

PBX services in SIP environment

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CCIE #5496

Agenda

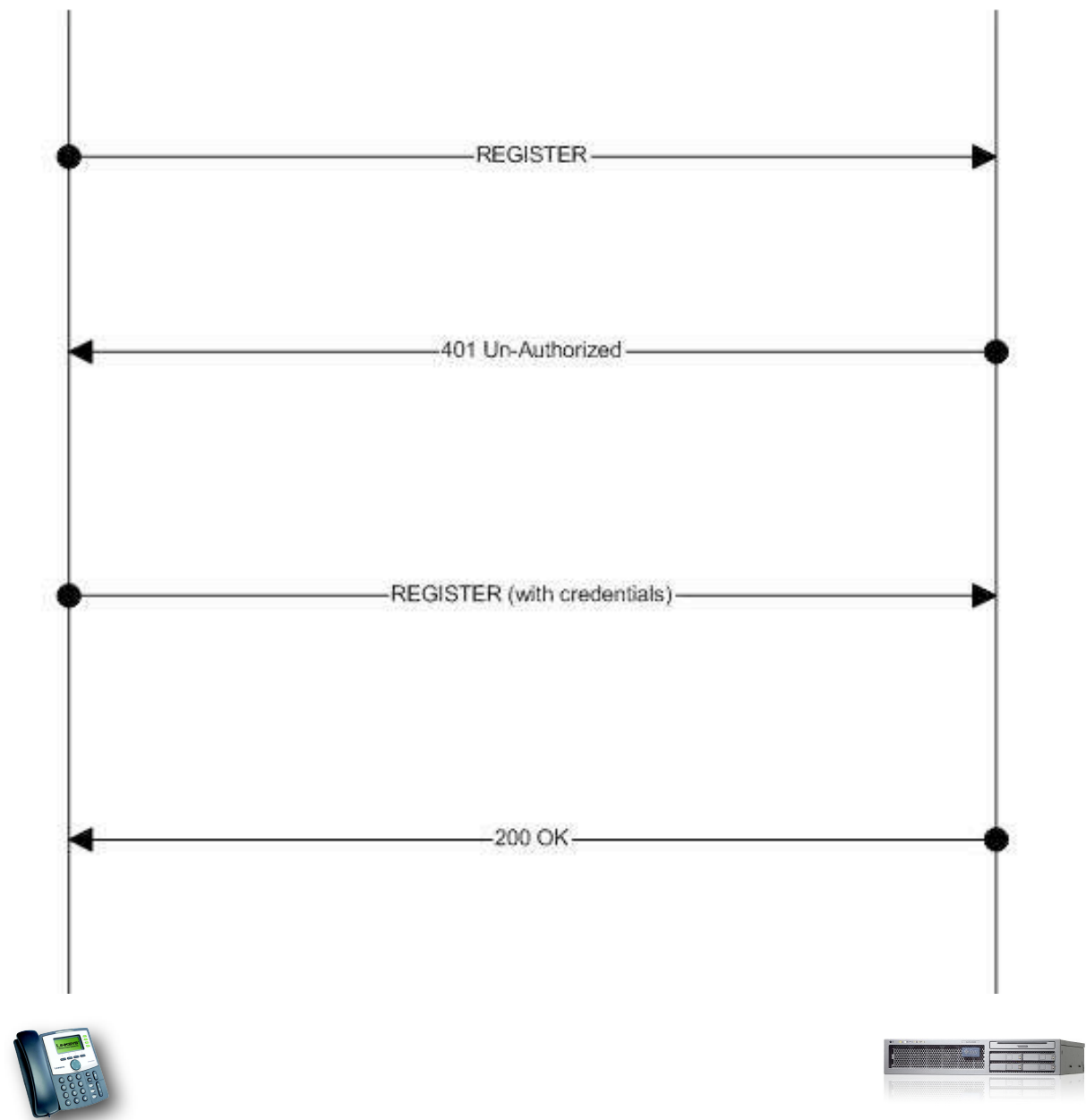
- PBX services
- What is SIP-B?
- DEVERTO solution
- Demo

PBX services

- Establishing connections between the telephone sets of two users
- Providing information for accounting purposes
- PBXs offer many other calling features and capabilities!

