



Switch Software

HiOS – Hirschmann Operating System

HiOS is the latest operating system for the new generation of Industrial Ethernet devices, combining high performance with robust security. It provides the user with precise time synchronization, extensive redundancy mechanisms and diagnostic tools. With zero switch-over time, the PRP (Parallel Redundancy Protocol) and HSR (High-Availability Seamless Redundancy) redundancy methods ensure smooth production processes. Comprehensive security mechanisms protect networks against attacks and operating errors.

- Layer 2 Embedded (L2E): Suitable for EES
- Layer 2 Standard (L2S): Suitable for RED, RSP, RSPS, RSPL, RSPE, Greyhound and OCTOPUS II
- Layer 2 Advanced (L2A): Suitable for MSP, RSP, RSPE and OCTOPUS II
- Layer 3 Standard (L3S): Suitable for RSP, RSPE and OCTOPUS II
- Layer 3 Advanced (L3A): Suitable for MSP



Classic Switch Software

The Classic Switch Software provides a range of functions normally found in backbone systems used in office networks. This includes comprehensive management, diagnostics and filter functions, various redundancy features, security mechanisms and real-time applications.

- Layer 2 Basic (L2B): Suitable for RSB20, OCTOPUS
- Layer 2 Enhanced (L2E): Suitable for RS20/RS30/RS40, MS20/MS30
- Layer 2 Professional (L2P): Suitable for RS20/RS30/RS40, MS20/MS30, OCTOPUS, PowerMICE, RSR20/RSR30, MACH100, MACH1000, MACH4000
- Layer 3 Enhanced (L3E): Suitable for PowerMICE, MACH4000
- Layer 3 Professional (L3P): Suitable for PowerMICE, MACH104, MACH1040, MACH4000



NOTE: For the latest software functionality overview please visit our website at:
www.hirschmann.com/en/Software



Software Functionality

Switching
Disable Learning (Hub Functionality)
Fast Aging
Static Unicast/Multicast Address Entries
VLAN (802.1Q)
Independent VLAN Learning
Double VLAN Tagging (QinQ)
Dynamic VLAN Configuration Protocol (GVRP)
Multiple VLAN Registration Protocol (MVRP)
Protocol-based VLAN
Voice VLAN
MAC-based VLAN
IP Subnet-based VLAN
VLAN Unaware Mode
QoS/Port Prioritization (802.1D/p)
TOS/DSCP Prioritization
Interface Trust Mode
IP Ingress DiffServ Classification and Policing
IP Egress DiffServ Classification and Policing
CoS Queue Management
Traffic Shaping
Queue-Shaping/Max. Queue Bandwidth
Jumbo Frames
GMRP
IGMP Snooping/Querier (v1/v2/v3)
IGMP Snooping/Querier per VLAN (v1/v2/v3)
Unknown Multicast Filtering
Multiple MAC Registration Protocol (MMRP)
Multiple Registration Protocol (MRP)
Egress Broadcast Limiter per Port
Flow Control (802.3X)
Egress Interface Shaping
Ingress Storm Protection

Classic Switch Software v9.0	L2B	L2E	L2P	L3E	L3P
Disable Learning (Hub Functionality)		●	●	●	●
Fast Aging	●	●	●	●	●
Static Unicast/Multicast Address Entries	●	●	●	●	●
VLAN (802.1Q)		●	●	●	●
Independent VLAN Learning		●	●	●	●
Double VLAN Tagging (QinQ)			●	●	●
Dynamic VLAN Configuration Protocol (GVRP)			●	●	●
Multiple VLAN Registration Protocol (MVRP)					●
Protocol-based VLAN					●
Voice VLAN			●	●	●
MAC-based VLAN					
IP Subnet-based VLAN					
VLAN Unaware Mode					
QoS/Port Prioritization (802.1D/p)	●	●	●	●	●
TOS/DSCP Prioritization	●	●	●	●	●
Interface Trust Mode					
IP Ingress DiffServ Classification and Policing					
IP Egress DiffServ Classification and Policing					
CoS Queue Management				●	●
Traffic Shaping				●	●
Queue-Shaping/Max. Queue Bandwidth					
Jumbo Frames			●*		●*
GMRP			●	●	●
IGMP Snooping/Querier (v1/v2/v3)	●	●	●	●	●
IGMP Snooping/Querier per VLAN (v1/v2/v3)					
Unknown Multicast Filtering					
Multiple MAC Registration Protocol (MMRP)					
Multiple Registration Protocol (MRP)					
Egress Broadcast Limiter per Port		●	●	●	●
Flow Control (802.3X)		●	●	●	●
Egress Interface Shaping					
Ingress Storm Protection					

