

VX Technology Brief

Directory-Based Call Routing



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OVERVIEW

Dialing plans can become increasingly complex and unmanageable during voice system migrations. Typically, the existing PBX is used for call routing decisions during the introduction of VoIP and Unified Communications solutions. However, as more and more end-users are migrated to the new voice system, dialing plan management and PBX link capacity can be adversely impacted.

Directory-Based Call Routing feature will enable the VX Voice Exchange to make call routing decisions based on information stored in a customer's LDAP

or Microsoft Active Directory-Based enterprise directory server.

With this feature, the VX will be able to use enterprise directory field names and values in call routing logic and in calling name/calling number translation logic executed by the VX call routing engine. As an example, the Microsoft Active Directory "Line URI" field could be used to indicate that a user's call should be routed to Microsoft Office Communications Server. Another example would be the use of "Business Phone" number fields in a mixed PBX or IP/PBX environment containing both a Cisco Call Manager and an Avaya PBX. In this case, an administrator or telecom engineer could configure the VX to use the "Business Phone 1" field in Microsoft Active Directory to route calls to the Cisco environment and use the "Business Phone 2" field to route calls to the Avaya environment.

Note: Entering Phone Numbers in Active Directory

Entering Phone numbers in unstructured strings can lead to difficulties in programming routing decisions in VX. In order to standardize the phone numbers entered in AD, all phone numbers entered should be in E.164 format.

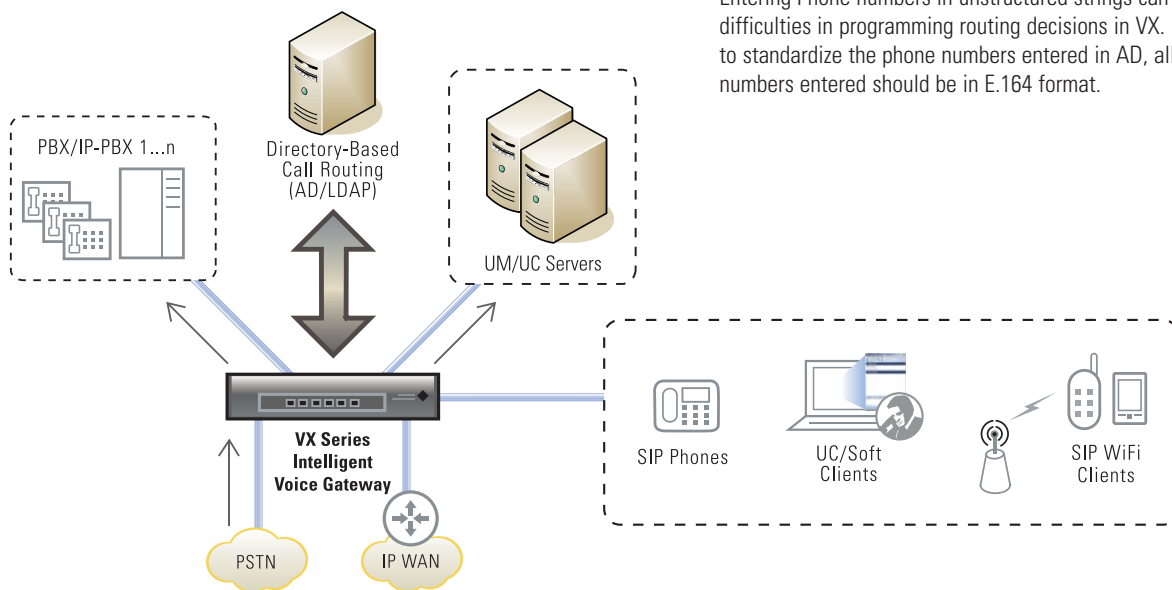


Figure 1: VX-enabled Migration: PBX to Unified Communications

All PSTN calls arrive at the VX. Since all OCS users have a "Line URI" configured in Microsoft Active Directory, the VX can check to see if the Line URI for the called number exists. If it does, the call will be routed to the OCS/UC server environment. If the "Line URI" does not exist, the call is routed to the PBX environment.