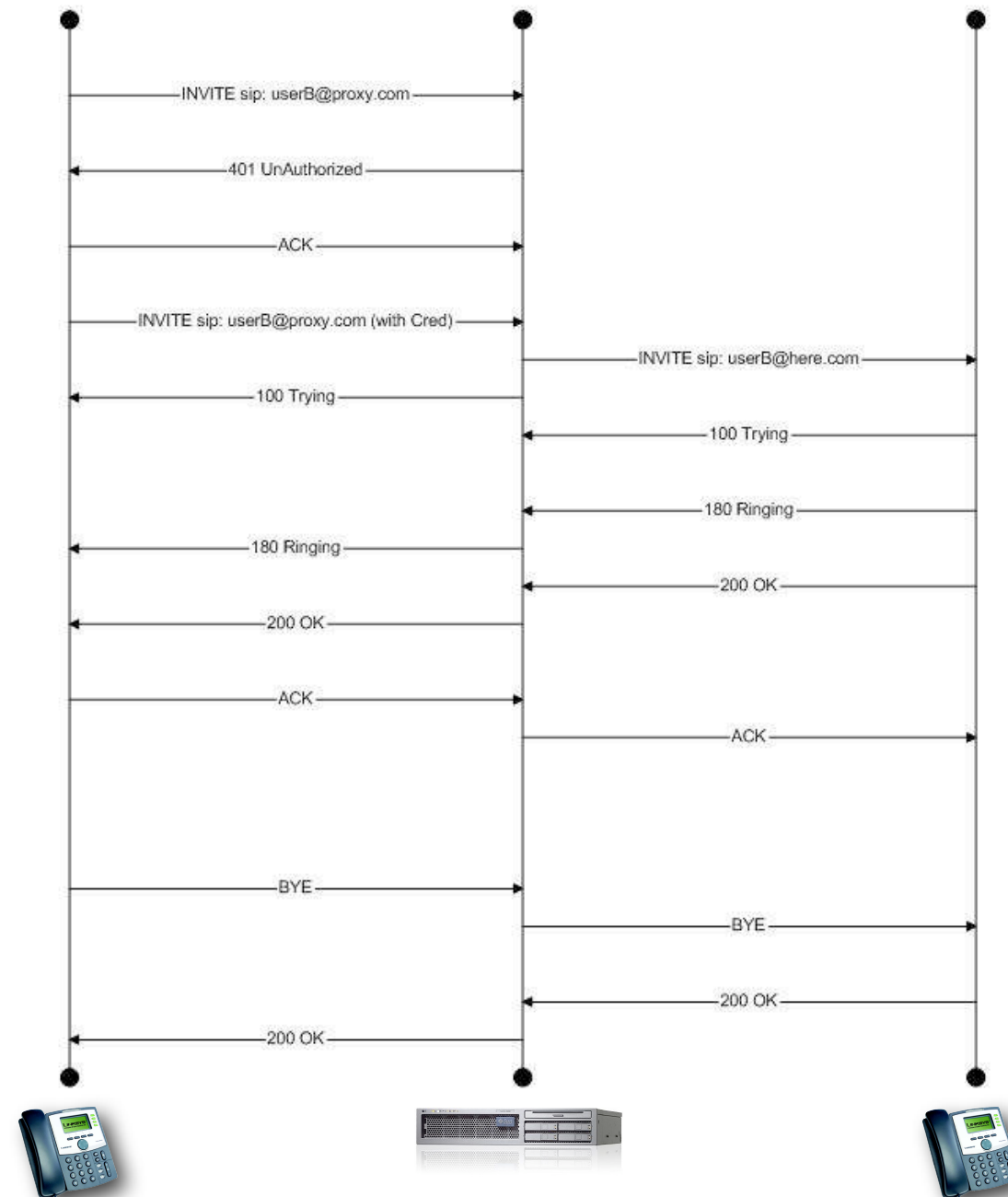
SIP Registration

- Endpoint registration
 - Where is the user?
- Authorization
 - Who is the user?