HiOS Hirschmann Operating System v5.0	L2E	L2S	L2A	L3S	L3A
Disable Learning (Hub Functionality)	●	●	●	●	●
Fast Aging	●	●	●	●	●
Static Unicast/Multicast Address Entries	●	●	●	●	●
VLAN (802.1Q)	●	●	●	●	●
Independent VLAN Learning	●	●	●	●	●
Double VLAN Tagging (QinQ)					
Dynamic VLAN Configuration Protocol (GVRP)					
Multiple VLAN Registration Protocol (MVRP)	●	●	●	●	●
Protocol-based VLAN			●	●	●
Voice VLAN		●	●	●	●
MAC-based VLAN			●	●	●
IP Subnet-based VLAN			●	●	●
VLAN Unaware Mode	●	●	●	●	●
QoS/Port Prioritization (802.1D/p)	●	●	●	●	●
TOS/DSCP Prioritization	●	●	●	●	●
Interface Trust Mode			●	●	●
IP Ingress DiffServ Classification and Policing			●	●	●
IP Egress DiffServ Classification and Policing			●*	●	●
CoS Queue Management	●	●	●	●	●
Traffic Shaping					
Queue-Shaping/Max. Queue Bandwidth		●*	●	●	●
Jumbo Frames	●*	●*	●	●	●
GMRP					
IGMP Snooping/Querier (v1/v2/v3)	●	●	●	●	●
IGMP Snooping/Querier per VLAN (v1/v2/v3)	●	●	●	●	●
Unknown Multicast Filtering	●	●	●	●	●
Multiple MAC Registration Protocol (MMRP)	●	●	●	●	●
Multiple Registration Protocol (MRP)	●	●	●	●	●
Egress Broadcast Limiter per Port					
Flow Control (802.3X)	●	●	●	●	●
Egress Interface Shaping	●	●	●	●	●
Ingress Storm Protection	●	●	●	●	●

Redundancy
HIPER-Ring (Manager)
HIPER-Ring (Ring Switch)
Fast HIPER-Ring
Link Aggregation with LACP
HIPER-Ring over Link Aggregation
Link Backup
Media Redundancy Protocol (MRP) (IEC62439-2)
Fast MRP (IEC62439-2)
MRP over Link Aggregation
Advanced Ring Configuration for MRP
High Availability Seamless Redundancy Protocol (HSR) (IEC62439-3)
Parallel Redundancy Protocol (PRP) (IEC62439-3)
Device Level Ring (DLR)
Redundant Network Coupling
Sub Ring Manager
RSTP 802.1D-2004 (IEC62439-1)
MSTP (802.1Q)
RSTP Guards
RSTP over MRP
VRRP
HiVRRP (VRRP Enhancements)
VRRP Tracking

Classic Switch Software v9.0	L2B	L2E	L2P	L3E	L3P
HIPER-Ring (Manager)	●	●	●	●	●
HIPER-Ring (Ring Switch)	●	●	●	●	●
Fast HIPER-Ring			●*	●*	●*
Link Aggregation with LACP			●	●	●
HIPER-Ring over Link Aggregation			●*	●*	●*
Link Backup					
Media Redundancy Protocol (MRP) (IEC62439-2)	●	●	●	●	●
Fast MRP (IEC62439-2)					
MRP over Link Aggregation					
Advanced Ring Configuration for MRP			●	●	●
High Availability Seamless Redundancy Protocol (HSR) (IEC62439-3)					
Parallel Redundancy Protocol (PRP) (IEC62439-3)					
Device Level Ring (DLR)					
Redundant Network Coupling		●	●	●	●
Sub Ring Manager			●	●	●
RSTP 802.1D-2004 (IEC62439-1)	●	●	●	●	●
MSTP (802.1Q)			●	●	●
RSTP Guards		●	●	●	●
RSTP over MRP		●	●	●	●
VRRP				●	●
HiVRRP (VRRP Enhancements)				●	●
VRRP Tracking				●	●

