




WHITE PAPER

Enterprise Applications, Features and Benefits of Sangoma Vega Media Gateways



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Overview

At the very least, it can be said that the enterprise communications market is in a transitional state. Some say that this is more than a transition, and that the market is going through a disruptive quantum change. Leading incumbent solutions providers, such as Avaya and Cisco, have continued with the strategy of pushing complete solutions with big capital investments for initial deployment of products and services as well as feature upgrades. At the same time as they are working to keep the market purchasing capital intensive CPE solutions, they are working to change their model to compete with new cutting edge players in the market.

New players in this market such as Microsoft, Digium, open source, and other hosted service providers are forcing a change in the communications model from a pure premise based solution to a pure hosted model with the switching done in the cloud and small peripherals at the customer premise. This new model is driving a growing ecosystem of third party peripherals as an alternative to the complete solutions from companies like Avaya and Cisco. In this model, resellers and systems integrators can offer the end user product choices based on best of breed and functional fit to build a solution that is right for them.

SIP-based trunks continue to drive down the cost of connectivity and have created a demand for new edge devices, that are needed for terminating these trunks, and for the enterprise customers to take advantage of their new features and lower cost.

The reality of today's environment is that pure premise, pure hosted, and hybrids of hosted and premise all exist and service customers' needs. Smoothly connecting these disparate networks and solutions will continue to provide opportunities throughout the market for years to come.

Applications

This paper focuses on four environments where third party voice peripherals are needed to deliver on the voice communications requirements of enterprise companies. They include; branch office support, SIP trunk termination, TDM connectivity for IP-PBX and phone system refit for the hospitality market.

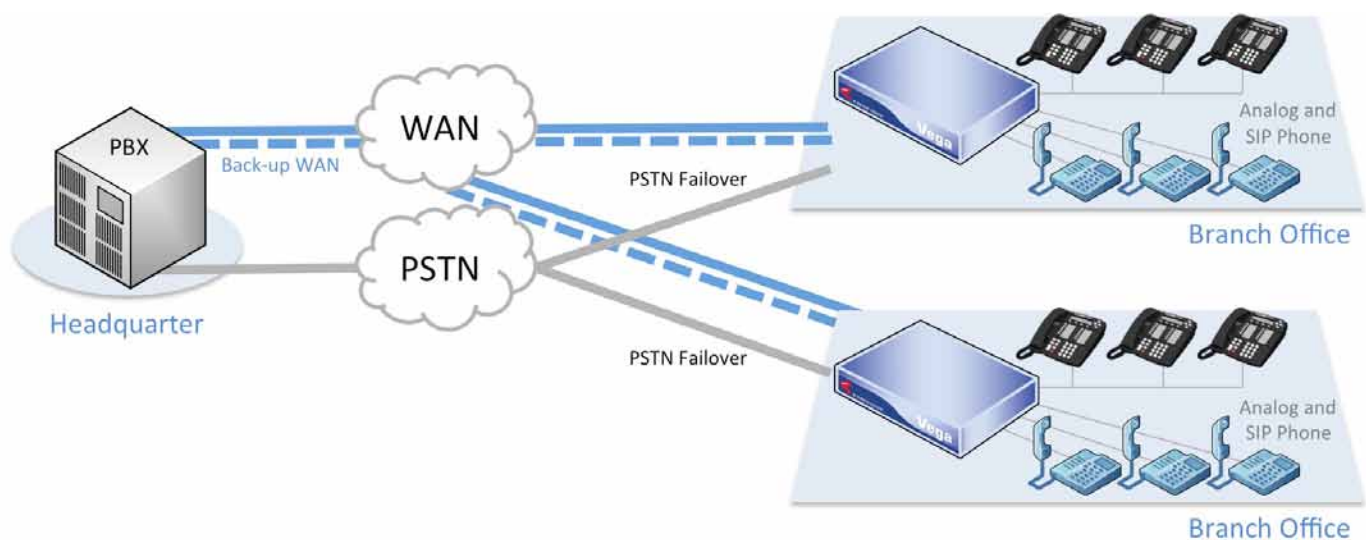
Branch Offices

In the branch office scenario (Figure 1), a company has made investments in new teams and office locations, possibly through merger and acquisition, or through organic expansion due to growth. It is typical for branch offices to have disparate phone systems or no phone system at all. This often creates an inefficient and costly communications system between the main office and branch offices. One way to overcome the limitations of the disparate systems is to outfit the remote offices with IP proxies and SIP phones providing each branch office with the following:

- Extension-to-extension dialing – using this configuration it is possible to provide, or preserve, four-digit dialing between extensions
- Utilization of corporate trunks and DIDs – branch offices can use corporate trunks for both inbound and outbound calls, saving trunk costs and providing the branch office with an appearance of corporate unity
- Local trunk connectivity – In some industries, a local number is extremely important to customers. Using Vega you can provide your customers with the ability to make and receive calls locally while being connected to headquarters
- Support for analog FAX and modems

The most efficient way to provide a solution that supports all these features is by using a gateway. Vega is the perfect choice.

