In control rooms around the world, critical decisions are made based on information presented on video walls. Even a temporary interruption or drop in performance can be detrimental.

Planar understands the unique requirements of mission-critical video walls. After 20 years and tens of thousands of product installations for some of the world’s most demanding applications, we know first-hand what is at stake.

That experience has helped Planar become the global leader in specialty displays for markets in which superior performance is simply the baseline. For today’s security, broadcast, traffic and transportation, utilities, emergency operations centers, corporate, and general command and control room personnel, the display system must deliver, day in, day out, around the clock.
Planar’s Indisys™ image processing system is a complete all-digital solution for capturing, routing, displaying and managing visual information on a video wall. It incorporates a unique distributed architecture and dedicated, high bandwidth components that deliver the performance, flexibility, redundancy and source-to-pixel control not possible with traditional image processing architectures. The Indisys Management Suite software allows an operator to control and monitor every aspect of the control room visual experience, up to and including the video wall displays themselves.

The Indisys hub and gateway components can be physically distributed or centrally rack-mounted depending on the requirements of the installation. Indisys in-cube processing results in simplified cabling and enables fault-tolerant configurations, single-cable wall replication, PIP 4, image scaling, cropping, zooming and complete wall snapshots. The all-digital Indisys protocol operates over standard dual-link DVI cables at a data rate of 16Gb per second.

Indisys scales to accommodate very small to very large control room networks and video walls. Planar image processing provides an end-to-end solution that has been successfully deployed and proven around the world and continuously developed and improved over the past 20 years.
Indisys implements an innovative display architecture that provides for the

- Acquisition and digitization of virtually any video or computer visual source.
- Distribution and routing of those sources within the enterprise to the appropriate displays.
- Display and manipulation (scale, size, zoom, crop) of sources on the video wall or display.
- Control and management of the entire system from the source to display.
THE INDISYS DIFFERENCE

UNCOMPROMISING IMAGE QUALITY
Indisys, first and foremost, delivers uncompromising image quality. All Indisys system components feature an all-digital, packetized distribution protocol called IP2. Both analog and digital sources, of any resolution, can be accepted by the system and routed over the IP2 network utilizing standard dual-link DVI cabling.

The Indisys system requires no compression of the visual sources ensuring that what you see on the video wall is of highest quality and has experienced no loss of visual information due to compression.

Even with this uncompromising image quality, scalability of the system is maintained due to three key architectural features. First, the system uses a high bandwidth 16Gb link to transport the data. Second, utilizing the IP2 packetized protocol, the Indisys system uses this bandwidth in the most efficient way possible, mixing source data in the packets, routing the information and recomposing it at the point of display, using the Indisys in-display processor. Finally, Indisys achieves scalability through the use of a distributed, component-based architecture that allows you to add incremental rack-mounted Indisys processing components where and when you need them. It does not rely on a monolithic “PC-with-cards” approach that introduces bottlenecks and single-points-of-failure.

SIMPLICITY AND FLEXIBILITY
The Indisys system is designed for maximum simplicity and flexibility. It allows you to display any image, any size, anywhere, on any size wall. With Indisys in-display processing electronics, each cube in the video wall has the intelligence to capture, process and loop-through the information intended for it to display. The system even has the intelligence to allow different resolution images with different refresh rates to travel in the packetized protocol together.

This in-display processing also simplifies cabling. Since each display receives and loops-through all the visual information in the system, only one high-bandwidth cable is required to deliver all the information to all the displays in any size wall. It also means that increasing the size of the video wall or outputting the visual information to a TFT confidence monitor is as simple as adding one cable or one box. The result is a system that delivers maximum flexibility with simplified physical cabling.
Indisys is built for reliability and security and has been deployed in hundreds of mission-critical applications in every part of the world. Indisys processing components are purpose-built, solid-state hardware components that don’t rely on a general-purpose PC platform. They are designed to perform one function efficiently and reliably and to avoid the single-point-of-failure concerns that arise from monolithic architectures.

Each Indisys display features in-display processing electronics with two dual-link DVI connections. This allows for system designs that can either divide more critical and less critical sources, or can build in redundancy.

