



ETERNITY GENX12SAC

Different telecom networks offer advantages in different aspects. Today's businesses expect specific benefits from each of these networks. The VOIP, GSM/4G, ISDN and POTS are four such omnipresent networks. It is vital for users to reach these networks transparently as they offer wider connectivity and lower telephony costs.

However, it is not easy to interface these networks with the existing PBX. Most of the PBXs were not designed to interface with these modern networks. Of course, one can replace the PBX with its accessories and acquire a new-generation equipment. But this proves to be a very costly solution.

Presenting, Matrix ETERNITY GENX12SAC - the High-density Universal Media Gateway that offers integrated interfaces to VOIP, GSM/4G, T1/E1 PRI and POTS networks. It can be used with any brand of PBX.

It allows users to make and receive calls transparently on all networks. It supports flexible and intelligent Least Cost Routing (LCR), leading to significant cost savings and round-the-clock connectivity. It allows enterprises to dynamically select one of these networks on per-call basis for obvious benefits of reach, cost and quality of service.

Matrix ETERNITY GENX12SAC provides carrier-grade gateway features, Integration, Scalability, Flexibility and Reliability. This makes it ideal for Call Centres and ITSPs irrespective of organization size and media network requirements. Matrix ETERNITY GENX12SAC is interoperable with third-party IP-PBXs and ITSPs (Elastix, Broadsoft, Megapath, Brekeke, Nex Vortex, Broadvox, Babytel, Voxbone, SOTEL). Its advanced routing capabilities and comprehensive gateway features ensures that the enterprise needs of different telecom network requirements are addressed while retaining existing infrastructure with an advantage of faster and transparent operation with reduced telecommunication cost.

BRIDGE TO THE VOIP, GSM/4G, ISDN AND POTS NETWORKS

Matrix ETERNITY GENX12SAC is an integrated, flexible gateway to interface with the traditional analog or new-generation digital and wireless telecom networks. They include traditional analog interfaces like FXS and FXO along with digital networks like T1/E1 PRI. Moreover, GSM/4G and VOIP networks are also supported.

Flexibility and scalability are the key strengths of Matrix UMG. Its open architecture with universal slots allows any interface cards to be inserted in any of the available slots. This flexibility facilitates “all-in-one” gateway. There is no need of having multiple gateway equipment for various interfaces. Not only that, ETERNITY GENX12SAC can be configured to serve the exact traffic requirements of an organization by combining interface cards tailored for required number of ports. The configuration can be changed anytime to keep pace with changing needs of an enterprise to tackle the problems of congestion and under-utilization effectively.

ETERNITY GENX12SAC supports universal routing thus allowing routing a VOIP call on to GSM/4G or T1/E1 PRI. Similarly, a call from T1/E1 PRI can be routed either on VOIP, GSM/4G or POTS ports. Fixed or Least Cost Routing can be selected to decide route for an outgoing call. It can handle calls on all the ports simultaneously, allowing full traffic on all the ports. Existing PBX users can avail the low-tariff of VOIP or GSM/4G networks by connecting Matrix

ETERNITY GENX12SAC with PBX system without changing their existing infrastructure. The users continue to make and receive calls without worrying on which network their calls are routed. Matrix ETERNITY GENX12SAC routes the calls either on VOIP, GSM/4G, ISDN or POTS network depending on the destination numbers dialed by the users.

Intelligent and flexible routing is the forte of Matrix ETERNITY GENX12SAC. Various Least Cost Routing (LCR) schemes are offered. The elaborate routing algorithm encompasses different attributes like Port, Calling Number, Called Number and Time. It selects the most cost-effective route for a given number at a specified time. In addition, it allows the flexibility of reserving ports for important users. Numbers dialed can be translated by Automatic Number Translation (ANT) feature to match with the destination network.

Matrix ETERNITY GENX12SAC is very easy to install and operate. With IP at core and Universal slots architecture, it allows use of GSM /4G and T1/E1 PRI cards exactly in the required combination. Built-in web-server allows the system engineer to configure various parameters locally or remotely, using any Internet browser. ETERNITY GENX12SAC supports SNMP, which helps to manage and monitor network elements, audit network usage and detect network faults.

SYSTEM ARCHITECTURE

SARVAM UMG is MEDIA-GATEWAY software which runs on ETERNITY GENX12SAC - The Next-Generation hardware platform.

