



Wireless Solutions for The Mobile Enterprise

Application Portfolio

The Mobile Enterprise

Corporate Wireless Networks

Most corporations, large and small, fully recognize the necessity of company-wide network connectivity. In some cases, security concerns prompt limited user access out to the Internet; in other cases Internet-based applications are the basis for competitive advantage and CapEx savings. In all cases, this reliance on the network causes corporate users to request more and more flexibility in accessing the network. New and temporary offices must be connected to the Internet and headquarters networks. Network administrators receive increasing move/add/change requests as employees and visitors move between buildings, sites, countries and customer offices - and incur considerable costs in fulfilling these requests. The desire for mobility is so strong that users will buy and install unauthorized wireless access points to facilitate access.

Wi-Fi technologies can deliver user-requested mobile access, and provide tight network security with proactive deployment. Broadband wireless allows fast, cost-effective links between campus buildings or locations.

This Application Portfolio provides an overview of today's most common corporate applications for Wi-Fi and Broadband Wireless technologies:

Wi-Fi

[Mobile User Productivity](#)

[Converged Wi-Fi and Cellular Service for Enterprise-Class Mobility](#)

[Facilitate Corporate Teamwork & Improve Accessibility](#)

[Guest Access for Visitors](#)

[Hotelling](#)

[Reduce Move/Add/Change Administrative Burden](#)

Broadband Wireless

[Network Redundancy and Disaster Recovery](#)

[VoiceOver IP Broadband Wireless Access Networks](#)

[Building-to-Building Campus Connectivity](#)

[Extending Voice Service to a Remote Facility](#)

[Connect Building and Campus Networks Miles Apart](#)



Mobile User Productivity

The challenge:

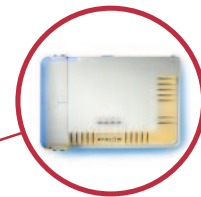
Organizations are becoming more mobile, more virtual. Sales and marketing personnel are moving between company locations, customer sites and conventions. Network access can mean the difference between success and failure when trying to close a deal or make a convincing presentation. Yet every mobile professional has experienced the struggle inherent in getting network connectivity in a new place: finding a free Ethernet port, figuring out if it's on, finding a cable, trying to figure out what setting changes are needed to get things working – this can easily consume a full half-hour. And often these attempts fail – which results in an emergency call to the local IT staff, who drop what they're doing to assist the user. Productivity for two people just stopped for approximately 30 minutes.

The solution:

Wireless can dramatically facilitate mobility – not just because the user is “un-tethered.” The network settings for Wi-Fi roaming between sites can be set up once by an administrator, and then the user doesn't bother with them again. The client laptop automatically searches for available wireless networks and connects – seamless to the user. When network authentication is required, software automatically generates a user prompt. This reduces calls to technical support, and speeds user connectivity.

The products:

- ORiNOCO AP-4000
- ORiNOCO AP-700
- ORiNOCO client cards



ORiNOCO Access Point

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❖ Converged Wi-Fi and Cellular Service for Enterprise-Class Mobility

The challenge:

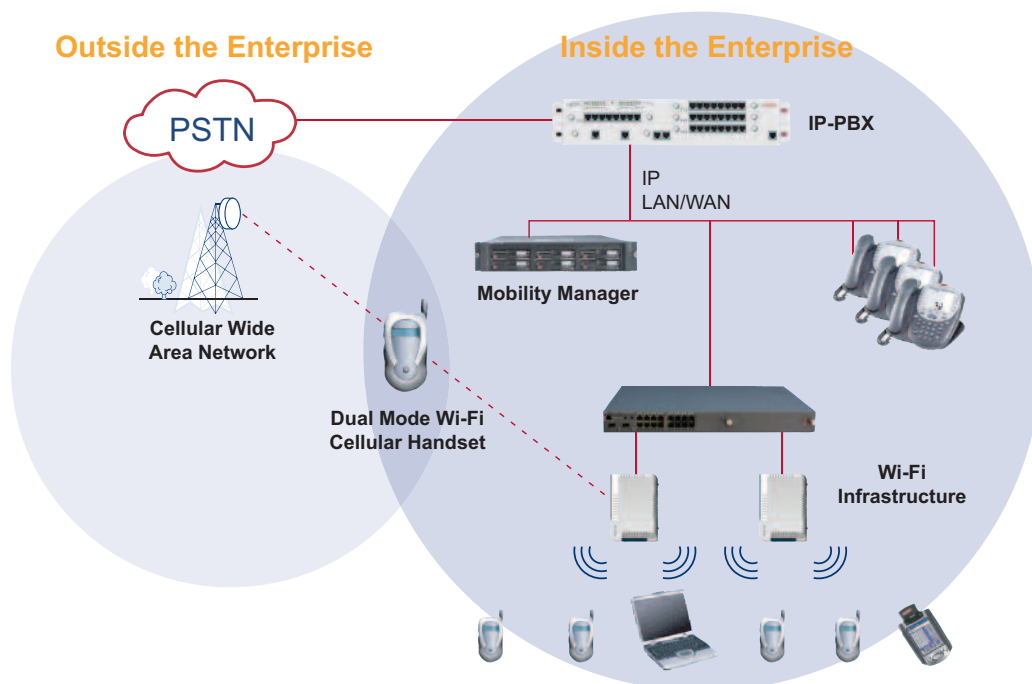
IP voice service on an enterprise Wi-Fi network addresses many mobile communication issues. But when professionals must also roam outside the office to customer sites, supplier sites, and remote offices – they rely on cellular phones and service. This redundancy has many disadvantages. First, redundancy incurs the expense of two business phones rather than one. Second, IT managers and finance managers alike lack insight into – and control over – individual cellular devices and service costs. Third, the end-user has multiple phone numbers and voicemail accounts to check, manage, and distribute to contacts – and misses phone calls to one or the other phone.