HiOS Hirschmann Operating System v5.0	L2E	L2S	L2A	L3S	L3A
HIPER-Ring (Manager)					
HIPER-Ring (Ring Switch)			●	●	●
Fast HIPER-Ring					
Link Aggregation with LACP	●	●	●	●	●
HIPER-Ring over Link Aggregation	●	●	●	●	●
Link Backup	●	●	●	●	●
Media Redundancy Protocol (MRP) (IEC62439-2)	●	●	●	●	●
Fast MRP (IEC62439-2)	●*	●*	●*	●*	●
MRP over Link Aggregation			●	●	●
Advanced Ring Configuration for MRP					
High Availability Seamless Redundancy Protocol (HSR) (IEC62439-3)	●*	●*	●*	●*	●
Parallel Redundancy Protocol (PRP) (IEC62439-3)	●*	●*	●*	●*	●
Device Level Ring (DLR)		●*	●*	●*	
Redundant Network Coupling					
Sub Ring Manager			●	●	●
RSTP 802.1D-2004 (IEC62439-1)	●	●	●	●	●
MSTP (802.1Q)					
RSTP Guards	●	●	●	●	●
RSTP over MRP					
VRRP				●	●
HiVRRP (VRRP Enhancements)				●	●
VRRP Tracking				●	●

* Hardware dependent



Configuration
Automatic Configuration Undo (roll-back)
Text-based Configuration File (XML)
Configuration Fingerprint
BOOTP/DHCP Client with Auto-Configuration
DHCP Server: per Port
DHCP Server: Pools per VLAN
DHCP Server: Option 43
AutoConfiguration Adapter ACA31 (SD Card)
AutoConfiguration Adapter ACA21/22 (USB)
HiDiscovery
DHCP Relay with Option 82
Command Line Interface (CLI)
CLI Scripting
Full-featured MIB Support
Web-based Management
Context-sensitive Help

Classic Switch Software v9.0					
L2B	L2E	L2P	L3E	L3P	
●	●	●	●	●	
	●	●	●	●	
●	●	●	●	●	
		●	●	●	
		●	●	●	
		●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	

HiOS Hirschmann Operating System v5.0					
L2E	L2S	L2A	L3S	L3A	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
	●	●	●	●	
	●	●	●	●	
	●	●	●	●	
●*	●*	●	●	●	
●	●*	●*	●*	●	
●*	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	

Management
LLDP (802.1AB)
LLDP-MED
SSHv1
SSHv2
V.24
HTTP
HTTPS
SNMP v1/v2/v3
Traps
Telnet
TFTP
SFTP
SCP
DNS Client
Dual Software Image Support

Classic Switch Software v9.0					
L2B	L2E	L2P	L3E	L3P	
●	●	●	●	●	
		●	●	●	
		●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
		●	●	●	

HiOS Hirschmann Operating System v5.0					
L2E	L2S	L2A	L3S	L3A	
●	●	●	●	●	
	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●	●	●	●	●	
●*	●*	●	●	●	

Routing
Full Wire-Speed Routing
Loopback Interface
ICMP Filter
Net-directed Broadcasts
Static Unicast Routing
Static Route Tracking
RIP v1/v2
OSPFv2
ICMP Router Discovery (IRDP)
ECMP
Proxy ARP
IP/UDP Helper

Classic Switch Software v9.0					
L2B	L2E	L2P	L3E	L3P	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	

HiOS Hirschmann Operating System v5.0					
L2E	L2S	L2A	L3S	L3A	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	
			●	●	

Multicast Routing
IGMP v1, v2, v3
IGMP Proxy (Multicast Routing)
DVMRP
PIM-DM (RFC3973)
PIM-SM / SSM (RFC4601)

Classic Switch Software v9.0					
L2B	L2E	L2P	L3E	L3P	
				●	
				●	
				●	
				●	
				●	