ETERNITY GENX12SAC PLATFORM

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SARVAM UMG

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UNIVERSAL MEDIA GATEWAY SOLUTION



ETERNITY GENX12SAC: It is a next-generation platform with CPU Card, 12 Universal Slots, and AC power supply in 19inch 4U enclosure. SARVAM UMG with ETERNITY GENX12SAC encompasses functionality of IP at core, offering high-density VOCODER (VOIP) channels through DAUGHTER-BOARD MODULE (NX DBM VOCODER64) which can be availed in steps of 4/16 VOCODER channels licenses as per simultaneous VOIP calls requirement.

SARAM UMG: Matrix SARAM UMG is software that enables Universal Media Gateway functionality. It is pre-loaded with licenses for 4 VOCODER (VOIP) channels.

System Resource	Maximum Resources (ETERNTY GENX)	Description
NX DBM VOCODER64	2 Modules (128 Channels)	VOCODER DAUGHTER-BOARD MODULE (HARDWARE) for ETERNITY GENX CPU cards capable of supporting maximum 64 simultaneous VOCODING (VOIP) channels
Concurrent IP to IP Calls Without Transcoding	500	ETERNTY GENX12SAC is built with IP at core.
Concurrent IP to IP Calls With Transcoding	64	One VOCODER channel is used to transcode every call using transcoding.
Concurrent IP to TDM Calls	128	One VOCODER channel is used to transcode every IP to TDM call.

Hardware Features	
Compact and Sturdy Design	Real Time Clock (RTC)
Distributed Processing Architecture	RS232C Port
High Density Switching	Universal Slot Architecture
Modular Architecture	19" Sub-Rack (4U Enclosure) Wall Mount and Table-Top

System Resource	Max. Capacity
SIP Trunks	250
VOIP Channels	128
GSM Ports	48
T1E1 Ports	8
CO/FXO Ports	192
FXS Ports ^a	240

a. The maximum number of simultaneous off-hook FXS ports supported are 120.

TECHNICAL SPECIFICATIONS - ETERNTY GENX12SAC

System Resource	Specifications
Processor Type	32-bit RISC processor
Processor speed	900 MHz dual core
Universal Slots	12
Number of USB Ports	1 Internal USB 2.0, 1 External USB 3.0
USB Storage Capacity	Internal USB: 32 GB, External USB: 1 TB
Ethernet Ports	1 Gbps for WAN 1 Gbps for LAN
Communication Ports	1
Vocoder Module for VoIP	64 Channels
Mounting Options	19" Rack Mountable, Table-Top, Wall Mountable

System Resource	Specifications
Dimensions (WxHxD)	436.5 x 226 x 173.5 mm
Unit Weight (Kg)	5.00 Kg
Shipping Weight (Kg)	8.20 Kg
Shipping Material Type	Corrugated Box
Power Supply Input Range	AC: 100 - 240 VAC
Power Consumption	140 W Max.
Operating Temperature	0°C to 45°C
Operating Humidity	5 - 95% RH, Non-Condensing
Storage Temperature	- 20°C to +70°C
Storage Humidity	0 - 95% RH, Non-Condensing

4G Antenna	
Frequency Range	698~868 / 1850 ~ 2655 Mhz
Polarization	Linear
Gain	2.0 dBi
V.S.W.R (min)	<2.0
4G Antenna	One Antenna/GSM port (no splitter)

4G		EC25-E	
Type	Expansion Card for GSM 4G Interface		
GSM Band(MHz)	LTE BANDS FDD: B1/B3/B5/B7/B8/B20, TDD: B38/B40/B41 3G BANDS WCDMA: B1/B5/B8 GSM BANDS 900/1800 Supported		
Compliant			
SIM Card	One SIM Per GSM Port		
SIM Interface	1.8V, 3V		
Transmission Power	Output Power		
RF Sensitivity			
Protocol	AT Command Interface		
External Antenna	One Antenna per 4 4G GSM Ports,		

Module Supported: Quectel M95	
Standards and Directive	2014/53/EU Radio Equipment Directive ETSI EN 301 489-1 V1.9.2 (2011-09), ETSI EN 301 489-7 V1.3.1 (2005-11) ETSI EN 301 511 V9.0.2 (2003-03), 3GPP TS 51.010-1 V9.1.0 (2010-03) EN 62311:2008 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
FCC Identifier	XMR201512M95
Modulations Supported	GMSK(EGSM), GMSK(DCS)