The solution:

Proxim, working closely with Motorola and Avaya, is delivering the first dual-network wireless infrastructure supporting handsets that roam from cellular network to Wi-Fi network – with enterprise-class phone features. Users experience the simplicity of a single handset for business use – both in the office and on cellular networks. That means one number to manage, one voicemail and fewer missed calls. For enterprises, converged telephony service will allow centralized control over costs and contracts, and much more responsive employees. And for service providers, offering this converged dual-network service allows differentiated service and a strong enterprise presence.

The products:

- Proxim Wi-Fi infrastructure – Avaya W310 codeveloped with Proxim
- Avaya Seamless Mobility PBX – to be announced in 2005
- Motorola dual-network Wi-Fi/cellular handset, and mobility manager – to be announced in 2005





❖ Facilitate Corporate Teamwork & Improve Accessibility

The challenge:

Effective teamwork is at a premium: reducing operating expenses, developing high quality products and maintaining regular customer interaction all require very tight teamwork and exemplary communication across groups. Ironically, collaborative work removes employees from their desks – hampering communication with others. As a result, decisions are often delayed and business processes hit barriers. Employees can carry cell phones to mitigate this problem, which then generates large monthly bills, and results in two or three different voicemail systems to manage.

The solution:

Specific groups of corporate employees benefit dramatically from wireless IP telephone systems. Sales people who can't afford to miss customer calls, executives rarely at their desks and other team-oriented workers can carry their primary business phone along with them as they work in a more collaborative environment away from their desks. As a result, employees are more accessible and can respond immediately to requests from customers or coworkers. By installing a Wi-Fi network in enterprise offices, wireless IP phones with high voice quality and reliability offer unmatched coverage. The same Wi-Fi network can be leveraged for data communications on Wi-Fi laptops or PDAs, allowing true corporate mobility.

The products:

- ORiNOCO AP-700
- ORiNOCO AP-4000
- NetLink Wireless Telephones offered by SpectraLink



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❖ Guest Access for Visitors

The challenge:

Employees aren't the only mobile users in corporate networks. Visitors such as customers, resellers, training attendees and contractors compose a transient group that requests and/or requires Internet access for official and personal use. With the rise in Wi-Fi clients embedded in laptops, users are beginning to expect ubiquitous Internet access. Accommodating guest access on a one-by-one basis – whether through the wired or private corporate wireless network – is cumbersome, time-consuming and generally not practical for IT organizations and users alike.

The solution:

The same wireless network used for employees can offer secure, on-demand guest access, too. Proxim's wireless LAN access points can securely support private (for the company) as well as public (for visitors) networks. Access to the company network and data remain secure and available only to authorized employees – and visitors access only the Internet using the same wireless access points. The wireless access points will ensure that every guest gets on the network, preventing support calls to the IT organization – as well as the time and expense of manual guest access setup. In case of high guest usage of the network, IT administrators can prioritize users and traffic appropriately.