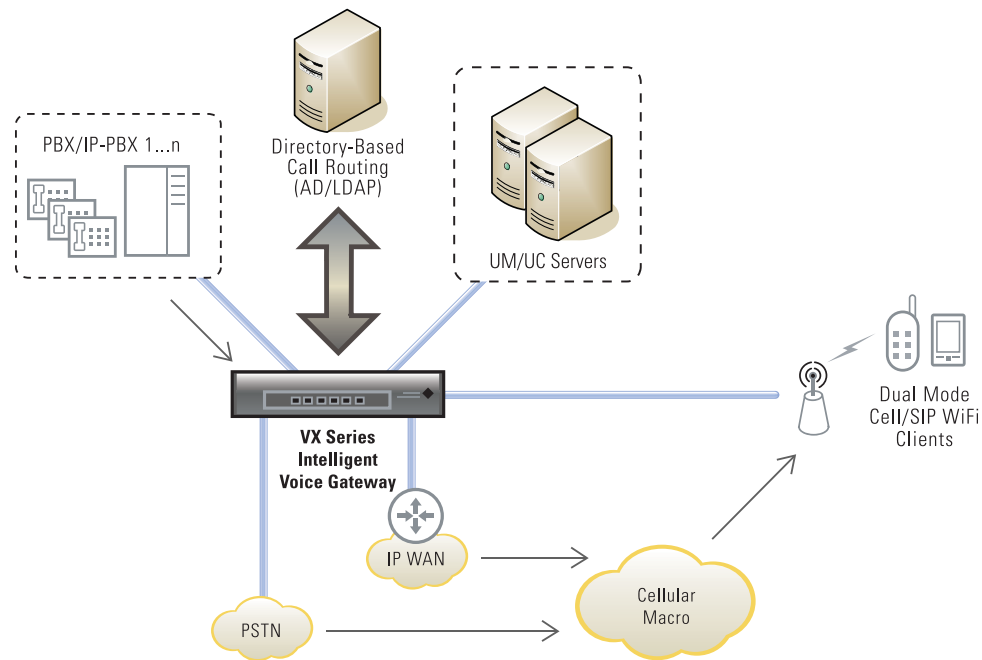


Figure 2: VX-enabled Enterprise Mobility (Fixed Mobile Convergence)

A dual mode SIP-Wi-Fi phone is used. The SIP-Wi-Fi phone registers directly with the VX when it is in range of the Wi-Fi access point. If a call is made to the user's office number when the device is registered, the VX will send the call directly over the SIP via the Wi-Fi to the phone.

By utilizing the VX's Directory-Based Call Routing, customers can implement a flexible call routing approach that will simplify the process of migrating to their new voice system. This feature is also designed to support calling party name or number translation to use in routing decisions or provide as display information to the called party. Common examples of the use of this capability are:

- a. A VX enterprise directory look-up could provide the calling party's name or other information, such as department name or extension number to the called party.
- b. A VX enterprise directory look-up could translate the displayed number of technical support representative who calls back a customer so that the published technical support number is displayed.

KEY DESIGN ELEMENTS

The VX's Directory-Based Call Routing is designed for flexibility, providing seamless interoperability between TDM, VoIP and Unified Communications systems while facilitating efficient migration to new voice systems. The following list contains several key design elements for this feature:

- This feature will support the use of any LDAP or Microsoft Active Directory field in VX call routing logic
- No enterprise directory schema changes will be required.
- Optimized directory information caching will be incorporated to enable system-independent call routing for performance and reliability

- VXScript will also support the use of enterprise directory look ups for call routing and processing scripts.

In Figure 1, all PSTN calls arrive at the VX. Since all OCS users have a "Line URI" configured in Microsoft Active Directory, the VX can check to see if the Line URI for the called number exists. If it does, the call will be routed to the OCS/UC server environment. If the "Line URI" does not exist, the call is routed to the PBX environment.

In Figure 2, a dual mode SIP-Wi-Fi phone is used. The SIP-Wi-Fi phone registers directly with the VX when it is in range of the Wi-Fi access point. If a call is made to the user's office number when the device is registered, the VX will send the call directly over the SIP via the Wi-Fi to the phone.

If the phone is not registered in the VX registration table, the VX can call routing rule to match the user's office number and route the call to the user's mobile number. With this routing configuration any user that has an office and mobile number listed in the enterprise directory can be reached on their dual-mode phone, whether or not they are registered on the enterprise WiFi network. An additional directory field could be used to specify the user's preference for this behavior. The VX routing engine can process multiple match criteria to support this scenario.



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