White Paper

IP-PBX for Small to Large Enterprises

May 2011

MATRIX
TELECOM SOLUTIONS

Contents

Executive Summary

The current technology advancements have enabled Telephony system manufacturers to integrate IP with existing telephony networks and offer converged solution for more optimum utilization of organization's IT infrastructure as well as Internet bandwidth. Small to large enterprises, now days all prefer IP telephony enabled PBXs for their telecom infrastructure. Enterprises that have upgraded to pure or hybrid IP-PBXs are looking for functionalities and features to optimize their investment in infrastructure, drive call cost reduction, reduce overheads and increase employee productivity. Use of IP Telephony offers all of these and is therefore the unrivaled communication technology-now and for future.

Matrix has introduced the finest range of Hybrid IP-PBXs to meet the changing requirements of small to large enterprises. This range comprises of advanced telephony features to ensure cost saving, investment optimization, asset utilization and increased staff productivity opening doors to newer applications and fresher opportunities.

IP Telephony – An Overview

Internet has become the backbone of day to day business processes for businesses of all sizes. There are various means by what enterprises get connected to their stakeholders over internet. The latest technology has provided diverse media for availing internet access either at home or office and even during transit. Cost of IT infrastructure and quality of internet services, account major share in organizational overheads. In major cases the infrastructure laid down for data access and bandwidth availed for day to day business processes are not optimally utilized, so the IT infrastructure becomes a non-optimized asset.

Figure 1:
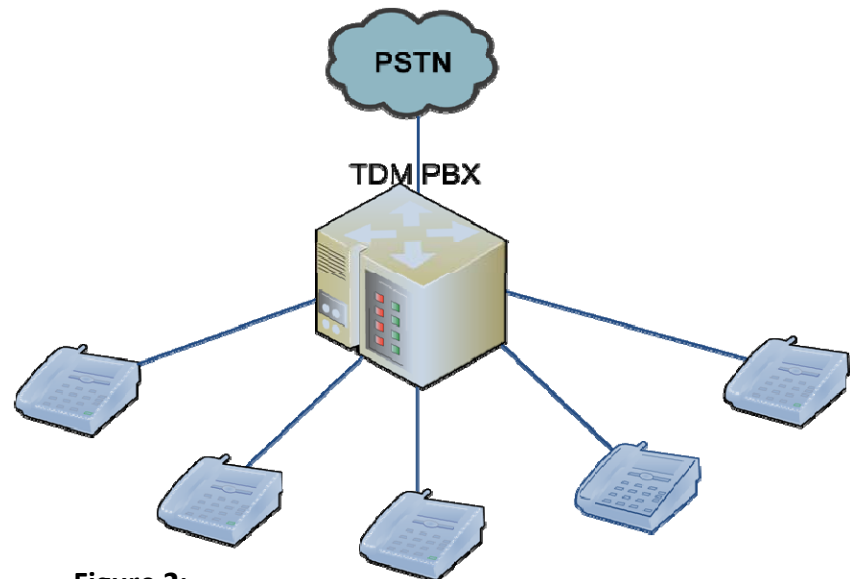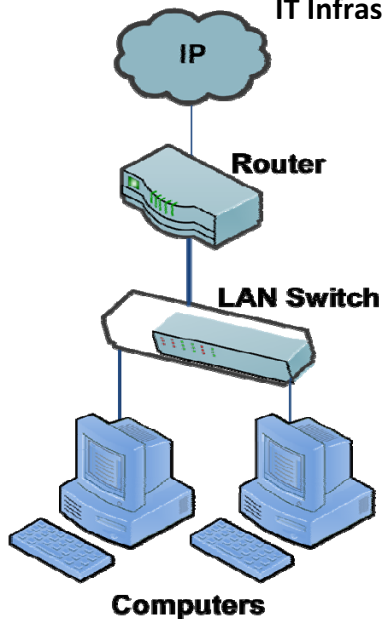**IT Infrastructure for Data access**

Figure 2:
Traditional Telephony Infrastructure

Besides Internet, Telephony is the other major factor for effective business processes. Alike IT, Telephony requires dedicated infrastructure for the efficient management of resources; also it is possible to convert voice signals in digital signals and transmit them over any digital carrier. The technical feasibility of transmitting voice signals over IP has given rise to the new telecommunication phenomenon – IP Telephony (VoIP).