HiOS Hirschmann Operating System v5.0					
L2E	L2S	L2A	L3S	L3A	
			●	●	
			●	●	
				●*	
				●*	
				●*	

* Hardware dependent



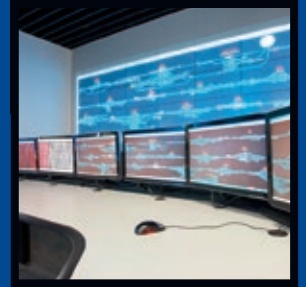
Software Functionality (continued)

Security	Classic Switch Software v9.0					HiOS Hirschmann Operating System v5.0				
	L2B	L2E	L2P	L3E	L3P	L2E	L2S	L2A	L3S	L3A
IP-based Port Security		●	●	●	●			●	●	●
MAC-based Port Security		●	●	●	●	●	●	●	●	●
Port-based Access Control with 802.1X			●	●	●	●	●	●	●	●
RADIUS VLAN Assignment			●	●	●		●	●	●	●
Guest/Unauthenticated VLAN			●	●	●			●	●	●
RADIUS Policy Assignment								●	●	●
MAC Authentication Bypass			●	●	●			●	●	●
Multi-Client Authentication per Port			●	●	●			●	●	●
Integrated Authentication Server (IAS)			●	●	●	●	●	●	●	●
Remote Authentication via RADIUS		●	●	●	●	●	●	●	●	●
LDAP								●	●	●
Basic ACL							●*			
Ingress MAC-based ACL				●	●			●	●	●
Ingress IPv4-based ACL				●	●			●	●	●
Ingress VLAN-based ACL								●	●	●
Egress MAC-based ACL								●*		●
Egress IPv4-based ACL								●*		●
Egress VLAN-based ACL								●*		●
Time-based ACL								●	●	●
VLAN-based ACL							●*	●	●	●
ACL Flow-based Limiting								●	●	●
DHCP Snooping								●	●	●
IP Source Guard								●*		●
Dynamic ARP Inspection								●	●	●
Automatic Denial-of-Service Prevention							●	●	●	●
Device Security Indication							●	●	●	●
Audit Trail							●	●	●	●
CLI Logging							●	●	●	●
HTTPS Certificate Management	●	●	●	●	●	●	●	●	●	●
Access to Management restricted by VLAN		●	●	●	●	●	●	●	●	●
Restricted Management Access			●	●	●	●	●	●	●	●
Appropriate Use Banner			●	●	●	●	●	●	●	●
SNMP Logging	●	●	●	●	●	●	●	●	●	●
Multiple Privilege Levels						●	●	●	●	●
Local User Management	●	●	●	●	●	●	●	●	●	●
Configurable Password Policy						●	●	●	●	●
Configurable Number of Login Attempts						●	●	●	●	●
User Account Locking						●	●	●	●	●

Time Synchronization	Classic Switch Software v9.0					HiOS Hirschmann Operating System v5.0				
	L2B	L2E	L2P	L3E	L3P	L2E	L2S	L2A	L3S	L3A
SNTP Client	●	●	●	●	●	●	●	●	●	●
SNTP Server	●	●	●	●	●	●	●	●	●	●
Buffered Real Time Clock			●	●	●			●	●	●
PTPv2 Transparent Clock Two-step*			●	●	●	●*	●*	●	●	●
PTPv2 Boundary Clock*		●	●	●	●	●*	●*	●	●	●

Industrial Profiles	Classic Switch Software v9.0					HiOS Hirschmann Operating System v5.0				
	L2B	L2E	L2P	L3E	L3P	L2E	L2S	L2A	L3S	L3A
PROFINET IO Protocol		●	●	●	●	●*	●*	●	●	●
EtherNet/IP Protocol		●	●	●	●	●*	●*	●	●	●
ModbusTCP						●	●	●	●	●
IEC61850 Protocol (MMS Server, Switch Model)			●	●	●	●	●	●	●	●

