



atrex headquarters.

## Corporate networks: a vital part of the business

Corporate satellite networks are playing an increasingly vital part in business. Helen Jameson talks to Jean-Claude Bisenius, a Managing Director of atrex, a global capacity and facility exchange to find out what solutions they provide and what we may expect from corporate networks in the future.



Jean-Claude Bisenius, a Managing Director of atrex.

**Question: Many thanks for taking the time to speak to us. Would you please introduce yourself and atrex to our Readers?**

**Jean-Claude Bisenius:** My name is Jean-Claude Bisenius. I am one of the two Managing Directors of atrex, with a focus on business development and technology. atrex is a key solution provider for the telecommunications and broadcast industries, with strong focus on satellite communications. Offerings include Internet and IP via Satellite, Mobile Satellite Services, Voice Communication, Corporate Networks, Wireless Access and Radio and TV via Satellite.

Providing a one-stop shop experience, atrex also supplies sophisticated hardware for VSAT, mobile satellite broadband, WiMAX

and broadcast services from our logistics centre located in Germany.

**Question: atrex is a global capacity and facility exchange. Can you explain what this means and also what the benefits are to your customers?**

**Jean-Claude Bisenius:** When atrex was founded in early 2002, we launched an online exchange and trading platform hence the suffix "Global Capacity & Facility Exchange". The Internet platform continues to provide a neutral and independent arena for buyers and sellers. Subscribers of the service post offers of spare satellite capacity and other resources, such as production equipment or up-link facilities, or request such resources. With regard to the platform, atrex functions as a broker, taking a commission from the



seller - for successful deals only! Especially today, where satellite capacity is scarce in regions like the Middle East and Africa, the platform is a valuable tool which allows customers to identify remaining resources and close good deals.

**Question: What solutions can atrexx provide for corporate clients in terms of satellite networks?**

**Jean-Claude Bisenius:** atrexx's 2way2sat product ranges provide ubiquitous and instantaneous IP based data, voice and video connections to enterprises seeking to extend their corporate network to remote locations in regions with a poor or non-existent telecommunications infrastructure. Thanks to the integration of Inmarsat's BGAN service into our solutions, these services can also be offered to mobile users, wherever they are on the move. Target markets include the manufacturing industry with remote production sites, civil engineering companies with projects in distant places, the oil and gas industry, as well as service companies with subsidiaries and branch offices in remote regions.

On the other hand, satellite networks are a valuable means of backing-up terrestrial Wide Area Network (WAN) connections. atrexx's satellite back-up solutions make sure that there is virtually no correlation between the terrestrial and the satellite WAN connection of an enterprise. If this correlation factor was not considered, in the event of a

failure, both active and back-up links could fail together – which happens rather frequently when two parallel lines are cut during underground or excavation work. With regard to satellite back-up solutions, the focus is on multinational corporations having many sites.

Point-to-multipoint service, including multicasting data from headquarters to many subsidiaries, e.g. for inventory and price list updates, is another application which atrexx provides. This is a field where satellite excels in terms of cost effectiveness.

The named applications can be combined into a tailor-made network for the corporate customer.

**Question: Why is satellite such an important component of corporate networks today?**

**Jean-Claude Bisenius:** Enterprises today build their business on a sophisticated IT infrastructure. Distributed businesses have to provide this IT infrastructure at any site, as remote as it may be. The need is for robust and performing networks with a standardized performance across the organization, regardless of location. This request, however, is difficult to fulfil in places with poor or non-existent telecomm-unications infrastructure.

atrexx is in a position to provide the required services to businesses at nearly any location worldwide through satellite based WAN, within weeks. On the other hand, the need for the highest possible availability of

networks increases the demand for "hot" satellite back-up solutions - even in regions with a good telecommunications infrastructure.

**Question: What capabilities are your clients looking for in a satellite-based network?**

**Jean-Claude Bisenius:** Clients are largely agnostic about the underlying transport medium of their WAN, but rather focus on corporate applications. They want these applications to function at remote sites, as if they were deployed at the headquarters' Local Area Network (LAN). Satellite can ease these requirements as it allows us to set-up networks based on a homogeneous solution across national borders. Scalability, both with respect to extending the network to new sites and to increasing bandwidth to existing sites, is among clients' requirements - and satellite excels at this! Rapid deployment is another request and also a strong point of satellite. When setting up a new site, at first, it is possible to communicate with headquarters using a mobile terminal smaller than a laptop. This underlines satellite's capabilities of "immediately and everywhere".

