

UX2000



## NET UX Series

### UX2000 All-In-One Branch Office Networking Appliance

- Multiservice Router and VoIP gateway with Branch office Survivability
- Session Border Controller with NAT function, Network topology hiding, and Security
- Single appliance for running concurrent applications
- Continued branch office operations through WAN failure

## OVERVIEW

NET's Unified Exchange 2000 Series (UX2000) is a modular multi-function, single box appliance that delivers cost savings, reduces management complexity, and increases reliability for branch office networking and communications needs. The core features include Layer 2 and Layer 3 based routing protocols, GigE switching, T1/E1, WAN and LAN ports, Firewall with traffic inspection, Session Border Controller (SBC), media processing through advanced high-density Digital Signal Processors (DSPs), PSTN gateway, and an Application Solutions Module (ASM) for hosting third party applications.

The UX2000 is fully managed using a Web-based management interface with remote management capability. It is an ideal solution for remote sites/branch offices that have minimal IT support. The modular architecture allows deployment flexibility for different size locations and can easily scale up for future expansion. It can be deployed for a variety of applications, for example next-generation VoIP and Unified Communications; SIP Trunking; Wideband (HD Voice) transcoding; Multi-service Business Gateway (MSBG); and for multi-service applications like Pseudo-wire.

## UNIFIED COMMUNICATIONS AND VOICE-GATEWAY SERVICES

The UX2000 appliance offers extraordinary service integration of Unified communications to any size branch office. Businesses enjoy the benefit of deploying a single device for all networking and communication needs and save both capital and operational expenses.

By supporting a variety of protocols, advanced security, codec transcoding, and data services, the UX2000 enables a distributed enterprise to cost-effectively implement Unified communications across the enterprise.

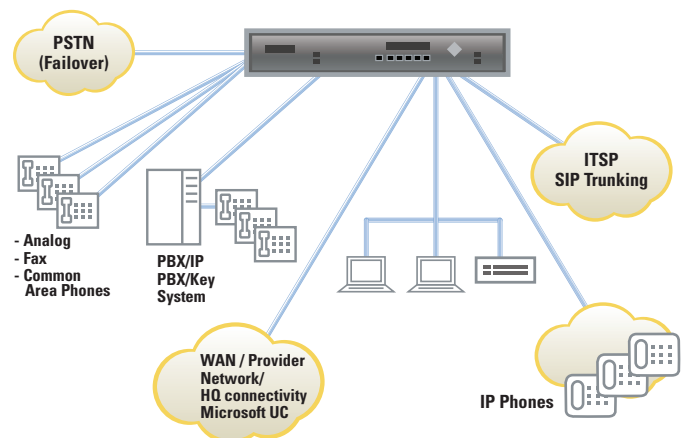
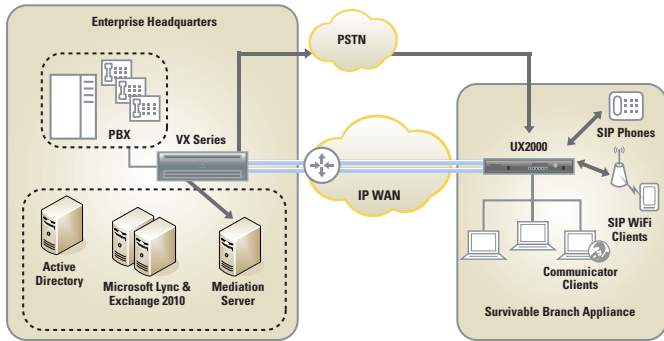


Figure 1: Branch Office Demarcation device with Microsoft SBA, Routing & Switching, and Session Border Controller