* Hardware dependent



Diagnostics
Management Address Conflict Detection
Address Relearn Detection
LEDs
MAC Notification
Signal Contact
Device Status Indication
TCPDump
Email Notification
Syslog
Persistent Logging on ACA
Port Monitoring with Auto-Disable
Link Flap Detection
Overload Detection
Duplex Mismatch Detection
Link Speed and Duplex Monitoring
RMON (1, 2, 3, 9)
Port Mirroring 1:1
Port Mirroring 8:1
Port Mirroring N:1
VLAN Mirroring
RSPAN
SFLOW
Copper Cable Test
System Information
Self-Tests on Cold Start
SFP Management
Configuration Check Dialog
Switch Dump
Snapshot Configuration Feature

Classic Switch Software v9.0	L2B	L2E	L2P	L3E	L3P
			●	●	●
		●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
			●	●	●
		●			
		●	●	●	●
			●	●	●
			●	●	●
			●	●	●
	●	●	●	●	●
	●	●	●	●	●
		●			●*
			●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●

HiOS Hirschmann Operating System v5.0	L2E	L2S	L2A	L3S	L3A
	●	●	●	●	●
	●	●	●	●	●
	●*	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
			●	●	●
	●	●	●	●	●
	●*	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●*	●*	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●

Miscellaneous
Digital IO Management
PoE (802.3AF)
PoE+ (802.3AT)
PoE+ Manual Power Management
PoE Fast Startup
Port Power Down
Manual Cable Crossing

Classic Switch Software v9.0	L2B	L2E	L2P	L3E	L3P
	●*	●*	●*	●*	●*
			●*	●*	●*
			●*		●*
			●*		●*
			●*		
	●	●	●	●	●

HiOS Hirschmann Operating System v5.0	L2E	L2S	L2A	L3S	L3A
			●*		●*
		●*	●*	●*	●*
		●*	●*	●*	●*
		●*	●*	●*	●*
		●*	●*	●*	●*
		●*	●*	●*	●*
	●	●	●	●	●
	●	●	●	●	●

* Hardware dependent



Software Tools



Industrial HiVision

Since its first release, Industrial HiVision has undergone continual development, with a focus on the functionality required in an automation environment. As a result, the current release offers a rich feature set and is available for Windows and Linux operating systems. For example, it can be used for reliable and convenient management of industrial networks, from configuring network nodes and visualizing network topologies, to detailed status displays. Therefore, the network administrator has access at all times to the information needed for efficient network management, accurate fault location and maintenance work. In short, Industrial HiVision is a core component for enhancing the availability of data communication.

Industrial HiVision can be used wherever networks have to meet the highest requirements in terms of availability and security, whether in the automotive industry or in the energy or transport sectors. Industrial networks are becoming increasingly complex, so to ensure efficient administration, Industrial HiVision allows distributed management with hierarchical master/slave stations. Most importantly, this software requires no special IT knowledge. The wizard guides you easily and systematically through the network management setup process.

Everybody knows, seeing is believing. Words alone cannot do justice to network management software. Download Industrial HiVision, and test it free of charge for 30 days at your convenience. An additional free of charge 30 day evaluation period is available by registering the software after the trial period has expired. You can download Industrial HiVision free of charge from www.hivision.de.

Industrial HiVision	
Part No.	Order No.
943 156-016	Industrial HiVision, 16 nodes
943 156-032	Industrial HiVision, 32 nodes
943 156-064	Industrial HiVision, 64 nodes
943 156-128	Industrial HiVision, 128 nodes
943 156-256	Industrial HiVision, 256 nodes
943 156-512	Industrial HiVision, 512 nodes
943 156-124	Industrial HiVision, 1024 nodes
943 156-248	Industrial HiVision, 2048 nodes
943 156-496	Industrial HiVision, 4096 nodes



The HiFusion tool in Industrial HiVision enables the integration of SNMP-enabled devices from different manufacturers into a single network management application: switches, PLCs, I/O modules and HMI panels. Therefore, this software offers maximum network visibility. Using MultiConfig™, hundreds of devices can be configured simultaneously, even while they are in operation. This not only saves time, but also ensures consistent configuration of the network infrastructure. Since the network topology is recognized automatically, all the network nodes and links are accurately displayed on-screen, including any unmanaged switches and hubs. This means that the display always shows the exact network status, and faults can be located quickly. Industrial HiVision also facilitates cost-effective solutions, because clients are made available free of charge and license fees are payable only for the server.