The products:

- ORiNOCO AP-4000





Hotelling

The challenge:

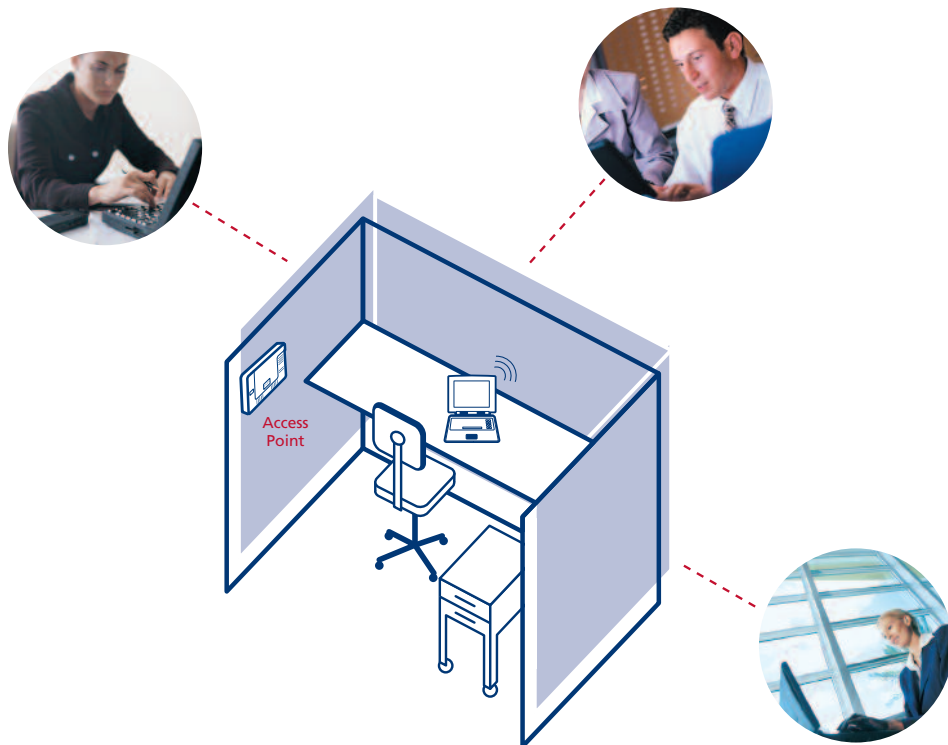
With a large mobile population, such as a field sales force or training organization, a permanent workspace for each employee isn't easy to cost-justify. Access to the network – no matter what the location – is important especially for these customer-facing groups. In order to reduce real estate and utility costs, corporations are employing the technique of “hotelling” – providing temporary workspace accessible to any employee who needs it. But consistent phone, network and application access can be so challenging that it almost negates the advantages of hotelling.

The solution:

By installing a wireless LAN, access point features assist users with automatic negotiation of network access and correct resource permissions – without a call to the technical support staff. Instead of being a hassle for both user and support staff, hotelling is simple and facilitates business transactions.

The products:

- ORINOCO AP-4000
- ORINOCO AP-700
- ORINOCO client cards



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❖ Reduce Move/Add/Change Administrative Burden

The challenge:

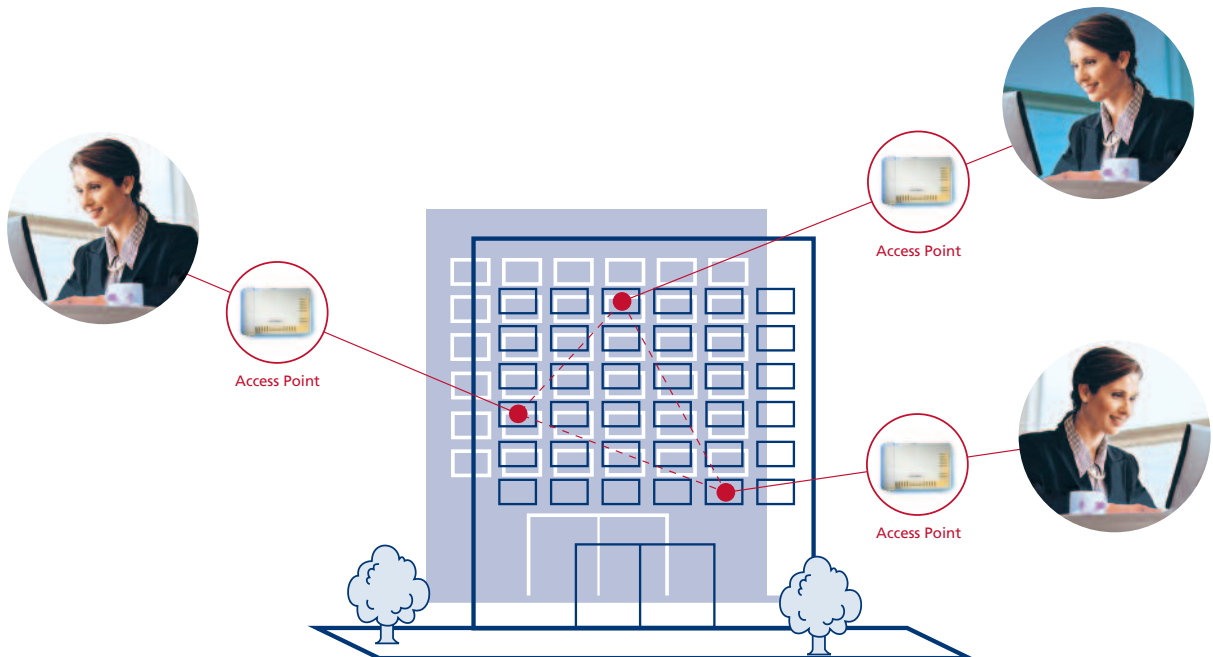
Research shows that the largest single block of IT staff time is spent on moves/adds/changes of network users. Problems with Ethernet ports, cables, server and application access, securing sensitive data while allowing selective access – all these issues complicate the administration of user accounts and raise network maintenance costs.

