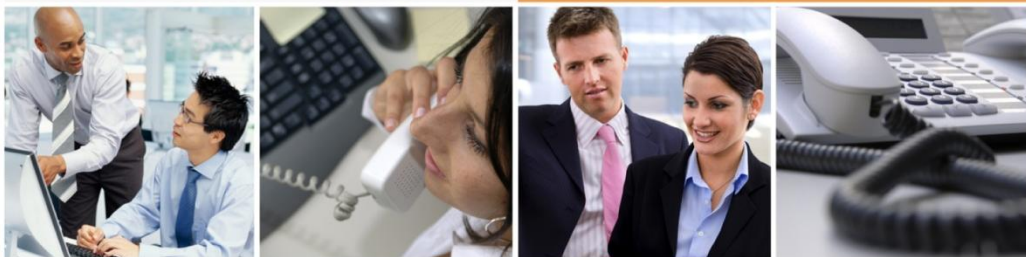


## XO SIP Service

Customer Configuration Guide for  
Cisco CME version 7.1 with XO SIP



## 1. Overview

### About This Document

This document describes interoperability between XO SIP Package 1 (G.711) and Package 2 (G.729a) and the Cisco CME version 7.1 IP PBX. In the test environment, the Cisco 2821 ISR was connected directly to the XO network, but it will be connected to an XO-provided demarcation device in the customer's production environment. XO lab testing was conducted using CLI as Cisco Configuration Professional (CCP) tool v2.0 does not support SIP trunk configuration.

### Known Issues

While XO certifies interoperability between XO SIP service and the IP PBX as outlined herein, the following known issues were identified during Interoperability testing. The customer should be aware that certain features and functions may not be fully supportable. In some cases, special configurations and/or PBX software patches may be available from the vendor.

- 1) Call set-up time increases for outbound calls during times of high data usage when using the Cisco 2821 ISR in a Voice and Data integrated configuration.  
*Workaround:* If heavy data utilization is anticipated, customers should use a two-device dedicated configuration where the CME processes only voice and is uplinked to one of the Cisco 2811 ISR Fast Ethernet ports. Data is connected to the second Cisco 2811 ISR Fast Ethernet port. The Cisco 2811 ISR in this configuration is used only as a router. In this configuration voice call setup time is unaffected by packet size or data rate.
- 2) Cisco Configuration Professional (CCP) tool v2.0 does not support SIP trunk configuration and is therefore not recommended for configuring CME for use with XO SIP. CLI is recommended instead.
- 3) Call transfers from PSTN-to-PSTN using blind transfer method fail. As an alternative, transferor may use consultative transfer and hang up after dialing the target's number, but before that number is answered. However this requires the Cisco CME to be set up to support consultative transfer for all calls. Blind and consultative transfer cannot be used in combination so that blind transfer is used for some calls and consultative transfer is used for other calls.
- 4) Inbound modem calls from the PSTN and outbound modem calls to the PSTN fail

### Registration Method

Dynamic registration is utilized between the Cisco CME and the XO call agent.

### XO SIP Service Packages Supported

| Pkg | Codec                             | DTMF    | Fax                      |
|-----|-----------------------------------|---------|--------------------------|
| 1   | G.711                             | RFC2833 | T.38; G.711 pass-through |
| 2   | G.729a preferred, G.711 secondary | RFC2833 | T.38; G.711 pass-through |

