



**UNIFIED
COMMUNICATIONS
STRATEGIES**



Solution Review:

Network Equipment Technologies UX2000

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Introduction

The deployment of a Unified Communications (UC) system offers the benefits of multi-media, person-centric communications that will facilitate a richer and more rapid exchange of ideas and will speed decision making within your organization. However, a UC system cannot be an island – it must integrate with the wider world outside the UC network. Even within the enterprise, there will be colleagues who are not UC-enabled, perhaps because their responsibilities are not conducive to a desk-based PC-centric work-style; or because they fall into a later deployment phase. Also, in many enterprises, up to 80% of staff work outside the corporate or regional headquarters. This leaves the IT Architect with the question of how to **reliably, securely** and **economically** integrate the UC system with a disparate range of telephony systems. Key challenges will include:

- Integrating with the PSTN and SIP Trunks;
- Integrating with an array of legacy PBX systems;
- Integrating pre-existing telephony with the underlying UC platform to provide consistent routing;
- Deploying UC in the remote Branch office that will continue to operate in an IP outage;
- Protecting the enterprise network from intrusion and attack;

- Enabling a phased migration from legacy telephony to UC;
- Managing the impact of wide-band codecs on networks that were not designed for UC;
- Facilitating the re-use of costly legacy phones in the UC environment, as well as enabling FAX terminals;
- Facilitating remote management of data center or branch office systems;
- Finding a modular chassis that will scale economically up to 1,000 users;
- Replacing costly voice mail systems with Microsoft Exchange 2010.

If some or all of those issues are on your list of concerns, then you should start your evaluation of UC gateways with the [independently verified](#) and [partner certified](#) **Network Equipment Technologies UX2000**.

The first 'UC era' telephony integration platform

Most IP-Telephony Gateways are based on generations of architecture that were designed before production UC systems became available, so they are based on outdated assumptions of the requirements of 'IP telephony'. Starting in early 2006, Network Equipment Technologies (NET) provided the gateways for the pre-production versions of Microsoft's Office Communications Server (OCS) 2007 being deployed in Microsoft's own corporate network. Working directly with Microsoft's IT team as well as the OCS software engineers yielded invaluable and unique insights into the challenges of a global deployment of a UC system for a large enterprise. The NET engineers took that experience and started designing a new gateway architecture on a blank sheet of paper: the output of that work is the **UX platform**. A cornerstone of this approach is the ability to remotely monitor and manage a vast array of gateways via a web interface. **Modularity, scalability, security, phased migration, ease of deployment and management** are features that are baked into the UX architecture.

'Right-sized' telephony integration

The modular nature of the **UX platform** architecture enables the IT Architect to specify the configuration of each appliance according to the requirements of the target deployment; furthermore, certain features can be upgraded (or downgraded). The first instantiation of the UX platform is the **UX2000**. Major features of the **UX2000** include:

- 2-16 T1/E1 ports, supporting 48-480 concurrent IP:TDM calls;
- 8-48¹ analog ports to enable legacy phone integration;
- Up to 6 DSPs to facilitate scalable transcoding for up to 600 concurrent calls;
- A standards-based server module that can run Windows Server based applications, including Microsoft's Lync SBA²;
- Extensive redundancy, including power supply, IP connection and SIP Trunk provider connection – even extending to call failover from one entire gateway to another.

¹ Available later in 2011 when the 24 port FXS cards become available

² Note that the Windows Server platform is a locked down deployment and that patching and upgrades can be centrally controlled by the customer, a partner or by NET directly.

A Survivable Branch Appliance for every branch office

One disadvantage of centralizing the UC communications infrastructure is the risk of losing IP connectivity from a branch office to the data center, resulting in a communications outage, even from one desk to the next in the same locality. Note that a 'branch office' in this context is any office that is not collocated with the data center. For most modern enterprises, this holds true for every facility, from the small branch office to corporate headquarters.

For those who are deploying a UX alongside Microsoft Lync, the IP outage risk is mitigated by the [Survivable Branch Appliance](#) (SBA) feature. Although this technology is supported by a number of Microsoft partners, the **NET UX platform** is designed from the ground up to provide SBA deployment appliances that easily scale up and scale down.