Normal SIP call

- **INVITE**
 - Call setup
- **BYE**
 - Call release



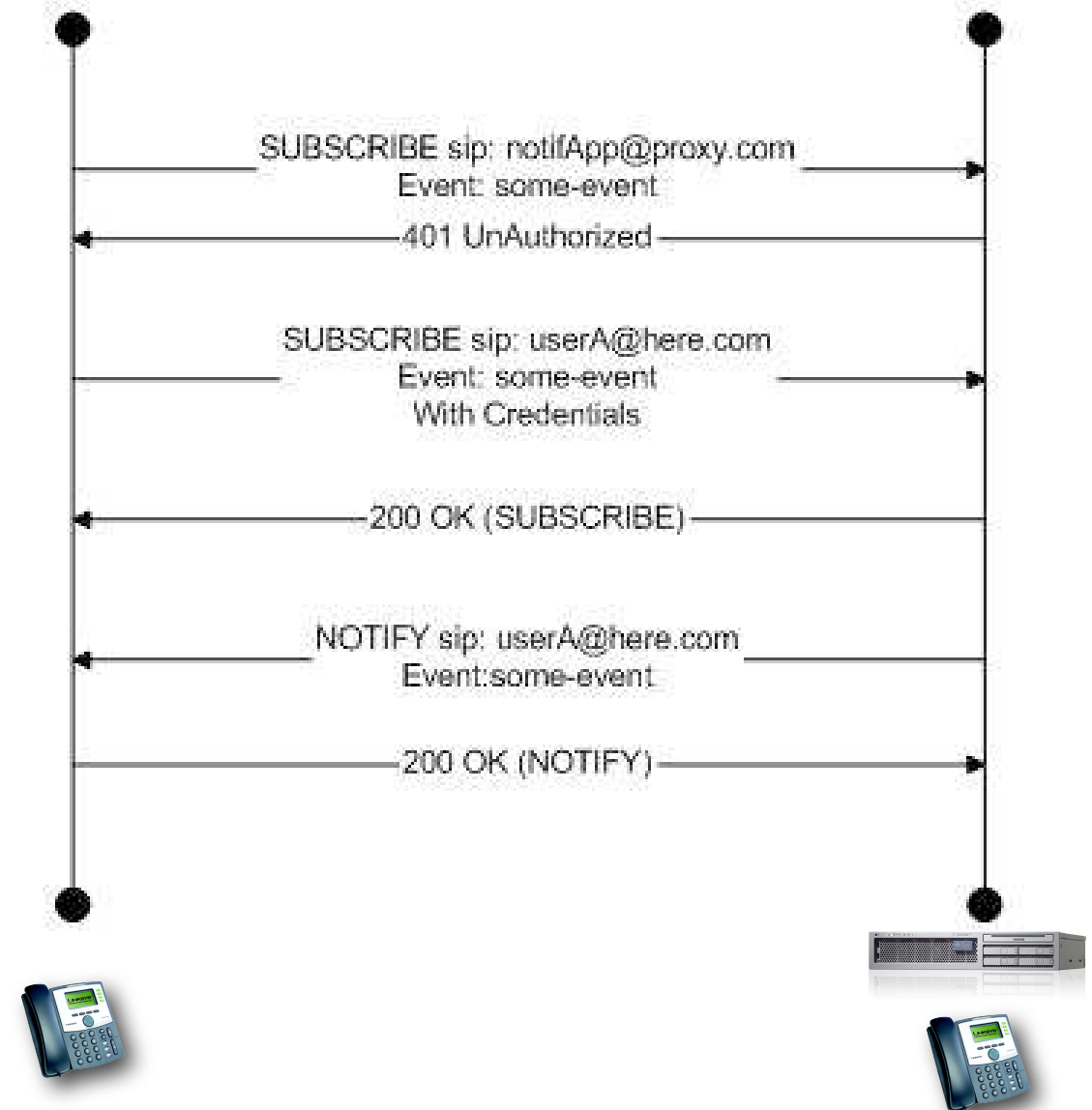
Subscribe/Notify

- **SUBSCRIBE**

Please inform me!

- **NOTIFY**

Something happened!



SIP for Business (SIP-B)

- **Business-class features to SIP Phones**
 - pickup, park, bridged line, etc.
- **Open industry initiative by VoIP leaders**
 - spearheaded by Sylanro
- **Call flows are based on standard SIP**
 - does not propose any extensions or modifications to the current SIP standard

SIP-B - RFCs and drafts

SIP Business Telephony Features	Applicable SIP RFC and Internet Drafts
Registration (w/ MD5 Digest Auth)	RFC 3261 (SIP); draft-jennings-sipping-instance-id-01.txt
Hold	RFC 3264 (Offer/Answer); RFC 2327 (SDP)
Message Waiting Indication (MWI)	RFC 3842 (Message Summary Event); RFC 3265 (Event Notification Framework)
Transfer (Blind, Supervised, Consult.)	RFC 3515 (REFER); draft-ietf-sipping-service-examples-10
Calling and Called Party Display	RFC 3325 (P- ext. for Asserted Identity); draft-venkatar-sipping-called-name-00
Call Park	draft-ietf-sipping-service-examples-06; RFC 3515 (REFER); Keyword "callpark" per RFC 3087
Call Pickup	RFC 3891 (Replaces Header); RFC 4235 (Dialog Event Package); Keyword "pickup" per RFC 3087