With VoIP, a call now travels over the exiting data network extracting the full potential of available IP bandwidth. There are mechanisms to ensure efficient routing of packets over a data network and reassembling of packets at the other end to generate the sound of user voice. During last few years evolution, VoIP today matches the voice quality of fixed line, reliability with survivable and failover solutions and is much ahead when it comes to offering features over multi locational connectivity.
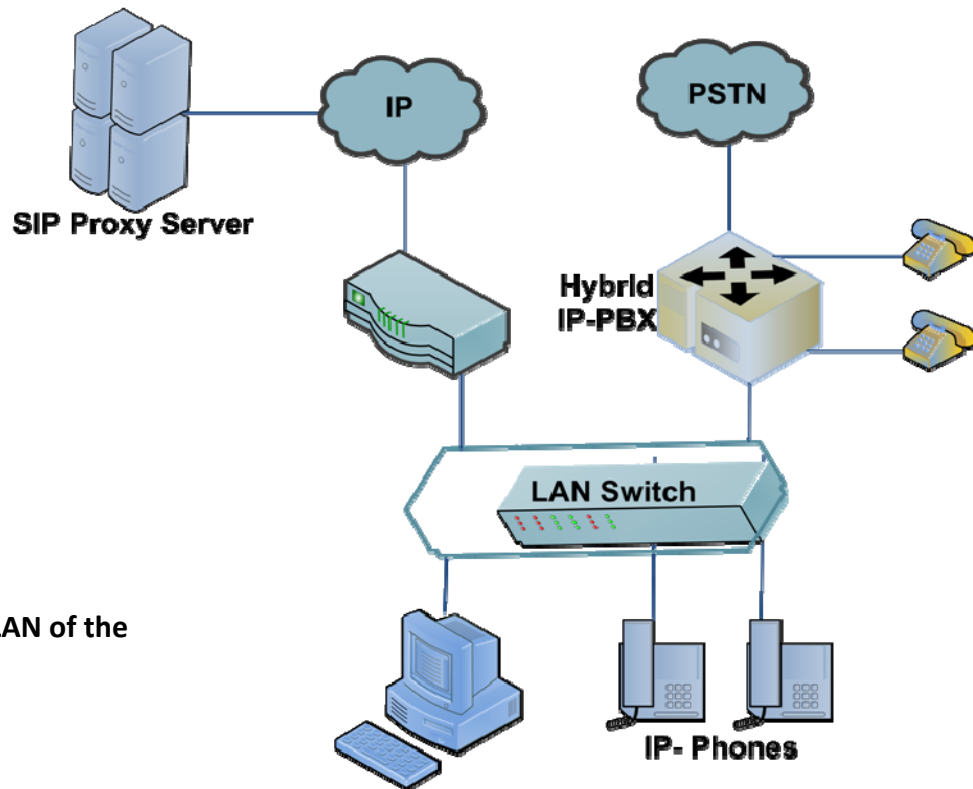
Figure 3:
Hybrid PBX in LAN of the
organization

Identical to PSTN, VoIP also requires service provider, referred as Internet Telephony Service Provider (ITSP). ITSP forwards VoIP traffic directly to destination or translates calls onto PSTN, if destination is PSTN user. The channels allocated by these ITSPs to users are termed as SIP Trunks, where SIP refers to Session Initiation Protocol – a basic protocol for VoIP. Along with SIP there are many other protocols and most importantly codecs involved in VoIP. The types of voice codecs supported by IP-PBXs ensure the quality of speech over internet with effective utilization of bandwidth. The lower quality and higher compression codec such as G.729, demands less bandwidth per call while higher quality codecs such as G.711 and G.722, demand more bandwidth for the same call. One of the reasons for VoIP being preferred telephony resource for Small to Medium enterprise is SIP. SIP is an open standard protocol which makes implementation and integration of various devices easy and affordable.