FIGURE 1: Branch Office



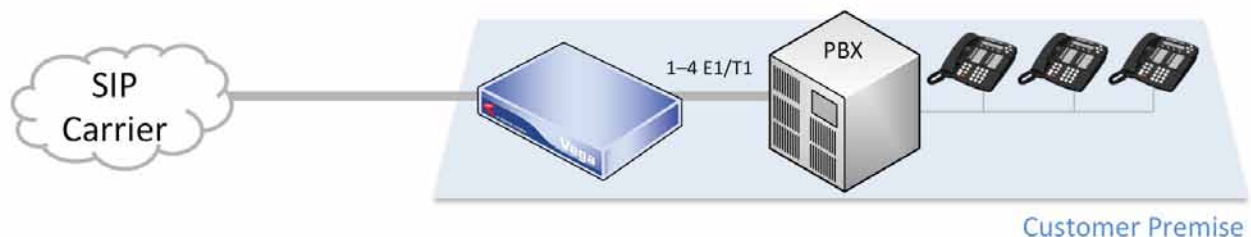
Important features in a gateway for the **Branch Office application**:

- **SIP Support**
- **SIP Proxy**
- **Fail-Over**
- **Local PSTN Connectivity**
- **Preserving the Dial plan to Ensure Consistency Across the Entire Enterprise**
- **Redundant LAN/WAN**
- **Analog Device Support**

SIP Trunk Termination

Some customers may be completely happy with their PBX but are paying more than they need to for the TDM service. A customer can choose from a variety of carriers to deliver the services via SIP. At the point where the SIP trunk enters the customer premise, a specialized device is needed to convert SIP to TDM. The Vega gateway is designed for this function. The Vega gateway will terminate the SIP trunk(s) from tier 1, 2, and 3 carriers and provide TDM connectivity to the legacy PBX (Figure 2).

FIGURE 2: Terminating SIP Trunks



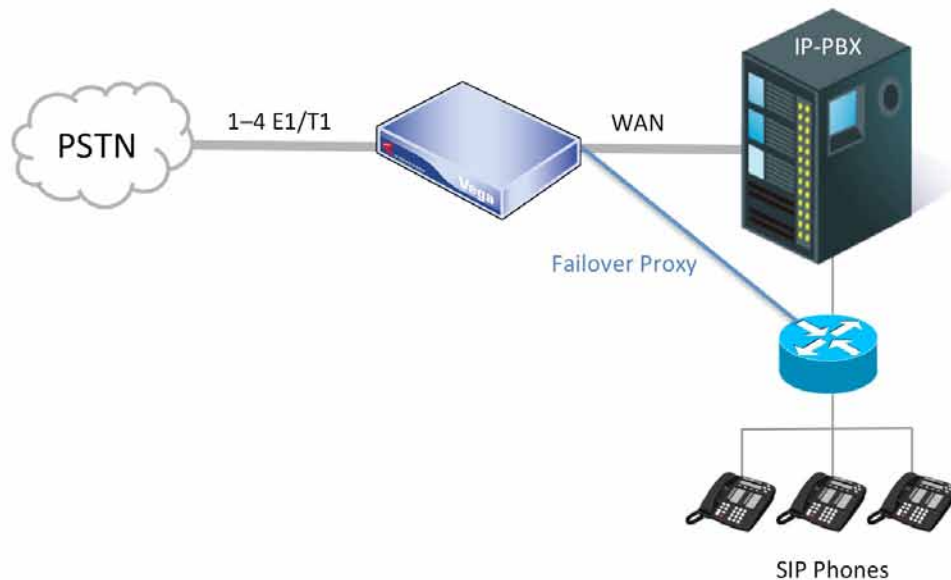
Important features in a gateway for the SIP Trunk Termination application include:

- **SIP Support**
- **Scalable E1/T1 Interfaces**
- **ISDN Support for Leading Protocols**
- **Redundant LAN/WAN Support**

PSTN Trunking Termination

Although many SMBs and Enterprises are transitioning to SIP trunks, there are still many T1 and E1 ISDN trunks in existence. Depending on the market and customer need, keeping these legacy trunks in operation may be more cost effective than switching to SIP trunks. In Figure 3, a customer is moving to an open source PBX but still needs TDM connectivity. Typically, open source PBXs run in a server with nothing but Ethernet connectivity to the outside world. This means a gateway will be needed for PSTN connectivity.