FXS (Analog Station)	
Signalling	Loop Start
Dialling	DTMF and Pulse (10/20PPS)
Off Hook AC Impedance	600/900/Complex
Off Hook Current	39mA max
Loop Limit	1800E2 max (excluding Telephone)
On-Hook Voltage (Tip/Ring)	-48V nominal
DTMF Detection	ITU-T Q.24
Return Loss	> 18dB
Longitudinal Balance	> 50dB
Transmission Level Adjust	Tx Gain: -3dB to +6dB, Rx Gain: -3dB to 6dB
Ringing	Trapezoidal 60VRMS/25Hz and Sinusoidal 52VRMS/25Hz
REN	3
CLI Reception	DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Protection	Over Voltage Secondary Protection
Physical Connector	RJ45

FXO (Central Office) / Two-Wire Trunk (TWT)	
Signalling	Loop Start
Loop Limit	120052
Off Hook AC Impedance	600/900/Complex
Pulse Dialling	10/20 PPS
DTMF Dialling and Reception	ITU-T Q.23 and Q.24

Return Loss	> 18dB
Longitudinal Balance	> 50dB
Transmission Level Adjust	Tx Gain: -15dB to +10dB, Rx Gain: -15dB to 10dB
CLI Reception	DTMF, FSK ITU-T V.23 and FSK Bellcore 202
Call Maturity	Delay and Polarity Reversal
Protection	Over Voltage and Over Current Secondary Protection
Physical Connector	RJ45

ISDN PRI	
Channels	23B+D and 30B+D
Personality	Network (NT) and Terminal (TE)
Line Coding	AMI/B8ZS for T1 and HDB3 for E1
Framing	ESF for T1 and CEPT1 (with/without CRC) for E1
Switch Variant	AT&T 5ESS, DMS, US NI2 (National ISDN 2), ETSI NET5
Protection	Solid State (Over Voltage and Over Current) Built-in Secondary Protection
Physical Connector	RJ45 (Impedance Selectable)

E1 CAS	
Bit Rate	2048 kbps +/-50 ppm
Line Coding	HDB3
Framing	CEPT1 (with/without CRC) with CAS MF
Line Signalling	ITU-T Q.400 - Q. 490
Register Signalling	MFC-R2
Alarms	1.431. G.732, ETSI 300-233
Protection	Solid State (Over Voltage and Over Current) Built-in Secondary Protection
Physical Connector	RJ45 (Impedance Selectable), Fiber Optic

T1 RBS	
Bit Rate	1544 kbps +/- 50 ppm
Line Coding	AMI and B8ZS
Line Signalling	FXS Loop Start, FXO Loop Start, FXS Ground Start, FXO Ground Start, E&M (Immediate, Wink Start, Wink Start FGD)
Framing	D4, ESF
Digit Dialling	DTMF
Alarms	ANSI T1.231
Performance	ANSI T1.403, ANSI T1.231, AT&T TR54016
Protection	Solid state (Over Voltage and Over Current) Built-in Secondary Protection
Physical Connector	RJ45 (Impedance Selectable)

VoIP	
Connector	RJ45
VoIP Protocols	SIP v2, SDP, RTP (RFC 2833), SRTP
Network Protocols	IPv4, TCP, UDP, DHCP, PPPoE, SNTP, NAT, STUN, HTTP, TLS, DynDNS
SIP	Maximum 250 SIP Accounts per system, Outbound Proxy Support, Display Name, User Name, Password, URL, Proxy URL, Register URL, Register Interval
NAT	STUN and NAT Keep Alive

Voice Codecs	G.729, G.723, GSM FR, iLBC (30ms), iLBC (20ms), GSM EFR, G.711 (u-Law), G.711 (A-Law)
Line Echo Cancellation	G.168 with 128ms Tail Length
Call Progress Tones	Dial Tone, Ring Back Tone, Busy Tone, Error Tone
Voice	Dynamic Jitter Buffer (Adaptive), Comfort Noise Generation and Voice Activity Detection
Fax	T.38(UDPTL), T.38(RTP) and Pass Through
Quality of Service	Layer 3 Diffserv and TOS
Security	Password Protected Administration