Directed Call Pickup	RFC 3265 (Event Notification Framework); RFC 3891 (Replaces Header); draft-ietf-sipping-service-examples-10; RFC 4235 (Dialog Event Package)
Group Call Pickup	RFC 3265 (Event Notification Framework); RFC 3891 (Replaces Header); draft-ietf-sipping-service-examples-10; RFC 4235 (Dialog Event Package) ; Keyword "groupcallpickup" per RFC 3087
Intercom	RFC 3261 Alert Info header
Multi-Stage Digit Collection	RFC 3261 "484 Address Incomplete"
Distinctive Ringing	RFC 3261 Alert Info header
Call Forward Indication	RFC 3265; "missed-call-summary" message body of type "message/sipfrag"
Last Call Return	RFC 3261 (SIP); Keyword "lcr" per RFC 3087
ACD Agent Check-In/Check-Out	RFC 3265 (Event Notification Framework)
ACD Agent Available/Unavailable	RFC 3265 (Event Notification Framework); RFC 3856 (Presence Event Package); RFC 3863 (PDIF)
Bridge Line Appearance (BLA)	draft-anil-sipping-bla-02; RFC 3265 (Event Notification Framework); RFC 4235 (Dialog Event Package); RFC 3680 (Reg. Event Package) – Not required for the SIP UA to support this RFC
Ad-hoc Centralized Conferencing	draft-burger-sipping-netann-08; draft-ietf-sipping-cc-conferencing-01

SIP-B - Benefits

- End users

- can finally leverage the advantages of converged communication solutions without losing the features that have been critical to their day-to-day business communications