FIGURE 3: Connecting an IP-Only PBX to the PSTN



Note: The IP-PBX can be any PBX adhering to open standards. This includes products built from open source as well as products from the major manufacturers.

Important features in a gateway for the PSTN Trunk Termination application include:

- **Scaleable E1/T1 interfaces**
- **ISDN Support for leading protocols**
- **Redundant LAN/WAN support**
- **SIP Proxy**

Hospitality

The hospitality market is facing challenges due to the proliferation of cell phone use. Hotels used to make substantial revenue from phone calls charged to guest rooms. Now that room charge calls are rare, hotels are left with aging equipment that is expensive to maintain. Even though these systems rarely generate revenue, they must be maintained to meet E911 requirements, provide messaging, wake-up calls, and manage room service and other guest requests.

Open source IP-PBX solutions are historically less expensive and easier to maintain than aging PBXs, but the cost of running CAT5 to every room and purchasing new phones is not a realistic or financially attractive option for many hotel operators. The ideal scenario is to utilize the existing phones and wiring to the guest rooms while still delivering new services and features using an IP-PBX.

This configuration is also very well suited for campus environments at corporate parks, colleges and military bases. It can be effective for a Single Building (Figure 5) or in a Campus or Multi-Building configuration.

FIGURE 4: Single Building Configuration

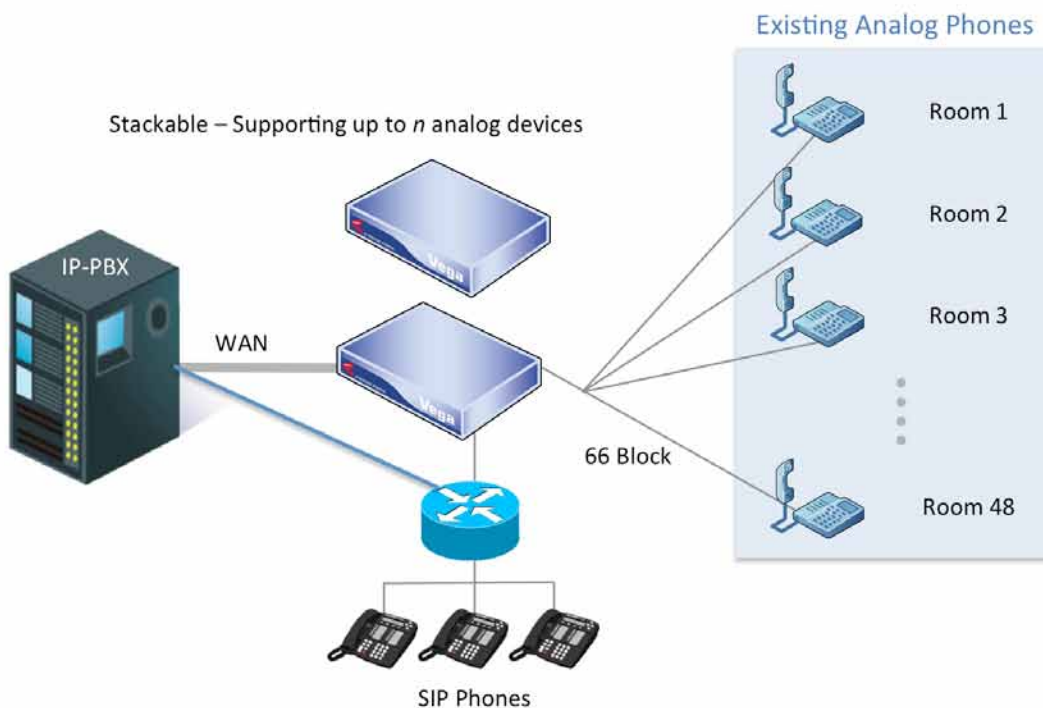
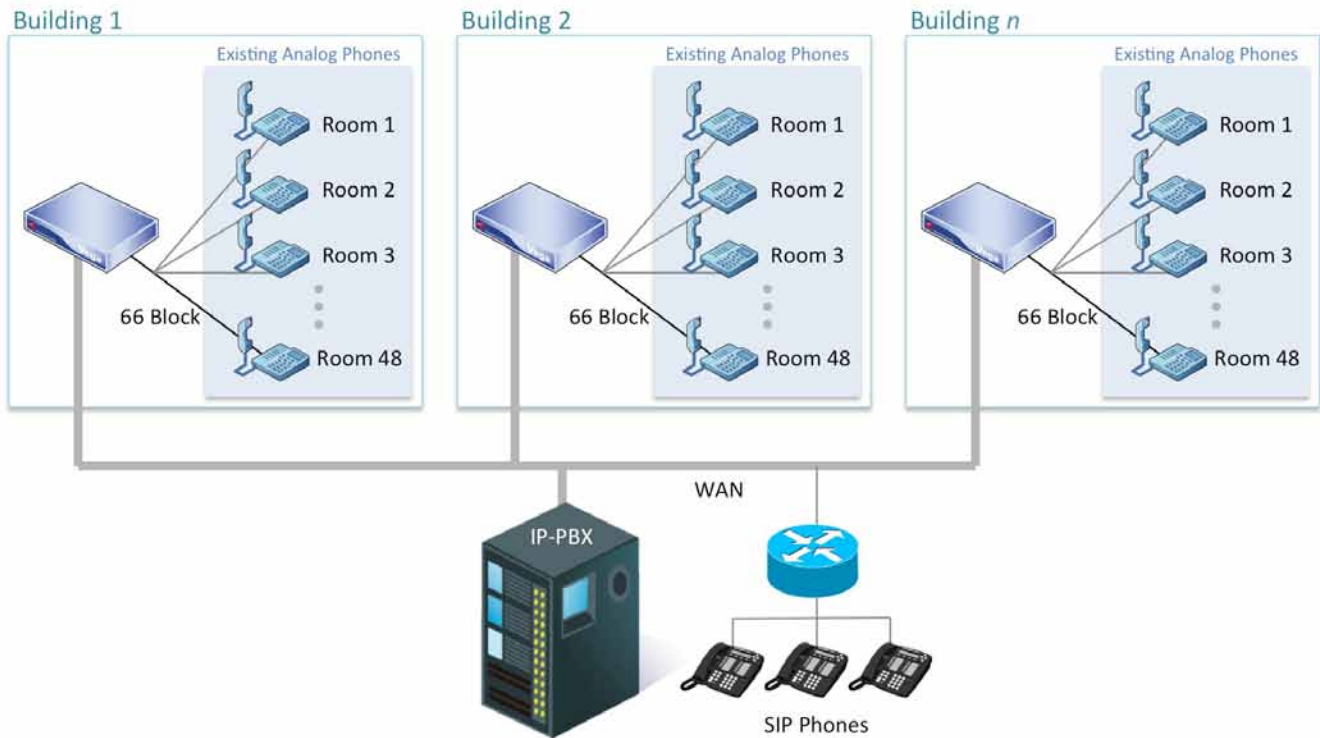