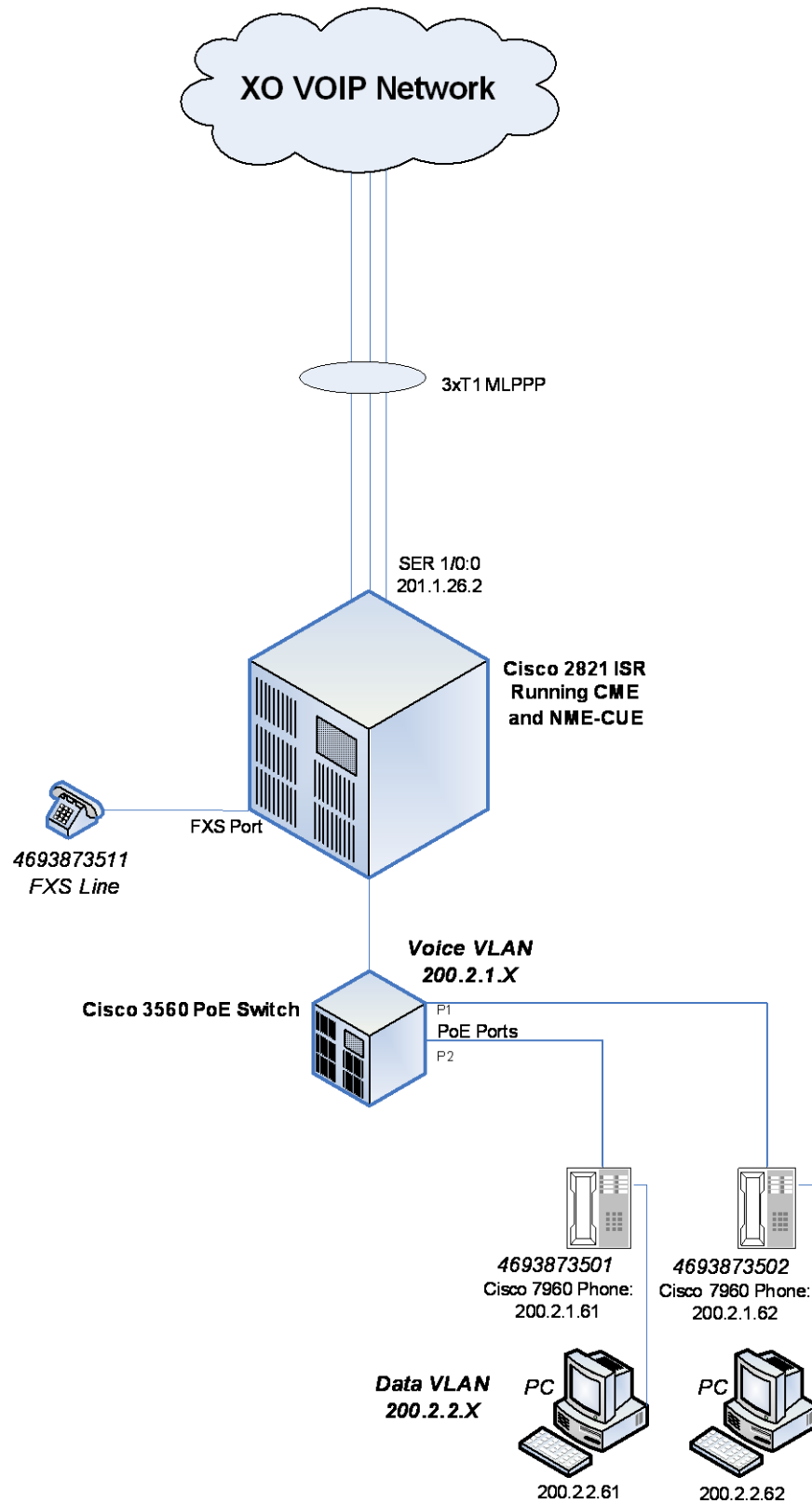
## **2. Testing of Cisco CME Version 7.1**