**Question: You offer a VoIP solution. Do you find that this is becoming an increasingly popular method of communication within corporate networks? Why is this?**

**Jean-Claude Bisenius:** The IP based



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**“atrex currently does business in more than 35 countries worldwide. Customers include commercial and industrial enterprises as well as governmental institutions and military bodies. The main region of activity is EMEA, with the Middle East and North Africa accounting for the bulk of corporate networks over satellite.”**

Infrastructure of corporate networks allows us to install a wealth of applications, including Voice-over IP (VoIP), and thus to integrate services on the same physical layer. atrex's fon4all VoIP service stands for a sophisticated and comprehensive telephony solution. The system is proved with terrestrial broadband connections and Internet over Satellite links from atrex and works independently from incumbent telcos. Seamless integration with the company's Private Branch Extension (PABX) allows employees to be called at the same extension number, wherever they are, be it at the headquarters or at a distant branch location. Outbound calling can be processed by the headquarters' PABX, too, if requested. Alternatively atrex offers to route outbound calls directly to the country of destination and to terminate them into the Public Switch Telephony Network (PSTN) of this country. A web-based billing system with personal accounts for every employee is available where needed.

**Question: What about security? For corporate networks such as banks or any business holding their client's personal details this is a big issue. How can you assure your clients that the network they use is secure?**

**Jean-Claude Bisenius:** Protection against potential eavesdropping of satellite signals, unauthorised intrusion and attacks against the IT systems is of course mandatory in a corporate network environment. Enterprises can apply their proven VPN (Virtual Private Network) and encryption solutions to the satellite based part of their WAN. IPsec tunnels or alternatively the Secure Layer Socket (SSL) protocol provide end-to-end security at the highest level. As however, communication protocols, including TCP, are not optimized for the long latency which is typical of satellite communications, additional measures are needed in the case of satellite. A process commonly called “TCP Acceleration” increases the throughput and efficiency by transparently replacing TCP - and increasingly also higher OSI layer protocols - with methods optimised for the long latency, high loss and asymmetric

bandwidth conditions - all typical of satellite communications. Together with our partner UDCast from France, atrex promotes a solution that overcomes the limitations of secured satellite networks. In this case, acceleration is inserted before encryption takes place. This allows us to set-up real-time secured applications, such as VoIP and streaming video, over satellite.

**Question: Are there any principal regions of the world where atrex does most business?**

**Jean-Claude Bisenius:** atrex currently does business in more than 35 countries worldwide. Customers include commercial and industrial enterprises as well as governmental institutions and military bodies. The main region of activity is EMEA, with the Middle East and North Africa accounting for the bulk of corporate networks over satellite. Geographical expansion is extending to the Indian sub-continent and into South East Asia.

**Question: Do you see an increased interest and reliance from corporations upon satellite technology when building their networks?**

**Jean-Claude Bisenius:** Although requests from corporate customers are steadily on the rise, be it for back-up services or for extending existing networks to remote locations, we find that the versatility and ease of satellite based solutions is still little known by corporate IT and telecomm-unications departments in the regions of the world we focus on. atrex therefore takes the initiative and approaches decision makers in the target industries identified to introduce them to satellite based WAN.

In a telemarketing campaign launched earlier this year, atrex's sales force gained a clearer understanding of the needs of multinational companies for their remote WAN infrastructure.

**Question: What are the trends and developments in corporate networks at present?**

**Jean-Claude Bisenius:** Virtual Private Networks (VPN) are increasingly replacing

traditional Corporate Networks. Utilizing the shared infrastructure of public Internet VPN results in a very cost efficient network, meeting the needs of private and public enterprise sectors.

Satellite based VPNs provide company-wide communication in a cost-effective way by sharing the satellite bandwidth among many remote stations.

While traditional satellite networks, with a hub and spoke architecture, are well adapted to all communication needs between headquarters and remote subsidiaries, meshed networks allow communication from one remote station to another, without passing through the central hub station.

This scheme is particularly beneficial to voice communication as it eliminates the double hop scenario, and thus brings down the round-trip delay by about half. It also makes better use of the satellite capacity as remote-to-remote communication loads only one satellite link; in the star architecture it would load two links, from both remotes to the hub at the centre of the star. Combined star and meshed architectures nowadays exhibit the advantages of both schemes. Such an architecture is difficult to realise with terrestrial based networks.

Cost-cutting requirements with regard to satellite based corporate networks determine the use of higher modulation schemes e.g. 8-PSK, 16-QAM and - in the case of point-to-point communication - also the Carrier-in-Carrier method, where both stations transmit on the same frequency spectrum.

All this means a higher data rate for a given satellite capacity, in other words more bits-per-second for every Hertz of transponder bandwidth. This translates into a better utilization of the satellite resource and thus into lower monthly service fees.

**Question: What are atrex's plans for the next 12 months?**

**Jean-Claude Bisenius:** atrex is currently developing a Central Monitoring Facility, which provides comprehensive monitoring for heterogeneous networks, including satellite and terrestrial based corporate networks. We plan to offer this service to existing atrex customers but also to new customers who have the need to monitor the SLA (Service Level Agreement) of their many providers.

Introducing innovative technologies that allow for higher cost effectiveness in satellite based corporate networks is also on the agenda for the next 12 months. Finally we are about to launch an ISO 9001 Certification project, which will further formalize the way atrex does business and demonstrate the quality of the services we provide to major customers. These customers indeed require an ISO 9001 Certificate from all their suppliers. ●