Security at every network edge

The lack of SIP Trunking standards (despite the best efforts of the [SIP Forum](#)) means that you will almost certainly need to deploy a SIP-SIP Gateway in order to be able to connect to your PSTN provider's SIP Trunking service. The well understood threats from the public IP network must be managed by a Session Border Controller (SBC): these devices as stand-alone systems are expensive for a data center deployment, therefore branch office deployments are out of the question. The cost of an SBC on top of that of a SIP Gateway negates the cost benefits of SIP Trunking in a branch office. However, the UX range of Gateways provides an on-board SBC that will economically protect every network edge, including within small branch offices. In addition to network edge (WAN) security, **UX2000** provides secure LAN connections for voice traffic by enabling encrypted SIP signaling (via TLS) and voice media channels (via SRTP).

Having the confidence to connect every remote branch office to local telephony via the public internet unleashes the full economic value of UC systems in by-passing long-distance and international toll charges as well as eliminating PRI trunk connectivity fees.

A phased migration for users, systems and devices

Faced with a complex migration plan that is dictated by budgetary restrictions, risk management strategies as well as the individual requirements of every user, department and job function; IT Architects must address the realities of phased migration. For example:

- The CFO wants to keep 'the old phones' to save money;
- The Sales VP wants his group (world-wide) to stay on PBX telephony until the UC system is 'tried and tested';
- The CIO wants to roll out UC on a schedule of 1,000 users per month to stay within his financial and staffing budgets.

The **UX2000** allows the integration of the gamut of PBX telephony systems (including analog phones and FAX machines) and UC on a user-by-user basis in each location. For those who are deploying Microsoft Lync, there is even greater flexibility:

- The NET SmartSIP feature provides the ability to integrate WiFi, DECT, SIP phones from various vendors with Lync – this includes visibility of the device call-state on the Lync presence server;

- The **UX2000** will allow OCS 2007 R2 to work side-by-side with Lync, providing a sound migration strategy across Microsoft UC system versions.

As blocks of users eventually migrate from legacy telephony to UC, the UX chassis can be reconfigured by adding capacity to accommodate the increased usage of UC. The flexibility and economy provided by the **UX2000** architecture is unmatched.

Enhanced integration with Microsoft® Lync™

In addition to the Microsoft Lync integration features already mentioned, the **UX2000** architecture includes ground-breaking routing innovations that provide unparalleled integration with the Lync infrastructure. For example, the **UX2000** can:

- Simultaneously ring as many as 8 different UC and telephony endpoints, as defined in the Active Directory user preferences;
 - This includes the Polycom Spectralink WiFi phone series that was [just verified](#) for integration with Lync via the **UX2000** gateway.
- Reduce LAN bandwidth, media latency and CPU cycles for PSTN calls by negotiating ‘media bypass’ with a Lync endpoint that is within the corporate network;
- Redirect an inbound call to a user that is not logged-in to Lync to another number (e.g. a mobile phone) based on the user preferences stored in Active Directory.

As stated earlier, the NET engineers have had unprecedented access to the evolution, development and early deployments of Microsoft OCS and Lync for over 5 years: that experience and those insights are embedded in **UX2000**.

“It’s the economy, stupid...”

Quite apart from the functional benefits of UC, many enterprises are deploying UC for the economies that can be achieved over the myriad of PBX systems that it will ultimately replace. PBX systems must be locally-deployed and individually managed as their user directories and route tables are not integrated. Replacing one unmanageable architecture with another is not a career-enhancing option for an IT Architect in the UC era. As described above, **UX2000** features a sophisticated remote management and configuration interface as well as making use of user credentials and routing preferences directly from the UC system directories. The **UX2000** enables a centrally managed, yet physically distributed, coherent UC gateway architecture that scales up to 1,000 users per chassis and is the perfect complement to an economically disruptive UC system.

The bottom line:

Save yourself some time and enhance your career prospects by starting your UC gateway evaluation here:

<http://www.net.com/Product%20Literature/Solution%20Briefs/UX2000-MG-SB-1210.pdf>

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