The solution:

Proxim's wireless networking solutions remove this administrative burden. Users have Wi-Fi clients in their laptops that connect seamlessly with wireless access points throughout the organization. The access points provide both network security and appropriate access to resources. Administrators choose the settings appropriate for user groups, and then roaming becomes seamless and low-maintenance – without the need for manual changes.

The products:

- ORiNOCO AP-4000
- ORiNOCO AP-700
- ORiNOCO client cards





❖ Network Redundancy and Disaster Recovery

The challenge:

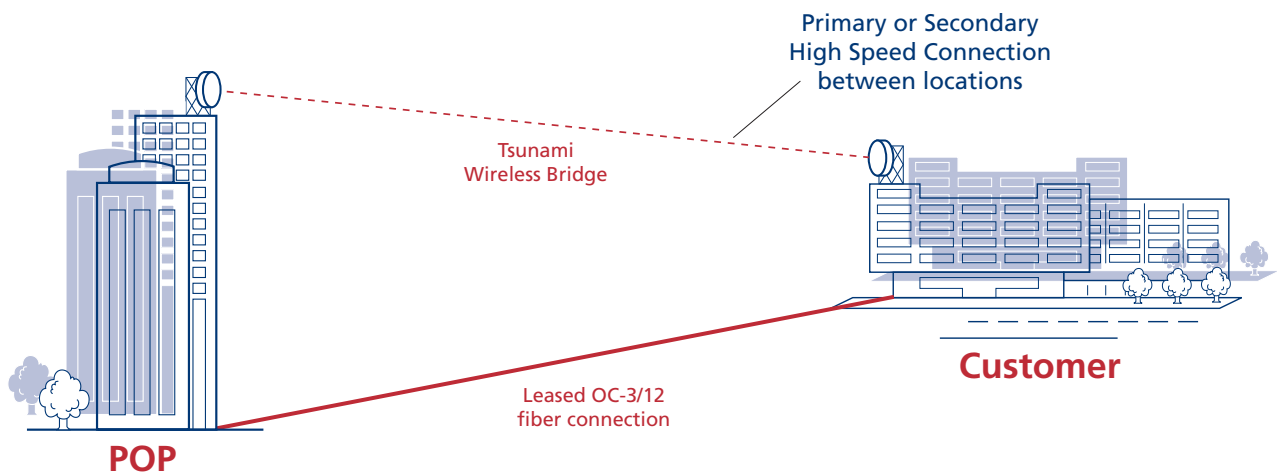
Since 2001, the importance of network contingency planning has unfortunately become more of a reality. When disaster strikes – be it natural disaster or terrorism – networks can be the link that facilitates both human and economic recovery. Medical resources need to be quickly, efficiently deployed to the correct areas; donations and supplies must be delivered to those in need; and commerce should resume normalcy to prevent further hardship. In disaster circumstances, hard-wired networks are fragile. Detecting and fixing breaks in the line may require getting into flooded or dangerous areas. Network redundancy may prevent some outages, but if the wires are co-located, both may be disabled by the same circumstance.