Till date VoIP was feasible cost reduction solution for Large Enterprises due to higher deployment investment involved. However, advancement in technology has enabled to lower the TCO of VoIP infrastructure and increase the ROI from the already laid down data network. Now, small to medium enterprises are empowered to avail multilateral benefits of VoIP as reduced local and long distance calling, improved telephony system security and reliability. Matrix has field proven range of VoIP products to meet the diversified needs of small to large enterprises. Matrix IP-PBXs empower small and medium enterprises to avail benefits which were previously privileged to large enterprises only.

Matrix IP-PBX Solution for Small to Large Enterprises

Small to Large Enterprises are migrating towards VoIP or upgrading their existing infrastructure to avail benefits of VoIP. The requirements of SOHO, Small to Medium Enterprises and Large Enterprises vary depending upon their size, business processes, span and also on their investment capacity.

In case of Large Enterprises, they can afford to migrate towards IP, discarding the existing telephony infrastructure as the benefits incurred from the VoIP will have higher ROI, though TCO will also higher. Whereas in case of SOHO and Small to Medium Enterprises, keeping existing infrastructure including telephony cabling and instruments is of utmost importance due to limited investment capacity. Also the feature requirements vary depending upon the size of the business – SOHO and small businesses are more concerned about call cost reduction while medium to large enterprise look for multi-site connectivity, call cost saving and reliable and secure telephony system.

Matrix has designed range of IP-PBXs to meet requirements of SOHO, Small to Medium and Large Enterprises. The advance feature inclusion, lower TCO and higher ROI of Matrix range IP-PBXs makes it the preferred telephony solution for Small, Medium to Large Enterprises.

ETENRITY GE12S

ETENRITY GE6S

ETENRITY ME10S

ETENRITY ME16S

Matrix IP- PBX Portfolio

Medium to Large Enterprises use IP-PBXs for advance applications as Multi-site connectivity, Peer-to-Peer calling, IP Intercom over multiple locations and voice mail applications. Matrix IP-PBXs are loaded with the large set of advance features to make these advance applications possible and to enable Small to Medium businesses save over telecom costs and increase organization's efficiency at large. Matrix ETERNITY range of IP-PBXs open standard SIP based design makes it is easy to integrate with other SIP based products.
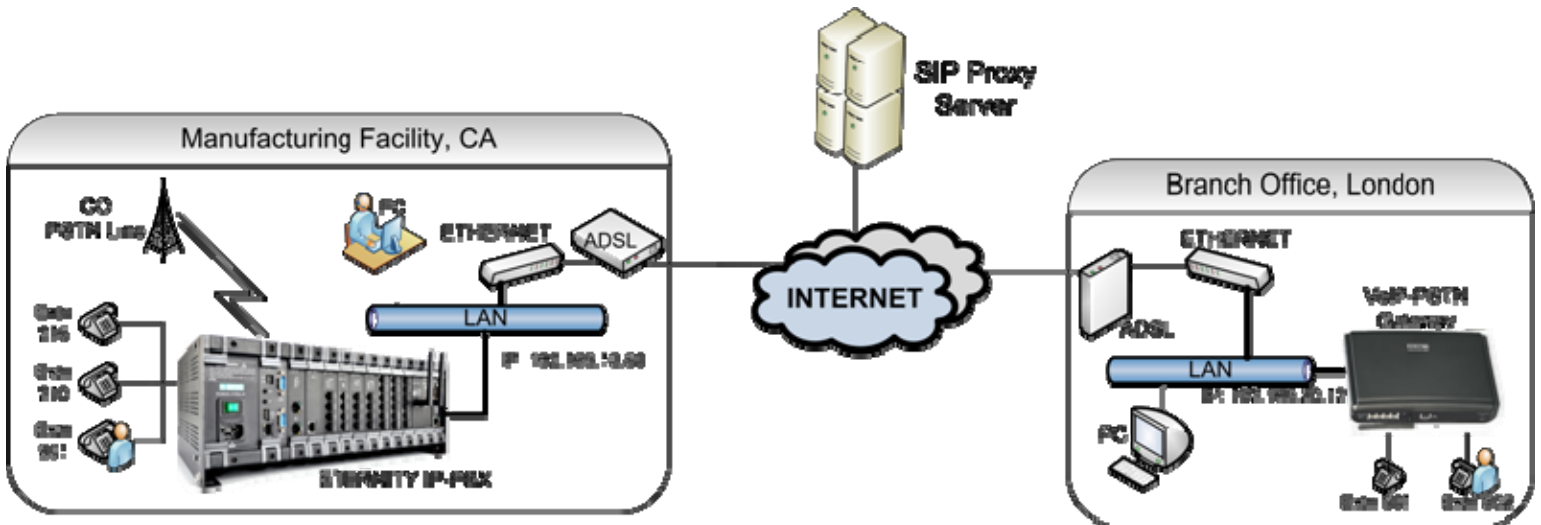
Figure 4:
Multi-site Connectivity over IP
Intra-office cost saving through Peer-to-Peer Calling