The Indisys management function is run over a separate Ethernet-based control network. This ensures that a problem on the visual network does not effect your ability to diagnose and correct the problem. This separation of visual from management networks is necessary in order to deliver the mission-critical reliability many organizations demand. Finally, the separate DVI-based visual network enhances security by keeping sensitive visual information off a more accessible IP network.

**RELIABILITY AND SECURITY**

The PLI creates an ultra-high resolution desktop and network application access.
INDISYS IN-CUBE PROCESSING

- Image Processing: scale, zoom, crop
- All digital loop-thru
- Redundant dual DVI links
- Display monitoring: temperature, fan speed, lamp life
- Display control: power, Auto Color Balance, brightness
- Complete integration with Indisys Director

SOURCE-TO-PIXEL CONTROL

Indisys Director is a complete management system for providing total source-to-pixel control over your system. With it, customers control setup, source acquisition and display, video wall operation and system monitoring. Fully integrated with the Indisys in-cube processing, Indisys Director simplifies and enhances the operation of Clarity Integrated displays in demanding control room environments. It provides control over key data such as event triggers, drag and drop sources, presets and live source and video wall thumbnails.
The Indisys Management Suite provides management and control for the entire Indisys system. The software suite includes tools to simplify the configuration of the Indisys system. Utilizing the IP2 protocol, the configuration updater is able to query, discover and create a graphical representation of the devices and cabling configuration of the Indisys network. This is the first step in configuring an Indisys network that can now be controlled and managed centrally.

From a single graphical interface, sources can be accessed, previewed and displayed on the video wall using drag-and-drop mouse control. Preset configurations can be created and deployed. Sources can be managed and snapshots of the wall can be saved. System alerts and triggers are monitored from this interface ensuring that the workflow of managing even a complex system can be greatly simplified.

Utilizing the unique in-cube processing capability of Indisys, in combination with the suite’s core application, Indisys Director, an operator can fully manage a video wall from the same application being used to manage the display of visual sources. From the suite, the operator can control power, lamp switching, brightness and color levels and can even invoke Set it and Forget it (SiFi™) Auto Color Balance for the entire video wall. Critical display readings such as temperature, fan speed, lamp life and firmware levels can be monitored for optimal performance, using the suite’s system manager tool.

In addition to directly connected video and computer sources, Indisys has the capability to display network-based applications on the video wall alongside all the other sources. This is accomplished though the Indisys PLI gateway which can be managed through Indisys Director like any other source on the wall.

The Indisys Management Suite is designed to be open, extendable and remotely accessible. It runs on Windows and Linux and supports an API that can be integrated with 3rd party applications so that, for instance, the entire system can be controlled through a simplified touch interface or as part of a larger room control system. The suite also includes a web interface that allows properly credentialed operators to remotely monitor the systems, get live thumbnails of displayed sources or the entire wall, and respond to system alerts. Finally, it can be programmed to react to external events so that a message or alert received over the management network can result in a particular configuration being displayed on the video wall.
DRAG & DROP INTERFACE
Indisys Director source and preset preview with drag-and-drop user interface.

SYSTEM MONITORING
System Monitoring, showing status view with drill-down data analysis.

AUTO DISCOVERY
Configuration updater automatically detects hardware configuration.
TEST CUSTOMER CONFIGURATION: DELIVERING A SYSTEM THAT FUNCTIONS PROPERLY.

With Indisys, Planar delivers a complete solution from source capture to display - a single vendor who integrates, tests, delivers and stands behind the successful operation of the total solution. With every Indisys system, delivered anywhere in the world, Planar first performs a “Test Customer Configuration” (TCC) process in our factory ensuring the entire system, when connected together, functions properly to our specifications. The customer receives a Final Quality Check Report, detailing the TCC process and results for their system. By performing this service, Planar is able to deliver the solution to the customer knowing that it functions properly.
WHEN IMAGE EXPERIENCE MATTERS: CLARITY VIDEO WALLS + CRITICAL APPLICATIONS

- Corporate
- Transportation
- Command + Control
- Emergency Operations Center
- Government
- Telecommunications
- Broadcast
- Energy
- Security
Plan is a global company and proud of the role its products play in mission-critical environments around the world. With thousands of installations in operation across the globe, Planar supports its customers with a 24x7 worldwide service line and a global network of highly trained service technicians.

FOR MORE INFORMATION
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