



TAKING TECHNOLOGY TO THE EDGE

Robert Veschi, President, CEO, and co-founder of Edge Access – a premier developer and integrator of future-proof convergence communications products – is a highly regarded authority in the field of telecommunications and VoIP. *BMA's* Alice Sharp met with Robert to find out how far VoIP has come and where he believes it is heading.

AS. What do you see as the main benefits of VoIP for businesses and service providers?

RV. The benefits are similar yet quite different. Business users of VoIP will benefit differently based on their method of operation. For example, a company that employs people in different cities, states or countries will benefit greatly from a decrease in telecommunications costs associated with inter- and intra-office communications. A company that has a work-from-home programme will benefit due to the fact that remote workers will actually be able to answer their extensions as if they were sitting in the office. All outbound calls will actually appear on the company's phone bill and thus simplify expense reporting for the remote workers. The small company that needs to outsource a portion of its customer service can literally put call centre workers on their office switch and IVR system and make it appear as if those workers were with their company and at the office.

The service providers benefit by offering converged services over a single pipe without service use restrictions imposed by other technologies. This means that if the service provider offers a set of services over a T1 into small- and medium-sized business today, the customer has to choose how much of the bandwidth to reserve for voice calls and how much to reserve for data. Worse still, if the



customer wants both services, they have to pay the local exchange provider for two very expensive pipes into their facilities. With VoIP, the customer can use all of the T1 for data and as voice calls initiate they will throttle back the data throughput in support of the voice. The real benefit to the service provider is that they do not have to install costly last mile infrastructure in support of two separate services anymore and can offer discounted services to the customer, which will benefit both.

AS. I would imagine you have spent a great deal of time and money to perfect these products and solutions. Into what areas of development has the most time and money gone?

RV. The simple answer is ease of use. These technologies have been perfected over a long period of time. We started in VoIP back in 1993. That was a long time ago and the state-of-the-art in computers was a 286 processor. Today, for the same money you can purchase a 4GHz computer. The same is true for the core components required to build VoIP technology – the prices have seen a dramatic decrease over time and the components have become bullet-proof.

The costs have pretty much taken care of themselves and will continue to do so as more and more businesses and service providers adopt VoIP as their standard form of voice communications. Integration has also pretty much taken care of itself – in the late 1990s there was a big push for standards and two emerged: the H.323 standard and then, shortly afterwards, SIP. Today, most organisations are migrating their technology toward the SIP standard. All of our technology supports this, which makes it work and play well with technologies from many vendors.

AS. So, in what ways do you think Edge Access is ahead of the competition at the moment?

RV. The critical difference between the Edge Access technology and its competition is really the level of integration or the feature set incorporated into our edge technology. The integration of the feature set will allow either the enterprise or service provider a significant cost advantage over a multi-box solution. Let me explain, if the service provider, or the corporate customer for that fact, opts for the five-box solution then they will pay significantly more in hardware acquisition costs. The cost difference only starts there, since the first product that they will install behind the router is the firewall, every other device like the QOS server, VOIP gateway just to name a couple, will be behind the firewall. Therefore, either the enterprise user has to have an expert on staff or the service provider must roll a truck with a body in it every time one of the supporting boxes has a problem or a configuration change is required. With our technology, every feature of every component is configurable via the web from a network control centre so that the ongoing costs of supporting this technology is significantly less than that of a multi-box solution.

AS. You describe your communications products as 'future-proof'. What do you mean by this?

RV. Our technology has many unique features, not the least of which is our Universal Wan Interface, or UWI as we fondly refer to it. One of the biggest questions that an enterprise customer, or service provider for that fact, faces as they make technology decisions for their products or services is 'what is my environment going to look like in the future?'. Let me explain, when I first got into this business, our backbone data infrastructure was ten-base-t Ethernet running at 10Mbps or 10Meg. Within a few months, the entire investment that we had in networking technologies was obsolete because 100Meg became available and then a year later 1 Gigabit Ethernet came into being. In order to take advantage of those newer technologies, we had to throw away the previous generation of technologies in their entirety.

The purpose of our UWI is to ensure that customer or service provider that they will never have to follow that same progression with their VoIP technology. If a new wireless, ethernet, T1, DSL, cable or other broadband technology comes along, we will write a driver for it and allow the end-users to remove their current card from the slot and populate it with their new one. The cost of the networking card is minimal compared to the cost of the whole product. Many of the broadband cards that fit our UWI cost less than one hundred dollars. So, their total investment may not be future proof, but the majority of it certainly is.

AS. You recently acquired IPAXS Corp. What impact has this had on your product development?

RV. Technically, we acquire the assets of IPAXS, given the fact that the previous board sought bankruptcy protection before we were able to conclude our acquisition. Having said that, we did manage to acquire the most important assets that this company had to offer – its people. The team of developers that we acquired from that transaction, with over 100 man-years of edge

technology development between them, has significantly increased our ability to bring technology improvements to the market quickly. The good news is that they completely compliment my existing team and brought with them some expertise with which my core application technology developers were not familiar. The combination of the two teams and the two technologies has positioned Edge Access to offer one of the most complete and function rich set of VoIP technologies on the planet. The better news is that our technology is continuing to outpace the industry, which keeps us well ahead of the competition in feature and function.