Matrix ETERNITY's unique design offers flexibility of simultaneous SIP Proxy and Peer-to-Peer calling – Optimizing the customer investment.

ETERNITY IP-PBX Features		SIP based products that can be integrated with ETERNITY IP-PBX
• Up to 1000 IP Users	• Universal Routing with Least Cost	• **SIP Phones**
• 32 SIP Accounts	• Fax over IP (FoIP)	• **VoIP Gateways**
• Dynamic DNS	• Conference Dial-In	• **IP-PBX**
• Voice Mail	• Call Detail Records	
• Call Forking	• Call back on Trunks	• **IP-Servers**
• Mobile Extension	• RCOC	
• Built-in Auto-Attendant	• Web-based Management	

Matrix ETERNITY is the advance design that can also work as VoIP-PSTN-GSM/3G-ISDN gateway with the existing IP-PBX, in case organization wants to avail benefits of both advance VoIP as well as wide spread legacy networks. The gateway configuration of ETENRITY enables businesses to bridge their business processes between advanced and legacy stakeholders. Investment protection, seamless connectivity and cost saving over each call are added advantages of this configuration.

Benefits of Internet Telephony

Once customer has invested in Matrix IP-PBX solution, they can meet all their organizational goals and incur additional benefits

Need of Small to Large Enterprises	Matrix Solution	Benefits
Save Money	**ETERNITY Range IP-PBX** • Integrated Hybrid PBX • 100% Non-blocking architecture • Modular and Universal Slot Design • Universal Connectivity • Seamless Mobility • Reliability • Flexibility to scale anytime • Better Voice Quality • Hotel Features • Dynamic DNS • Voice Mail • Networking over Q-SIG and IP	• Reduced telephony costs • Free Inter-site VoIP calling • No need to Invest in new infrastructure • Increased organizational efficiency
Stay Connected		• Multi-locational Connectivity • Seamless Staff Mobility • Universal Connectivity • Seamless network convergence • Minimum downtime
Resource Utilization		• Utilize existing IT infrastructure with existing telephones • Use same internet connection for voice and data transmission • Increased staff productivity
Higher ROI		• Call cost saving on each call • Internet bandwidth optimum utilization • Customer satisfaction – Increased responsiveness • Field upgradable
Lower TCO		• No need of external devices as voice mail, gateway or ATAs • Support for diverse network types – investment protection • Future Proof – Avail benefits of new age networks on a single platform • Scalable

Matrix ComSec

Matrix is India based leading manufacturer of IP-PBXs and Gateways for small to large enterprises. Matrix IP-PBX is an integrated communication solution offering universal connectivity with unique design and encompassing advanced features for the businesses of all sizes. Matrix IP-PBX offers benefits of reduced communication costs, seamless connectivity and simplified management for small to large enterprises, institutions, call centers, hotels and many other industries through industry specific solutions. With the global presence in more than 30 countries through an extensive network of more than 500 channel partners, Matrix has gained customer trust and admiration across the world and has won several awards and recognition for its innovative products and processes.

www.MatrixComSec.com