

A SMARTER IT INFRASTRUCTURE
FOR MULTITENANT



»»» Solutions for MultiTenant

XRoads Networks

THE MULTITENANT INDUSTRY INCLUDES: SHARED OFFICE BUILDINGS, CONDOMINIUM COMPLEXES, AND COLLEGE DORMITORIES. TODAY THESE FACILITIES REQUIRE REAL-TIME ACCESS TO INFORMATION AND ENTERTAINMENT SERVICES FOR END-USERS. THE EDGEXOS PLATFORM IS DESIGNED TO ENSURE FAST AND RELIABLE CONNECTIVITY TO THE INTERNET.

The EdgeXOS platforms are designed as a long-term investment in a properties information infrastructure. As such, these appliances have a long life span (with a MTBF of over five years) and build-in high availability features which ensure 24/7 uptime, even in the event of a significant power or hardware failure.

With its modular design, the EdgeXOS platform can easily be upgraded as future needs dictate new innovations in the functionality of the platform. XRoads' offers firmware upgrades, advanced hardware replacement and extended warranty service to maximize your return on investment.

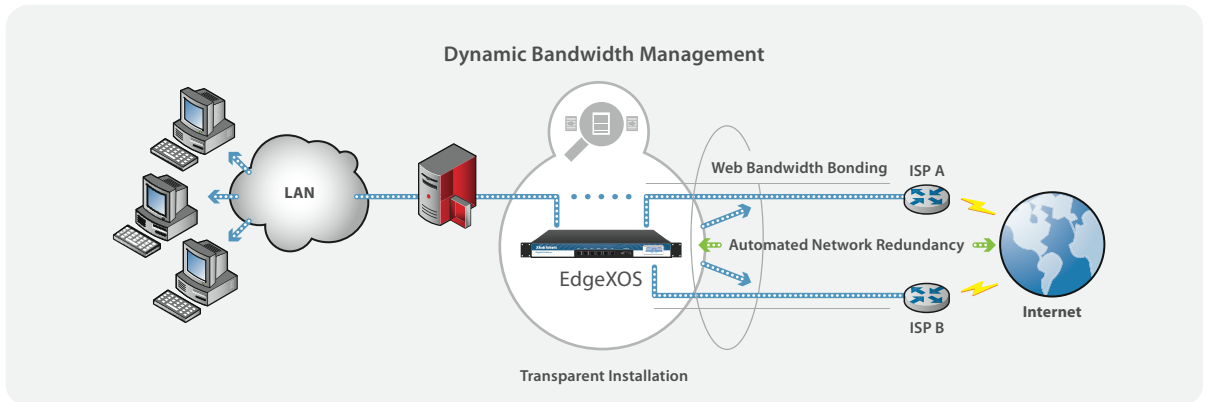
DELIVERING FAST AND RELIABLE ACCESS TO CLOUD SERVICES

The typical multitenant end-user today requires Internet access for both business and pleasure. These users require access to cloud-based services, including access to email, VoIP, business applications, and various online entertainment options.

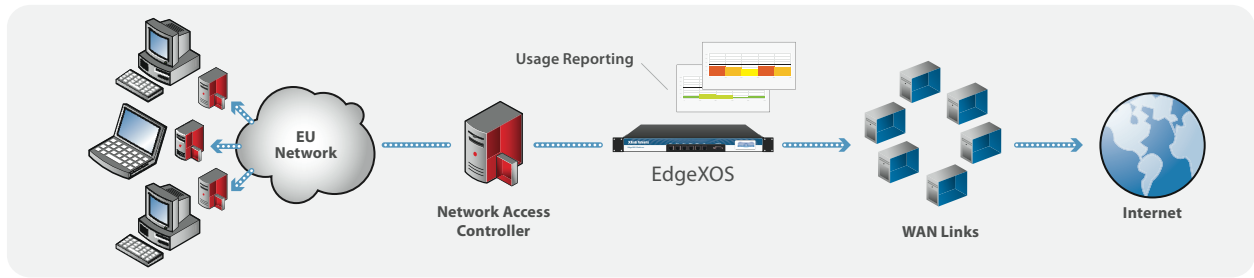
The multitenant industry is broken down in to three separate categories, each of which requires 24/7 fast and reliable Internet connectivity:

- Shared Office Building/Park Complex: Property management organizations which administer office buildings have found that they can offer Internet services to their tenants; however these customers require fast and reliable access to the Internet. The EdgeXOS is able to bond broadband link in order to accelerate network connectivity.
- Apartment Complex: Renters require access to the Internet for both business and entertainment purposes. However when small groups of renters use up large amounts of bandwidth it affects everyone else. The EdgeXOS is able to mitigate this using our dynamic bandwidth management technology which prevents "bandwidth hogs".
- College Dormitories: Students require fast and reliable access for both class work and social media. However as the demand for more bandwidth continues to accelerate administrators require a solution which is scalable and can grow with demand. The EdgeXOS appliance provides a simple method to add bandwidth on demand through additional broadband links.

The common theme for each type of end-user is the requirement for quick and available network connectivity, specifically to the Internet and cloud-based services. Internet access has become a core requirement for everyone, this requires an infrastructure which is capable of providing fast and reliable connectivity.



This diagram demonstrates the typical installation and placement of the EdgeXOS platform within a multitenant network. Installation is seamless and transparent and compatible with existing network infrastructure.



ACCELERATING INTERNET CONNECTIVITY

The EdgeXOS platform is unique in its ability to bond and accelerate multiple Internet connections. This capability provides our multitenant customers with the ability to combine two or more inexpensive broadband Internet connections to provide faster, more reliable, Internet connectivity to their customers. The EdgeXOS platform is also scalable, so as the needs of a particular property increase, simply connect additional broadband connections.

The bonding and acceleration capability is unique in that you can take a 3Mbps DSL connection and combine it with a 5Mbps cable connection in order to obtain 8Mbps download through for your guests. No other solution on the market has the ability to combine broadband links in this manner.

ENSURING 24/7 ACCESS TO CRITICAL RESOURCES

The EdgeXOS platform enables hospitality properties to achieve full Internet redundancy through the use of two or more Internet connections. If one connection fails, the EdgeXOS platform will automatically re-route all traffic across the remaining active connections. Once the failed connection becomes available traffic will automatically be added back in to the available paths for routing traffic.

Beyond simple failover and redundancy, the EdgeXOS also incorporate several unique capabilities in order to ensure that heavy network utilization does not cause what a guest might also interrupt as a network outage, even though the actual Internet connectivity may still be working fine.

A common problem for many properties is an event where a small group of users ends up consuming a large amount of the available Internet bandwidth. In these cases other guest connectivity slows dramatically. In order to prevent this from occurring the EdgeXOS platform implements safeguards in the form of our Dynamic Bandwidth Management (DBM) function which actually throttles network users which are taking up more than their fair share of the bandwidth. This service guarantees an even distribution of bandwidth across all network users, thus preventing perceived outages by end-users who would otherwise have poor connectivity due to a few heavy users.

FULLY COMPATIBLE WITH EXISTING INFRASTRUTURE / NOMADIX PARTNER

The EdgeXOS platform can be transparently inserted in to any network environment and is highly flexible in terms of its deployment options. When in transparently dropped in to a network it essentially bridges network traffic between the LAN and WAN connections and only a single management IP is required. Additionally, the EdgeXOS platforms work very well with existing network access controller devices like Nomadix.

GENERATE NEW REVENUE THROUGH BANDWIDTH ALLOCATION

The EdgeXOS platform also enables properties to turn Internet access in to a profit center. By utilizing XRoads' bandwidth management functionality end-users can be asked which bandwidth option they wish to use or can be hard set based on a determined preference. Then the EdgeXOS appliance will automatically place that user in to the appropriate bandwidth group so that they receive the bandwidth they requested. This enables property operators to offer both free and billable bandwidth rates based on end-users preferences.

The recommended method for allocating bandwidth to end-users is to use our EdgeXOS appliance in conjunction with our Cradlepoint partners EU (NAT) devices. These devices provide an inexpensive method to control the access point for each office/apartment/dorm room and each can provide LAN and wifi connectivity for each end-user.