AS. Do you have any similar plans for acquisitions or partnerships in the future?

RV. I am a true believer in leverage. In the event that we find a technology or just a team that will compliment those that exist within Edge Access today, I'm certain we will endeavour to acquire or, at the very least, partner with them. At this time, we're busy building our business and it would have to be one of those situations that just made good business sense as opposed to us actively looking to make those sorts of deals.

AS. I understand you recently demonstrated the advantages of your VoiceWise Universal Access Device to the National Association of Broadcasters in the US. Briefly, what are these advantages and can they benefit other applications other than broadcast?

RV. That's an interesting question. Our UAD is very well positioned for the mobile market. Among other reasons, the size of the box is important to the mobile market since there is very little room in those environments. The fact that we have integrated a router, SIP-aware firewall, Quality of Service manager, DHCP server, Wireless Access Point, SIP Proxy server and, most importantly, a voice capability into such a small unit allows the broadcast industry to very cost effectively add two key functions to their mobile vehicles. That would be both voice and data.

Believe it or not, many of those broadcast industry vehicles cannot surf the web or make a telephone call. With the addition of our technology and a satellite modem, they can be on the web and making calls in no time. The fact that we have replaced four or five boxes and 10s of square feet required to house that technology provides them with even more motivation to do so. A critical point that I do need to mention is that in the mobile environment the satellite bandwidth is not symmetrical, in many instances there is as little as dial-up speeds on the upstream side.

Without our integrated QOS manager, every time someone was on the phone and their co-worker hit the web, the phone call would degrade. Our mobile customers do not have to worry about this issue because our technology automatically prioritises the voice over the data and everyone can function mobile, just as they do in the office.

AS. You mention that firewall is integrated into your UAD. I would imagine that security is important, both to the broadcast industry and in corporate conferencing. Do you find this to be a concern and how secure are your solutions?

RV. With respect to the level of consideration given to security during the acquisition phase of a customer relationship, I would have to say that it is normally one of the top five concerns that our potential customers express. Having the firewall incorporated into the box is certainly a benefit for all of the reasons mentioned above. If it were not, the service provider would have to put ‘feet on the street’ in order to resolve technology issues or to make simple configuration changes requested by the customers.

Considering that our technology is in use due mostly to homeland security grants, it will suffice to say that our technology is extremely secure. As a matter of fact, to our knowledge the Edge Access technology is the only technology on the planet that supports VoIP and has integrated a NSA approved Type II encryption device for wireless. We are also working with a vendor that offers a NSA approved multi-level secure operating system for incorporation into future versions of our technology. At Edge Access, we strive to keep up with technology advances in the area of security in support of our customer base. Their voice and data security are a paramount consideration for both them and us.

AS. I would imagine demand for your Mobile Communications System must have increased considerably following the events of recent years?

RV. I can’t remember the last time our technology was not selected as the preferred technology when the application went mobile. There is no better, more integrated VoIP technology available on the planet – full stop! We built our business around the first response market and today all of our customers refer our company to anyone who is seeking to build a future-proof mobile command unit with a set of converged services over satellite.

The VPN capability of the box, along with all of the previous mentioned features, make this technology invaluable when anyone in the police, fire or rescue community want complete ‘reach back’ to their corporate servers, databases and telephone systems. Imagine, if you will, being deployed right after a hurricane and not even being aware that local services such as telephone, power, cell service, etc. are not available or, more importantly, not having to care that those services are unavailable! You can complete your mission regardless of the environment and/or state of the local telecommunications and power services.

AS. Reliability must be essential for these applications – how do you ensure your solutions are dependable and is there a back-up support system if it is needed?

RV. Given the fact that a significant portion of our systems are deployed in support of first response and homeland security, there is no question that reliability is a critical issue. Nothing technological is perfect, although we do environmental testing of our boxes as a part of the QA process. This does not insure that the technology is failure proof, but I would be remiss not to point out that we have never had a box fail to date. The question of back-up is essential – given the small size and the ease of configuration, some customers prefer to throw a spare unit pre-configured into a drawer just in case. One power cord, a few phone cords and within minutes they are back up and running.



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The other nice feature about our edge technology is the fact that it can be powered by the vehicles’ 12-volt system. Even if the generator fails, and in the event that their dish is already deployed, they can continue to use all of the features of our box. Another nice feature is that each unit can be configured with battery back-up so that it is available even when other technology might not be. All of this said, there are many back-up and restoration features available as a part of the complete Edge Access solution.

AS. How would you like to see VoIP improve or develop further in the future?

RV. Over time, I see the further adoption of VoIP continuing to push the price of the component parts, and therefore the cost of the overall products, down. I also see a ton of application integration around the SIP standard. Many of the new functions that are being hosted on cell phones today – for example, integration between address books, e-mail, calendars, instant messengers and so on – are easily done with the VoIP technology where it was not quite possible or cost effective with the more traditional PBX and Key System technologies. Many of the things that we do during a phone call today will be automated in the future in order to simplify our jobs and our lives. ■