Features List	
4G Network Support	Least Cost Routing
Allowed and Denied Lists	Network Selection
Automatic Number Translation	Peer-to-Peer Calling
Call Detail Recording (CDR)	Port Status
Call Maturity	Remote Programming
Caller Line Identification Presentation (CLIP)	SIM PIN
Call Progress Tones	SIM PUK
CLI based Routing	SIP Accounts
CUG over GSM/4G	Speech Gain Setting
Day Light Saving	System Activity Log
Direct Dial-In (DDI) Routing	System Fault Log
Emergency Number Dialing	Time Zones
Fixed Number Dialing	Universal Routing
IMEI Number	Web-based Programming

KEY BENEFITS

Retain Existing PBX Infrastructure

Matrix ETERNITY GENX12SAC works as an adjunct to your existing telephony infrastructure. There is no need to replace any equipment like PBX, Operator Consoles, Key Phones, Standard Phones, Power Supply and Wiring. This not only saves lot of equipment cost, but also saves time and efforts required for retraining.

Universal Connectivity

Communication technology has witnessed emergence of diverse networks beginning with wired PSTN/ISDN networks to the wireless GSM/4G and new-age IP networks. It is vital for any modern enterprise to link its telecom infrastructure with these networks for the twin benefits – Connectivity and Cost. Matrix ETERNITY GENX12SAC forms the vital link to these networks ensuring right connectivity for each and every call. It brings all these networks to every desk of your organization. ETERNITY GENX12SAC selects a network that offers the least cost for an outgoing call.

Transparent Operation

Matrix ETERNITY GENX12SAC internally manages different protocols required to interface with different telecom networks and provides a consistent interface to all its users. When connected with any existing PBX, it remains completely transparent to the users and allows them to make and receive calls along with using PBX features like they did before. Least Cost Routing (LCR) algorithm to select the most appropriate network for a given call also works transparently.

Reduced Telephony Cost

The most tangible benefit of Matrix ETERNITY GENX12SAC is the significant reduction in telephony cost. There are many opportunities for savings without compromising the quality of connection. Closed User Group (CUG) is one such case where mobile companies allow free calling amongst a group of specified users. One of the CUG SIM Card can be inserted in the Matrix ETERNITY GENX12SAC allowing all the PBX users to make and receive free calls to their colleagues who are not in the office but travelling, at home, on vacation, at a plant or at a customer site.

International Calling is another big opportunity for saving hard-earned money. VOIP calling provided by Internet Telephony Services Provider (ITSP) is much cheaper when compared with regular, fixed and mobile lines. Matrix ETERNITY GENX12SAC offers VOIP connectivity with multiple ITSP servers giving the flexibility of using separate ITSP for each country/region like USA, Europe etc.

VoIP can also be used to provide free calling between different locations of a company-head office, branch offices, factories, warehouses, etc.

KEY FEATURES

4G Network Support

Matrix GSM 4G Card offers accessibility to 4G networks for Voice communication in ETERNITY GENX12SAC. It supports Quad-band (GSM: 850/900/1800/1900) for 2G Networks and Penta-band (GSM: 850/900/1800/1900, UMTS: 800/850/900/1900/2100) for 4G Network. It supports fallback compatibility and hence offers flexibility to access any available network. Users can stay connected to an alternate network in case the preferred (4G) network signal is weak or unavailable. With the power of 4G, an organization can experience Noise-free, Stanch and Crystal Clear Voice Quality, Enhanced Security and Maximum Coverage.

Allowed and Denied Lists

Allowed and Denied Lists are used to restrict dialing of long-distance and international numbers. A number is blocked if its prefix matches any entry in the Denied Lists. On the other hand, a number is allowed to go through if matched with any entry in the Allowed List. This provides flexibility of allowing only specific numbers while blocking all others.

Automatic Number Translation

The ETERNITY GENX12SAC modifies the dialed number or part thereof so that it matches with the numbering plan of the destination networks like PSTN, GSM/4G and VOIP. For e.g. on VOIP network, if a user dials the number (223344) to call www.abc.com, the ETERNITY adds appropriate access code (*777) specified by the ITSP and dials out the number - *777223344 instead of 223344. In case of GSM/4G network, when a user dials the local number ETERNITY adds respective country-area codes as an appropriate prefix.