LOWER OPERATING COSTS

The EdgeXOS platform lowers the total cost of Internet connectivity by enabling multitenant operators to utilize inexpensive broadband connections over high cost T1, DS3 and MetroEthernet connections. Along with the additional redundancy provided by bonding multiple broadband connections, the EdgeXOS appliance significantly improves performance for end-users while at the same time lowers monthly Internet access charges by leveraging several low cost broadband links. Each EdgeXOS appliance is scalable which means that it can easily expand as the end-users needs grow.

XROADS NETWORKS HAS WORKED WITHIN THE MULTITENANT INDUSTRY FOR A NUMBER OF YEARS NOW TO DEVELOP INTEGRATED SOLUTIONS TO OPTIMIZE THE END-USER EXPERIENCE AND IMPROVE ROI FOR EACH PROPERTY.

ADMINISTRATION ACCESS

The EdgeXOS appliance incorporates a complete network security gateway which can create a firewall between the administrative network and the rest of network. The EdgeXOS also incorporates DMZ connectivity options and support for VLAN networking.

WIFI ACCESS

The EdgeXOS appliance works with all forms of wifi equipment and because we do not incorporate wifi within the EdgeXOS platform directly, we never have conflicts with other external wifi solutions. The EdgeXOS appliance is 100% compatible with and can accelerate traffic from all wifi solution vendors.

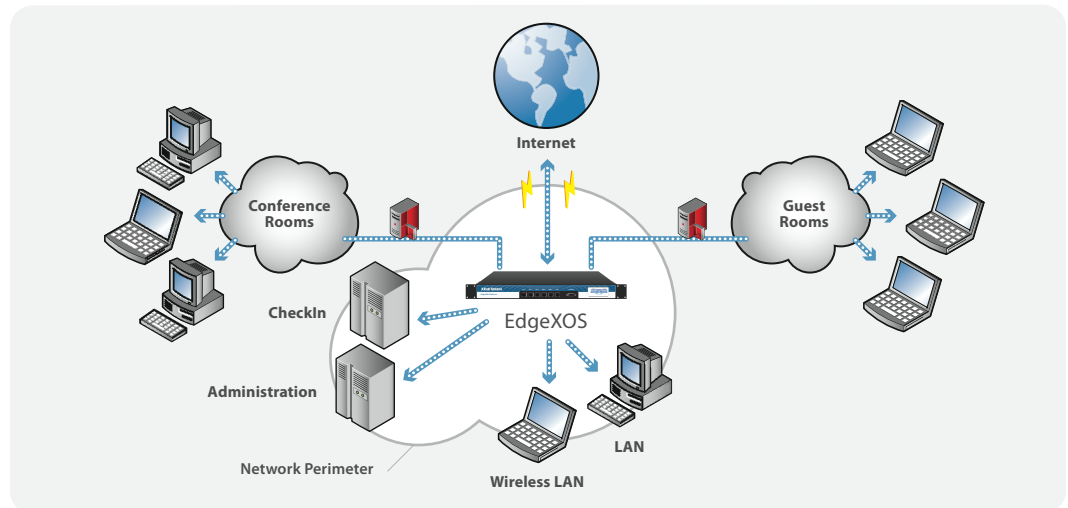
Bandwidth distribution options:

Hard Set – Where an office is provided a fixed bandwidth amount, i.e. 1, 3, 5, 10, 100Mbps.

Priority – Where each office receives full access to bandwidth, but in the event of high utilization some offices receive priority queuing.

Flex – Where each office receives full access to all available bandwidth, but in the event of high utilization specific shaping rules apply which limit each office to their pre-defined limits based on the bandwidth package purchased.

These same options could also be applied to both apartment buildings and college dormitories.



APARTMENTS

The EdgeXOS appliance will deliver fast and reliable connectivity to end-users and give property managers the ability to segment bandwidth and ensure that no individual user or group of users is able to slow down the rest of the network. The unique Bandwidth Bonding and Dynamic Bandwidth Management capabilities of the EdgeXOS platform ensures a positive experience for end-users.

OFFICES

The EdgeXOS appliance can be configured to provide guaranteed levels of bandwidth for an office. Managers can set bandwidth levels based on the purchased speed for each office, i.e. Office A gets 1Mbps, while Office B gets 10Mbps. Optionally management can configure the bandwidth to allow for burst traffic until utilization reaches 'x' amount (for example 70-80%), then apply bandwidth restrictions based on the pre-determined bandwidth package selected by the end-user.



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