### **2.1. Software and Hardware Versions Tested**

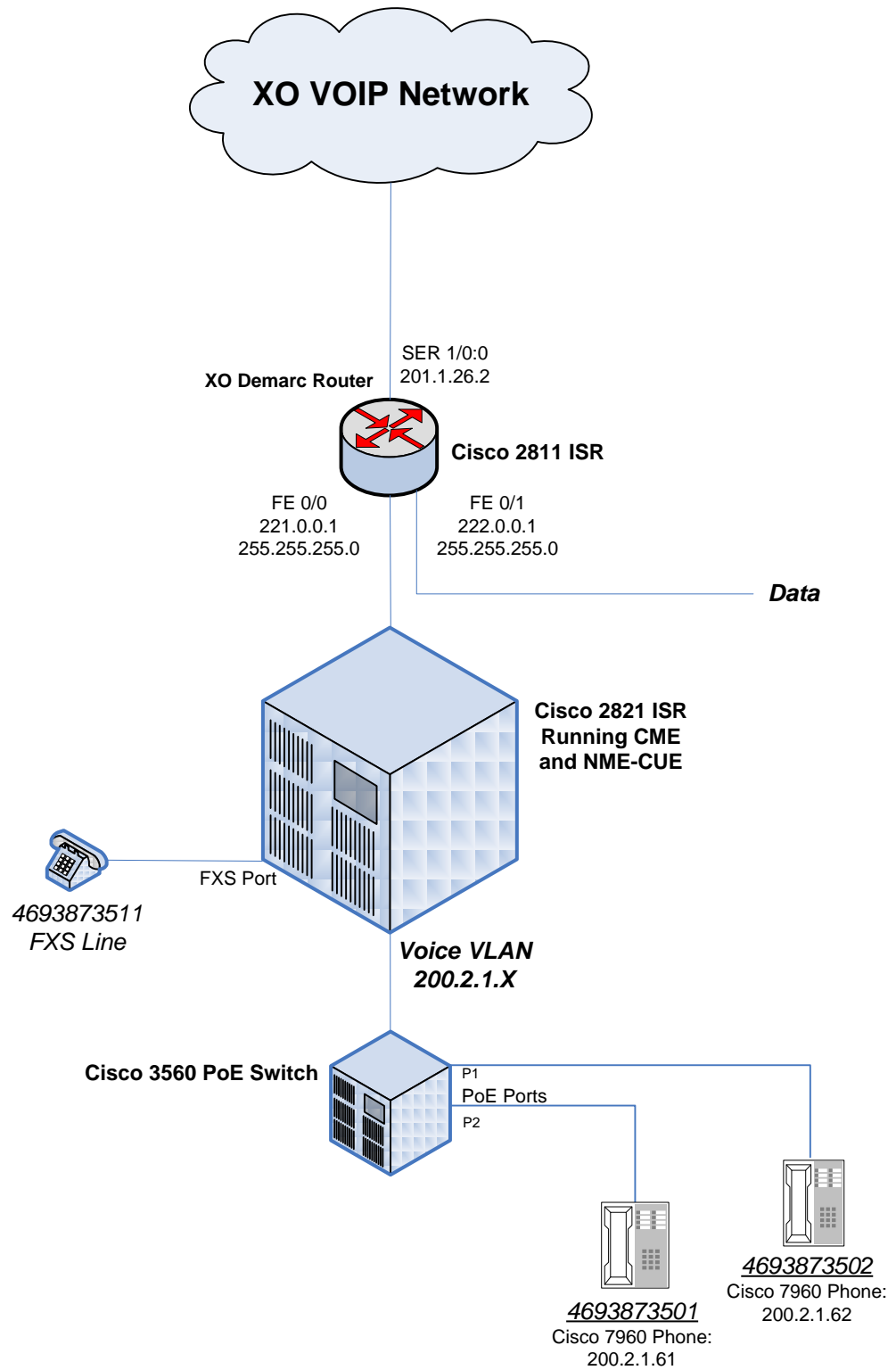
1. Cisco 2821 ISR running CME and CUE
  - a. Cisco 2821 IOS Software Version: c2800nm-advipservicesk9-mz.124-24.T2.bin
  - b. CME Software Version: 7.1
  - c. CUE Software Version: 7.1.2 running on NME-CUE
2. Cisco 2811 ISR Used Only as a Router
  - a. c2800nm-ipbasek9-mz.124-4.T7.bin
3. Cisco 3560 PoE
  - a. c3560-ipbase-mz.122-25.SEE2.bin
4. Cisco 7960 G Phone
  - a. Software Version: P00308000500 equivalent to v8.0(5.0)
5. Cisco Configuration Professional (CCP) 2.0

## 2.2. Lab Test Configurations

Integrated Configuration - where CME is processing voice and data on the same device:



Dedicated Configuration - recommended if heavy data utilization is anticipated. Customers should this two-device dedicated configuration where the CME processes only voice and is uplinked to one of the Cisco 2811 ISR Fast Ethernet ports. Data is connected to the second Cisco 2811 ISR Fast Ethernet port. The Cisco 2811 ISR in this configuration is used only as a router:



### 3. Cisco CME version 7.1 Configuration

**In This Section** XO performed the minimum amount of configuration required to achieve successful completion of test calls over XO SIP. It is beyond the scope of this document and the testing efforts to show a complete configuration, therefore configurations are provided only for the details of the SIP trunk configuration that are relevant to interfacing with XO's SIP product.

#### Cisco 2821 ISR CME Integrated Configuration

This section contains the Cisco 2821 ISR integrated configuration where the device is used as an IP PBX and a router.

##### *Cisco 2821 ISR CME Service Package 1 Configuration*



Cisco2821IsrSp1.rtf

##### *Cisco 2821 ISR CME Service Package 2 Configuration*



Cisco2821IsrSp2.rtf

#### Cisco 2821 NME-CUE Module Configuration

This section contains the configuration of the NME-CUE which hosts the voicemail and auto attendant functions.



Cisco2821-Nme-Cue  
Cfg.rtf

#### Cisco 2811 ISR Configuration

This section contains the Cisco 2811 ISR configuration that was tested using the "Two Device" dedicated solution. In this configuration the Cisco 2811 ISR is used only as a router.



Cisco2811UsedOnlyA  
sRouter.doc

#### Cisco 3560 PoE Configurations

This section contains the Cisco 3560 PoE configurations used during testing.

##### *Cisco 3560PoE Integrated Configuration*

This section contains the Cisco 3560 PoE switch configuration used for the integrated configuration which supports the voice and data VLANs.



Cisco3560-PoE-Integ  
rated-Cfg.rtf

### *Cisco 3560 PoE Dedicated Configuration*

This section contains the Cisco 3560 PoE switch configuration used for the dedicated configuration using the Cisco 2811 ISR. Only the voice VLAN is supported. PCs should not be connected to the PC 10/100 port on the Cisco 7960 phone. Data will connect to the second Ethernet port on the Cisco 2811 ISR.



Cisco3560-PoE-Dedicated-Cfg.doc