Call Detail Recording (CDR) – Incoming and Outgoing

ETERNITY GENX12SAC stores all the outgoing calls made in its internal memory. Various reports can be generated on the Ethernet port, using filters like Port, Number, Date, Time, Duration of the Call, etc. Total 2000 call detail records can be stored.

Distributed Processing Architecture

Matrix ETERNITY GENX12SAC with IP at its core deploys multi-processor architecture, wherein each card has its own dedicated micro-controller, code and data memory. The local processor is responsible for processing of commands and generating events for the CPU. The CPU processor is a 32-bit RISC processor and controls all slave cards. This technology enhances flexibility and reliability.

Emergency Number Dialing

This feature allows users to call an emergency number using SIP, GSM/4G, T1/E1 and FXO port. At the most 10 emergency numbers of maximum 24 digits can be stored.

Fixed Number Dialing

Pre-configured number can be dialed out as soon as a call lands on a port. This allows point-to-point connectivity without the need of repetitively dialing the same number.

Flexible Configurations

ETERNITY GENX12SAC can be configured to meet the exact port and traffic requirements preventing fixed overheads. Modular system design gives flexibility to expand the system capacity at any given point in time. System's capacity can be enhanced by just placing the required module/card in the system. Multiple cards of the same type can be used simultaneously giving multi-directional flexibility.

Caller Line Identification Presentation (CLIP)

Matrix ETERNITY GENX12SAC supports CLIP on FXO, ISDN, GSM/4G and VOIP lines.

Call Progress Tones

Call Progress Tones like Dial Tone, Ring Back Tone, Busy Tone and Alert Tone can be selected to match with the tones used in the region or country where ETERNITY GENX12SAC is installed.

CLI based Routing

ETERNITY GENX12SAC can route a call based on the caller's number. This allows routing of certain calls to specific ports directly without intervention of the operator.

Compact and Sturdy

ETERNITY GENX12SAC is all-integrated gateway housed in a rack. It can be mounted in any of the three ways - 19" Rack 4U Enclosure, Table-Top or Wall Mount.

CUG over GSM/4G

Matrix ETERNITY GENX12SAC Gateway offers In-skin GSM/4G solution with which as many as 48 SIMs can be used. An organization can take advantage of this with CUG facility offered by service providers.

Day Light Saving

The Real Time Clock (RTC) of ETERNITY GENX12SAC moves forward or backward automatically in tune with the Day Light Saving requirements of the respective country.

Direct Dial-In (DDI) Routing

ETERNITY GENX12SAC can be programmed intelligently for DDI Routing feature which makes it possible to route the call directly to a desired station. The functionality of this routing logic should be supported by PBX.

Configuration Group

ETERNITY GENX12SAC offers different schemes to select destination port for an incoming call. They are First Free and Round Robin.

Web Based Programming Tool

ETERNITY GENX12SAC supports built-in web server for system configuration locally through LAN or remotely through Internet. Web browsers like Internet Explorer, Mozilla Firefox and Chrome can be used to log in to the ETERNITY GENX12SAC to further open and modify system configuration.

Least Cost Routing

ETERNITY GENX12SAC selects a port that offers the least cost for an outgoing call. It supports different LCR algorithms when a call is originated from GSM/4G, T1/E1 PRI or SIP trunk. Different routing options like CLI Based, Fixed, All Calls, Dialed Number Based and Called Number Based are provided to select the most cost-effective route.

Monitoring (SNMP)

ETERNITY GENX12SAC supports SNMP, which helps manage and monitor network elements, audit network usage and detect network faults. SNMP manager supports SNMPv1/v2c/v3 versions.

Multi-Stage Dialing

There are many applications which require dialing of a few fixed numbers before the actual number. An abbreviated short code can be programmed to eliminate numbers of dialing stages. It is a convenient feature which processes calls faster and saves time.

Network Selection

Each GSM/4G port can be programmed to work only with a few selected networks preventing a GSM/4G port from registering with an overlapping costly network. This flexibility is very useful when Matrix ETERNITY GENX12SAC is installed near a state or national border.

Peer-to-Peer Calling

ETERNITY GENX12SAC can make and receive calls from other VOIP users without any Registrar or Proxy Servers. Numbers and IP addresses can be assigned to the other VOIP users to provide direct access across the network. Organizations having multiple locations like branch offices and factories can use this features to provide direct dialing between these end-points VOIP.