The solution:

Wireless solutions are the perfect technology for network contingency planning. Not only are wireless networks cost-effective, they offer a safer alternative to redundant buried lines. By diversifying the redundant link, the chances of a single event affecting both is decreased. In the event that both the wireless and wired network are disabled, re-establishing wireless connectivity can be accomplished in minutes – as opposed to the days or weeks it could take to repair or replace wire lines. By placing a new wireless unit on or near of an affected building, a breach can be remedied immediately.

The products:

- Tsunami QuickBridge
- Tsunami Point-to-Point



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VoIP over Broadband Wireless Access Networks

MultiVOIP and Tsunami™ Multipoint

Multi-Tech brings affordable Voice over IP to Proxim broadband wireless access networks. Multi-Tech's MultiVOIP Voice over IP gateways extend the reach of a company's PBX between buildings or across campuses without the cost of installing another PBX or utilizing expensive T1 lines. With MultiVOIP, you simply leverage existing phone equipment to route voice calls over a wireless data network.

Proxim's Tsunami Multipoint enables users to easily, quickly, and economically install a wireless LAN extension between three to hundreds of locations – eliminating the need for costly leased line, cable or DSL alternatives. And, because it is wireless and license-exempt, you can get connected immediately. Integrating Tsunami Multipoint with MultiVOIP Voice over IP gateways provides companies with the ability to send both their voice and data over the wireless connection to maximize investments and minimize costs.

MultiVOIP connects directly to phones, fax machines, key systems, or a PBX and plugs into the IP data network to provide real-time, toll-quality voice connections to any remote office. Similar to the Tsunami Multipoint wireless system, it is a point-to-multipoint solution (one gateway is required at each location). It merges voice from the telephone onto the IP network and then utilizes another MultiVOIP gateway, at the remote end, to separate the voice from the data network and send it back to the PBX, telephone, or fax machine.

“Our priority queuing support prioritizes IP voice traffic to help preserve voice quality even when the network traffic over our wireless connection is heavy.”

Jeff Orr, Product Marketing and Business Development Manager at Proxim Corporation

“At up to 60Mbps capacity between locations, the Tsunami Multipoint wireless system provides plenty of bandwidth to pass both voice connections and LAN data packets,” explains Jeff Orr, Product Marketing and Business Development Manager at Proxim. “In addition, the Tsunami Multipoint's support for ‘priority queuing’ prioritizes IP voice traffic to help preserve voice quality even when the network traffic over the wireless connection is heavy.”

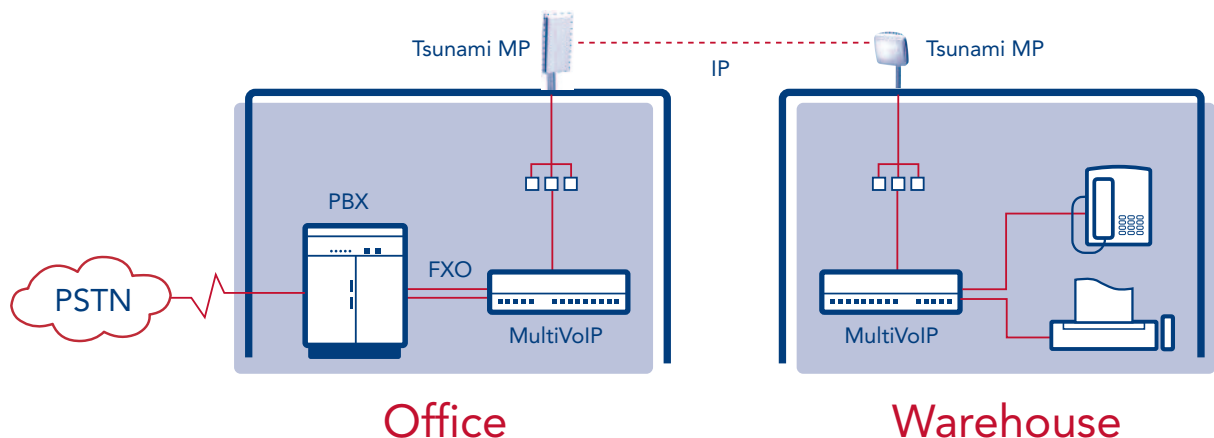
Best of all, the easy installation and operation of both systems allows network planners to quickly deploy the solution. And, with MultiVOIP there is no user training required. Users simply dial an extension number to reach a remote office.