FIGURE 5: Campus or Multi-Building Configuration



Important features in a gateway for the Hospitality application include:

- **Scaleable Analog Interfaces**
- **Support for Long Cable Distances**
- **MWI Support – FSK and Voltage**
- **ISDN Support for Leading Protocols**
- **Redundant LAN/WAN Support**
- **SIP Proxy**

Summary

All four applications outlined in this paper require gateway products to deliver full features and a rich user experience. Resellers and system integrators, delivering any of these applications, can re-purpose endpoints, wiring and other infrastructure to maximize the ROI of the implementation. Choosing the right gateway platform will help you limit the investment and service for all these applications. Sangoma Vega is an excellent choice having support for all critical features and a proven track record with a growing install base.

Critical Features	Supported
Common Administration Utility	★
SIP Support	★
SIP Proxy	★
Redundant LAN/WAN	★
Scalability	★
ISDN Support	★
Any Protocol to Any Protocol Routing	★
Analog Support – Phone, FAX, Modem	★
Competitively Priced	★

ABOUT SANGOMA TECHNOLOGIES

Sangoma is a leading provider of hardware and software components that enable or enhance IP Communications Systems for both telecom and datacom applications. Enterprises, SMBs and Carriers in over 150 countries rely on Sangoma's technology as part of their mission critical infrastructures. Through its worldwide network of Distribution Partners, Sangoma delivers the industry's best engineered, highest quality products, some of which carry the industry's first lifetime warranty. The product line in data and telecom boards for media and signal processing, as well as gateway appliances and software.

Founded in 1984, Sangoma Technologies Corporation is publicly traded on the TSX Venture Exchange (TSX VENTURE: STC). Additional information on Sangoma can be found at <http://sangoma.com>.