PIN Authentication

PIN Authentication is a necessary security feature to restrict access to the system and prevent possible misuse of the resources. It can be used on source port to establish identity of the caller before the call is processed by ETERNITY GENX12SAC.

Security (TLS/SRTP)

ETERNITY GENX12SAC supports transporting SIP messages over TLS. The TLS protects SIP signaling against loss of integrity, confidentiality and replay. It also supports SRTP for secure conversation over SIP.

SIP Accounts

ETERNITY GENX12SAC allows maximum of 120 SIP Accounts of multiple service providers or all from a single service provider. Each SIP trunk can be programmed for either making outgoing calls, receiving incoming calls or both. Various allocation methods like First Free, Round Robin are supported to select the most appropriate SIP ITSP for a given call. Diffserv and Precedence are supported for QOS.

Speech Gain Setting

Matrix ETERNITY GENX12SAC allows user to set Receive and Transmit gain on GSM/4G port to improve quality of speech.

System Activity Log

ETERNITY GENX12SAC maintains a complete system activity log. User can find out when a particular card was removed from the system or even when a particular port was not detected by the software.

Time Zones

Call routing can adapt to different routing needs during day time, lunch time and night hours. Three different time zones can be programmed and each port can be programmed to function differently in each time zone.

Universal Routing

ETERNITY GENX12SAC supports port-agnostic routing. A call received on a GSM/4G port or SIP Account, can be routed on any channel of a T1/E1 PRI NT port, T1/E1 PRI TE or even another GSM/4G port. Similarly, a call received on any channel of T1/E1 PRI NT port can be placed on a GSM/4G port, any SIP Account, any channel of T1/E1 PRI TE port or even another channel of T1/E1 PRI NT port.

Universal Slots

All the expansion slots of Matrix ETERNITY GENX12SAC are universal in nature. Any interface card can be inserted in any slot and the system will configure it automatically. This scheme eliminates configuration bottle-necks because any slot can be used for GSM/4G, T1/E1 PRI or POTS and thus allowing complete flexibility in configuration.

ORDERING INFORMATION

Product	Description
ETERNITY GENX12SAC	MATRIX SARVAM Universal Media Gateway. Preloaded with License for 4 VOCODER Channels. (VOCODER Daughter-board required).
SARVAM VOCODER CHNL 4/16	License for VOCODER Channels for ETERNITY GENX12SAC to support 4/16 simultaneous calls with transcoding.
ETERNITY GENX12SAC	ETERNITY GE NEXT-GENERATION platform with CPU card, 12 universal slots and AC power supply in 19inch 4U enclosure. VOCODER hardware daughter-board is not included.
NX DBM VOCODER64	VOCODER daughter-board module (hardware) for ETERNITY GENX CPU cards capable to support maximum 64 simultaneous vocoding channels. UMG Server licenses are supplied with 4 built-in VOCODER channels. Additional VOCODER CHNL license is required to activate desired number of channels.
ETERNITY GE CARD SLT8	8 Single Line Telephones
ETERNITY GE CARD SLT16	16 Single Line Telephones

ETERNITY GE CARD SLT20	20 Single Line Telephones
ETERNITY GE CARD CO8	8 Two Wire Trunk Lines (CO)
ETERNITY GE CARD CO16	16 Two Wire Trunk Lines (CO)
ETERNITY GE CARD CO4+SLT16	4 Two Wire Trunk (CO) Lines and 16 Single Line Telephones
ETERNITY GE CARD GSM4 4G	4 GSM 4G SIMs for GSM Network Connectivity
ETERNITY GE CARD T1E1PRI SINGLE	T1/E1 PRI Line or Compatible Device with QSIG Support

ABOUT MATRIX

Established in 1991, Matrix is a leader in Security and Telecom solutions for modern businesses and enterprises. As an innovative, technology-driven and customer-focused organization, the company is committed to keeping pace with the revolutions in the Security and Telecom industries. With around 40% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge products like Video Surveillance Systems - Video Management System, Network Video Recorder and IP Camera, Access Control and Time-Attendance systems as well as Telecom solutions such as Unified Communications, IP-PBX, Universal Gateways, VoIP and GSM Gateways and Communication Endpoints. These solutions are feature-rich, reliable and conform to international standards. Having global footprints in Asia, Europe, North America, South America, and Africa through an extensive network of more than 2,500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of customers representing the entire spectrum of industries. Matrix has won many international awards for its innovative products.



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