Solution Benefits:

- Eliminates the cost of installing remote PBXs
- Fast payback
- Quick deployment

Solution Components:

- MultiVOIP Voice over IP gateways at each location
- Tsunami Multipoint Base Station Unit (BSU)
- One or more Tsunami Multipoint Subscriber Units (SU)





Multi-Tech MultiVOIP

Multi-Tech's MultiVOIP Voice over IP gateways bridge the voice network to the data network to provide toll-bypass long distance calling over the Internet or private WAN. MultiVOIP operates alongside a company's PBX and analog phone systems to extend voice and PBX functionality to remote locations. With MultiVOIP, you will avoid the hassle and expense of replacing existing routers, WAN connections or phone systems required by other VOIP solutions.

MultiVOIP Features:

- Flexible 1-, 2-, 4-, and 8-port analog models and 24-port digital solution
- Award-winning business quality voice connections (supports DiffServ)
- Minimal bandwidth requirements (14K bps per call including IP overhead)
- Utilizes H.323 and SIP protocols for complete interoperability
- No disruption to existing voice equipment
- No additional hardware needed
- Transparent to the user (no training required)
- PSTN fail-over automatically routes calls over the PSTN if the IP network is congested or down
- Supports H.450 supplementary services to provide for call transfer, call forwarding, call hold, call waiting, and name identification
- Web based configuration and management
- 2-year warranty

Model No.	Description
MVP130	1-Port VOIP gateway
MVP210	2-Port VOIP gateway
MVP410	4-Port VOIP gateway
MVP810	-Port VOIP gateway
MVP2410	24/48-Port T1/PRI VOIP gateway

Proxim Tsunami™ Multipoint

Tsunami Multipoint is a point-to-multipoint outdoor wireless system offering a high capacity, reliable alternative to wired data networks. Using IP packet radio transmitters, standard Ethernet interfaces, and an easy-to-deploy design, the Tsunami Multipoint system enables high-speed network connections to multiple Ethernet switches, routers or PCs from a single location. The systems consist of one or more Subscriber Units (SU) that communicate with a Base Station Unit (BSU).

Tsunami Multipoint Features:

- Capacities from 20Mbps – 60Mbps
- 5.8 GHz license-exempt frequency band
- Patented Active Interference Rejection technology
- Base Station Unit provides 60° sector – co-locate up to six for 360° coverage
- Point-to-multipoint communications from less than 1 mile/kilometer to 6 miles/10 kilometers
- Quick install includes audible alignment for subscriber units
- VoIP priority queuing support



About Multi-Tech

An ISO 9001:2000 certified global manufacturer of award winning Internet, remote access, and telephony products, Multi-Tech Systems provides end-to-end solutions for small-to-medium-sized businesses. Multi-Tech holds over 60 patents in voice and data technologies and has deployed thousands of MultiVOIP gateways since 1999.

Multi-Tech Systems

Tel: 800-328-9717 or (763) 785-3500

www.multitech.com

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❖ Building-to-Building Campus Connectivity

The challenge:

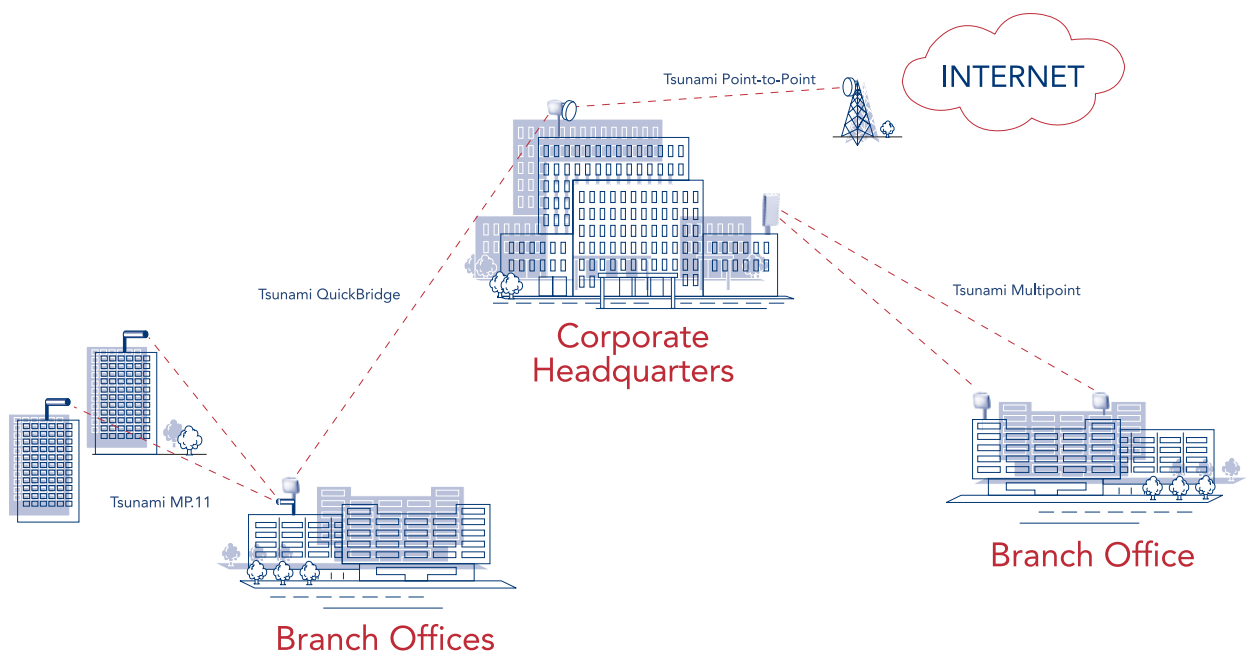
Whether erecting a new building on an existing campus, adding capacity by linking up a temporary office, or finding a cost-effective way to connect buildings separated by a road or rail, wireline connectivity can be tricky and expensive to install. Laying cable for a temporary site would be untenable, and trenching cable across a campus to a new site can be time-consuming and expensive – especially if there is a public works barrier to negotiate. On the other hand, paying for a leased line can be unnecessarily expensive.