# COMMON APPLICATION SCENARIOS

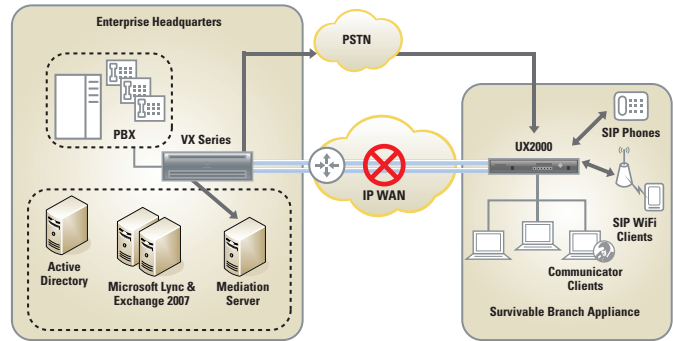
## ENTERPRISE BRANCH OFFICE CONNECTIVITY AND SURVIVABILITY FOR MICROSOFT LYNC SERVER 2010

Normal Mode:



In the normal mode, the UX2000 appliance in the branch office is connected to the Microsoft Lync Server 2010 in the datacenter over a WAN network. IP phones are registered with the UX2000. Microsoft Office Communicator clients are registered with the integrated Microsoft Survivable Branch Appliance.

WAN Outage:



The UX2000 Survivable Branch Appliance (SBA) provides basic voice services to branch office users during a WAN outage. During WAN outage, the SBA appliance manages the intra-branch voice calls and IM sessions as well as inter-branch communications and voice mail retrieval over PSTN.

### SPECIFICATIONS

Physical PSTN Interfaces	
Digital Modules	• 8 T1/E1 spans per module
Analog Modules	
Networking Interfaces	
WAN and LAN Interfaces	<ul style="list-style-type: none"> <li>• 4 10/100/1000 BASE-T</li> <li>• Auto-MDIX</li> <li>• 1 10/100/1000 Base-T management port</li> </ul>
Applications Solutions Module	
CPU	Intel® Core™ i7 @2.53GHz
Memory	4 GB DDR3 with ECC
Storage	160 GB SATA HDD Blade Server
Software Features	
Any-to-Any Switching	<ul style="list-style-type: none"> <li>• SIP (UDP, TCP, TLS)</li> <li>• PRI, Q.SIG</li> <li>• Media Encryption (TLS, SRTP)</li> </ul>
Call Routing	<ul style="list-style-type: none"> <li>• Active Directory/LDAP based call routing</li> <li>• Routing based on quality metrics</li> <li>• Least cost routing                             <ul style="list-style-type: none"> <li>• Event based Action Set</li> </ul> </li> </ul>
Supplementary Services	<ul style="list-style-type: none"> <li>• Call hold</li> <li>• Call Transfer – Blind and Assisted</li> <li>• Call Forward</li> </ul>
Signaling	
TDM Signaling	ISDN: AT&T 4ESS, AT&T 5ESS, Nortel DMS-100, Euro ISDN (ETSI 300-102), Q.SIG, NTT InsNet (Japan), and ANSI National ISDN-2 (NI-2)

Voice Features	
Codecs	<ul style="list-style-type: none"> <li>• G.711 (64 kbps – A-law, Mu-law)</li> <li>• G.723.1 (5.3 kbps, 6.3 kbps)</li> <li>• G.729 A&amp;B (8 kbps)</li> </ul>
Call Type Detection	Automatic call type detection – voice, fax, or modem
Call Progress Tones	Generate call progress tones – ring-back
Advanced voice quality features	<ul style="list-style-type: none"> <li>• G.168 Echo Cancellation up to 128 ms tail length</li> <li>• Voice Activity Detection (VAD)</li> <li>• Comfort Noise Generation</li> </ul>
Fax over IP	T.38 with CNG tone detection
Voice Quality Monitoring	Jitter, Delay, and Packet Loss
Session Border Controller	
Security	<ul style="list-style-type: none"> <li>• Encryption (TLS, SRTP)</li> <li>• Built-in VoIP firewall</li> <li>• Denial of Service mitigation</li> <li>• DNS, CLID, call type pre-authentication</li> <li>• Topology Hiding</li> <li>• Call Admission Control</li> </ul>
Branch Survivability	
Management	
QA&M	HTTP, HTTPS Syslog SNMP v2
Authentication	MD5 digest authentication Multilevel Access Control



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