HiView

HiView allows users to benefit from Hirschmann products' web interface, without any browser or Java library installed on their PCs. In addition, HiView is a portable application. It does not require any installation and does not alter any PC registry entries. It even works directly from removable media such as USB drives and SD cards, for ultimate portability. But HiView is not just a replacement for a web browser. The comfortable Selection screen shows which Hirschmann devices have been accessed recently, with the most popular listed at the top. A single click connects to the required device. For added security, it is simple and convenient to view the security certificates of both the products and the Java library. And HiView will automatically use the most secure communication method.



HiDiscovery

Hirschmann products are delivered without a default IP address. This ensures that there is no chance of an IP address conflict, which could have a negative impact on a network. The traditional method for configuring an IP address on a device is to use the serial port. But there will almost certainly be occasions when the correct serial cable is not available. This is where HiDiscovery comes into play. HiDiscovery will discover all Hirschmann devices on a LAN, even if they do not have an IP address. The "Signal" button will activate a device's LEDs, so you can see which device you are communicating with. You can then assign IP address information to the device, directly over the Ethernet connection. HiDiscovery even assists with fault finding, by highlighting devices with duplicate IP addresses.



HiFusion

Manufacturers have defined various MIB variables for their devices that are not covered by standard MIBs. HiFusion allows you to integrate manufacturer-specific MIB variables for third-party devices into the Industrial HiVision network management software. To achieve this you create Product-specific Modules (PSM).

When creating a PSM you name the device, define a list of variables and assign an image to the device. The execution of the remaining processes is largely automated. Afterwards you incorporate the completed PSM into Industrial HiVision. Your third-party device will then be assigned the correct icon, and the values of the MIB variables will be displayed. HiFusion operates as a stand-alone application. It does not require Industrial HiVision to create or test the new PSM. You do not require a license for the program. The device for which you are creating the PSM must support version 1 or version 3 of the Simple Network Management Protocol (SNMP).



HiMobile

The HiMobile app, together with Industrial HiVision network management software from Hirschmann, is the perfect client/server solution for mobile monitoring of network nodes using smartphones or tablets – for higher network availability. HiMobile allows direct and convenient access to status information on network devices from almost anywhere. The HiMobile app runs on mobile devices and supports Apple and Android operating systems as well as Windows Phone.





Software Tools (continued)



Secure Remote Access Solution

The Secure Remote Access Solution provides a protected cloud system that can be configured with minimal IT knowledge or assistance. Permanent internet protocol (IP) addresses are not required, and there is no need to reconfigure corporate firewalls. Thus, the system enables secure access for remote programming and diagnostics with no disruptions to existing systems.

The Secure Remote Access Solution allows customers to remotely access their sites in order to troubleshoot and fix problems. This reduces the need for travel and allows staff to work more efficiently by handling multiple systems simultaneously.

This product also helps companies embrace the Industrial Internet of Things movement by enabling a secure way for many devices to connect together and communicate.

At the core of the Secure Remote Access Solution is a cloud service to which customers can connect their remote network devices. Multiple versions of software and hardware are available to complete the system, including the ability to manage the network from personal computers (PCs) or mobile devices.

The Secure Remote Access Solution supports Ethernet communication through a three-component system, including the:

- **GateManager** – operates as a cloud service
- **SiteManager** – hardware or software-based, making it possible to connect remote devices to the GateManager cloud; on the hardware version, the GECKO SiteManager software runs inside the Hirschmann GECKO switch
- **LinkManager** – provides secure, on-demand access to remote devices via the cloud

The network system is not only designed to be easy to install, but also provides firewall-friendly, state-of-the-art security features.

Belden and Hirschmann offer an initial Starter Package, limited to one per company, which includes:

- One SiteManager (GECKO 4TX switch hardware with integrated software or SiteManager Embedded software for Windows PCs)
- One LinkManager floating software license
- LinkManager mobile software
- GateManager Free Cloud Service

This Starter Package includes everything you need to get started and test the solution. Once you are satisfied, you can upgrade your cloud service and number of licenses to reflect your corporate requirements.