The solution:

Wireless solutions from Proxim allow instant, cost-effective connectivity between buildings up to 40 miles apart – and are designed for outdoor use. Wireless bridges are installed on or near appropriate buildings, and linked to the existing LAN infrastructure. Installation of a wireless link is quick and relatively simple – taking days instead of months. Wireless offers equal or better performance, security and reliability to cabling – so there is no tradeoff in quality.

The products:

- Tsunami Point-to-Point
- Tsunami QuickBridge
- Tsunami Multipoint
- Tsunami MP.11





❖ Extending Voice Service to a Remote Facility

The challenge:

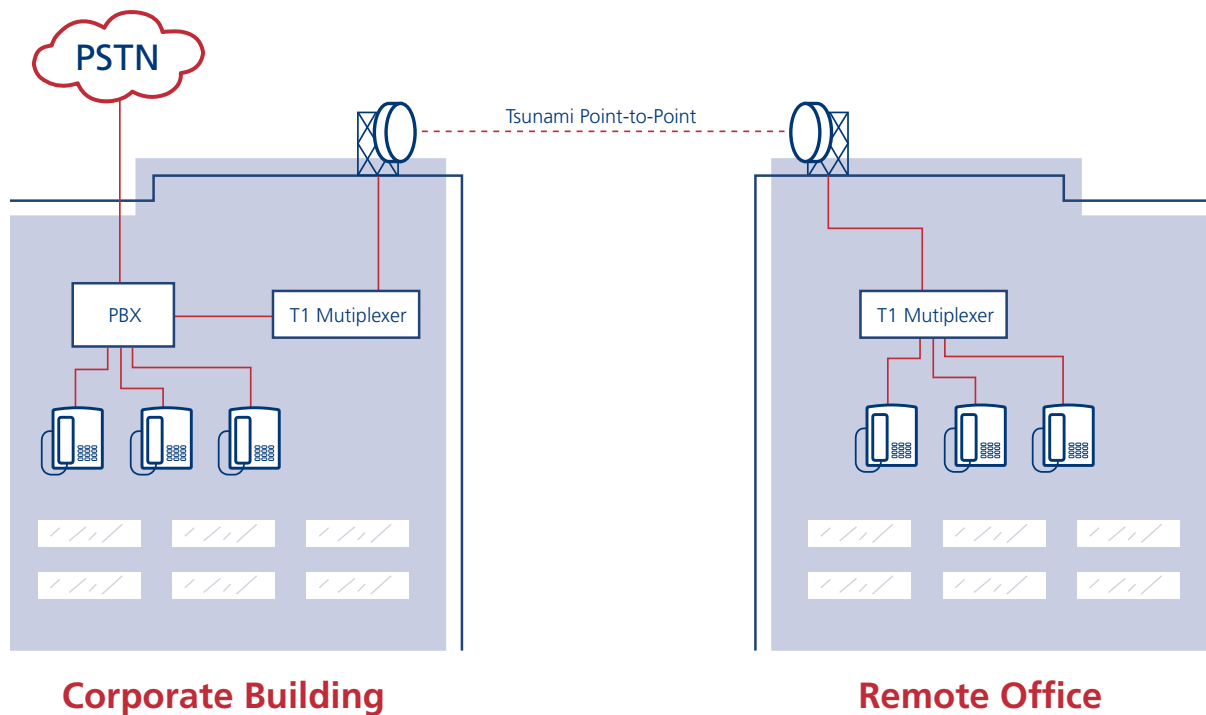
In order to extend corporate phone services to remote offices or warehouses, corporations must install a PBX both at the central site and at the remote site, and link the two with a separate T1 line for voice traffic. This is obviously costly. And the alternative of simply a phone and answering machine isn't professionally acceptable.

