distributed systems across long distances.
Unlimited Scalability	High density PixelNet 2.0 nodes can be connected together to scale to any size project. PixelNet 2.0 is limited only by the size of selected switches.
Display Agnostic	Drive multi-wall, multi-resolution displays simultaneously. PixelNet 2.0 supports all display technology, including: LCD, OLED, and direct view LED displays; DLP and rear projection cubes; and projectors.
Incredible Density of Processing Power	Output Nodes support 6 x 1080p displays or up to 4 x 4K displays (via DisplayPort). Input Nodes support 8 x 1080p or 4 x 4K sources (via HDMI).
24/7 Reliability	Achieve 100% redundancy with an added back-up server. PixelNet 2.0 also offers automatic failover and recovery.



How Does It Work?



Featuring high bandwidth networking for real-time streaming sources, pixel perfect visual quality using uncompressed video, and resolutions ranging up to 4K, PixelNet 2.0 is a complete end to end video distribution solution. From the Input Nodes, to the cable infrastructure, to the PixelNet switch, to the Output Nodes, PixelNet 2.0 is easy to deploy and maintain, and Jupiter by InFocus is committed to supporting your PixelNet ecosystem throughout the life of the product. PixelNet 2.0 is also backward compatible with first generation PixelNet systems.

Deployment Features

PixelNet 2.0 systems can scale to suit any requirement to connect and distribute video across buildings, campuses, or global networks.

Video Wall

PixelNet processing engines are capable of powerful video manipulations such as scaling, cropping, and stretching. These basic processing blocks can be used to create video walls of any size or shape. Additionally, PixelNet outputs keep all wall outputs perfectly synchronized. As a result, video walls are easy to implement and manage, with no incremental costs beyond your switching and distribution system.

Multi-viewer

Traditional multi-view processors require a specialized central video processor with incredible bandwidth capabilities to receive and scale multiple video feeds, making them very expensive. With PixelNet 2.0, processing is distributed across multiple endpoint devices, so no one device requires special capabilities.

Matrix Switch

PixelNet replaces the traditional matrix switch with a more flexible, scalable, reliable, and affordable solution. Ethernet switches can be stacked and scaled to thousands of ports, resulting in massive economies of scale, which help IT suppliers deliver more reliable switches at a much lower cost.

PixelNet in Use

PixelNet is ideal for applications including redundant control room display walls in multiple locations, manufacturing and process management, digital signage, law enforcement and security monitoring, and campus video distribution.

Building or Campus Distribution, and Beyond



Use PixelNet 2.0 to create an integrated A/V network throughout a large building or campus. PDC software can drive and centrally manage every display device throughout the organization. Single displays can be controlled for ultimate management during normal operation, special event, public service announcement, or emergency message. Video walls of any size and resolution can be created for lobby signage, meeting rooms, security operations, digital scoreboards, and billboards. One source can be replicated and displayed across hundreds of destinations.

Fiber networking also enables the creation of continental-sized networks, ideal for manufacturers, banks, and other enterprises with a global footprint.

Ideal for: Corporate AV solutions (signage, control room, war room, meeting rooms, etc.) and higher education or other campus AV distribution (dedicated AV network powering outside displays, classroom or administrative displays, student center signage, stadium video wall, etc.)

Command & Control

PixelNet 2.0's flexible, proprietary technology works in a variety of deployments and makes the system easy to configure, while providing pixel perfect image quality. Uncompressed 4K files deliver crystal clear video with low latency to elevate situational awareness in real time. PixelNet's unparalleled flexibility and scalability allow users to connect a nearly infinite number video and data inputs to be distributed and displayed on any size video wall at any resolution. All PixelNet hardware is equipped to handle both HD and 4K bandwidth to ensure future requirements are met without the need to upgrade.

Ideal for: Security Operations Centers (SOC), Traffic Management Centers (TMC), Network Operations Centers (NOC), or Emergency Response Centers



Military



PixelNet 2.0 offers exceptional security. The patented, proprietary PixelNet video codec and full optical fiber deployments eliminate any worry about electromagnetic interference or “leaking.” Pixel perfect quality means mission critical data is transmitted in the highest quality to ensure the correct response to every event. Hardware components can be made fully redundant to ensure 100% uptime for mission critical applications.

To request a demo or get a quote,
contact pixelnet@infocus.com.