The solution:

Corporations can cut leased line costs and leverage a single infrastructure by installing a wireless voice/data bridge at the remote site. This allows administrators to extend PBX-based voice services to remote offices without high costs. Software allows bandwidth limiting on latency-tolerant applications so that voice traffic has no quality degradation on the voice/data link.

The products:

- Tsunami Point-to-Point
- Tsunami QuickBridge + T1/E1



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❖ Connect Building and Campus Networks Miles Apart

The challenge:

Large corporations of all kinds, universities and medical facilities often have several campuses in a metropolitan area or region, sometimes a mile or two apart – all connected back to a central facility. These organizations require high-bandwidth connections linking these networks to centralized distributed data sources such as: research & development, real-time applications, voice and video traffic, large file transfers or even email. In urban and rural areas alike, the required bandwidth from service provider leased lines for this unification may not be immediately available, and will be costly when purchased.

The solution:

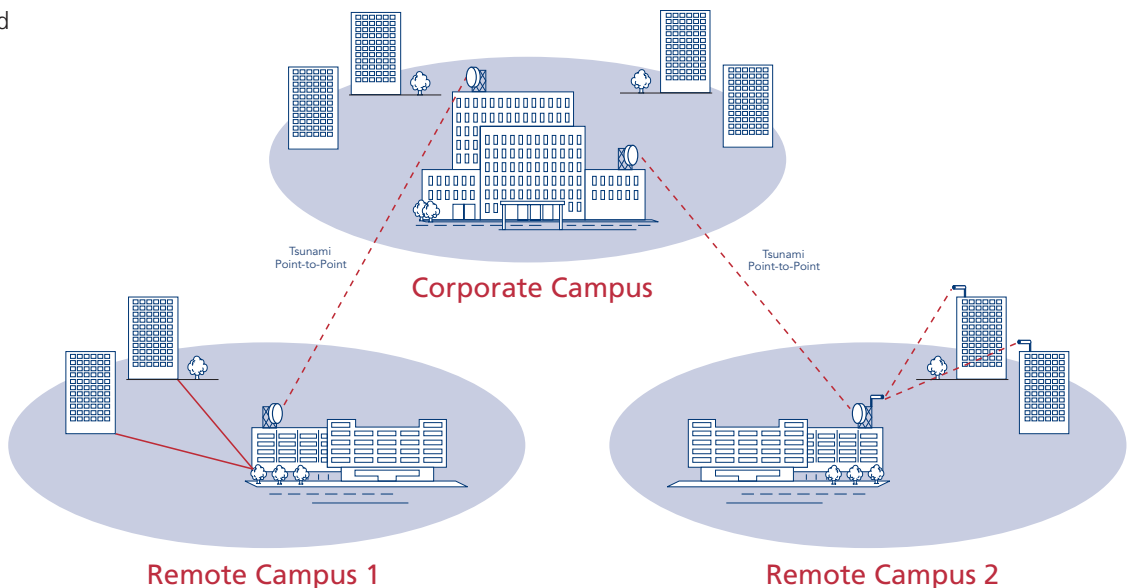
An ideal use of wireless technology is providing high-speed voice and data backhaul between networks in different locations. Fixed wireless systems are installed within hours and have enough capacity to replace multiple T1/E1 lines. This saves thousands of dollars in monthly recurring fees, and eliminates third-party contracts – so that enterprises have full control over their connectivity.

The products:

- Tsunami Point-to-Point

About Proxim

Proxim Corporation is a global leader in wireless networking equipment for Wi-Fi and broadband wireless networks. Proxim provides solutions for mobile enterprise applications, security and surveillance, last mile access, voice and data backhaul, public hot spots, and metropolitan area networks. Product families include ORiNOCO Wi-Fi products, Tsunami Ethernet bridges, and Lynx point-to-point digital radios.



Proxim Corporation
935 Stewart Drive
Sunnyvale, California 94085
tel: 800.229.1630
tel: 408.731.2700
fax: 408.731.3675