- Service providers

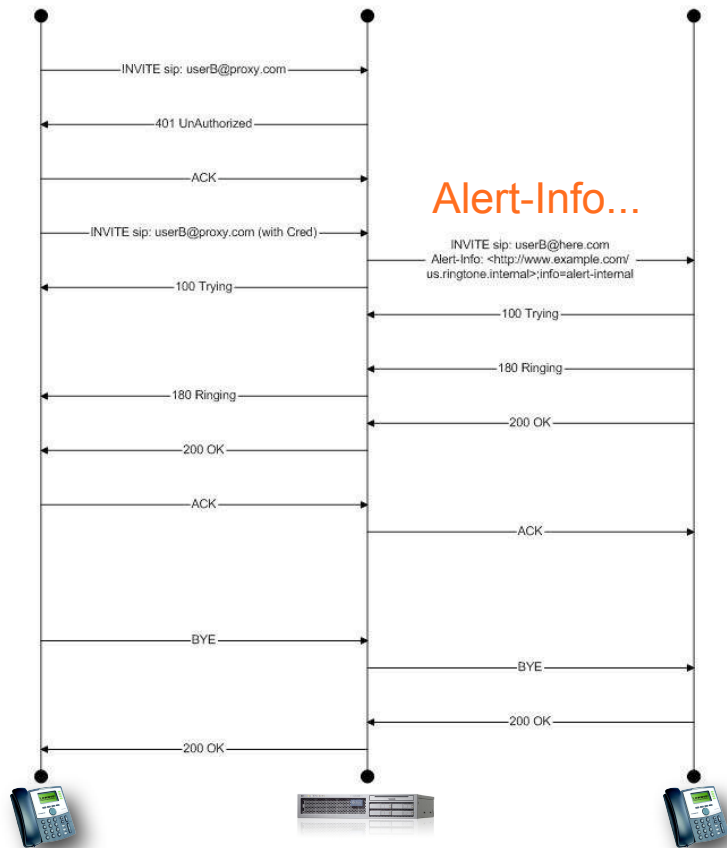
- are able to offer a richer set of hosted business phone capabilities

- Vendors

- large scale acceptance and adoption of VoIP and SIP in particular

Simple services

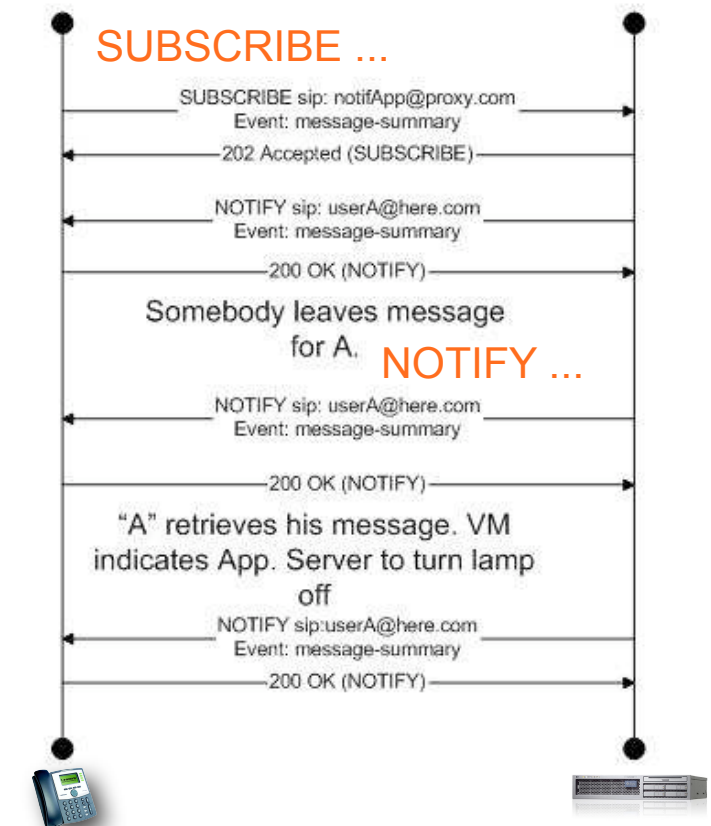
Distinctive ringing



Last call redial

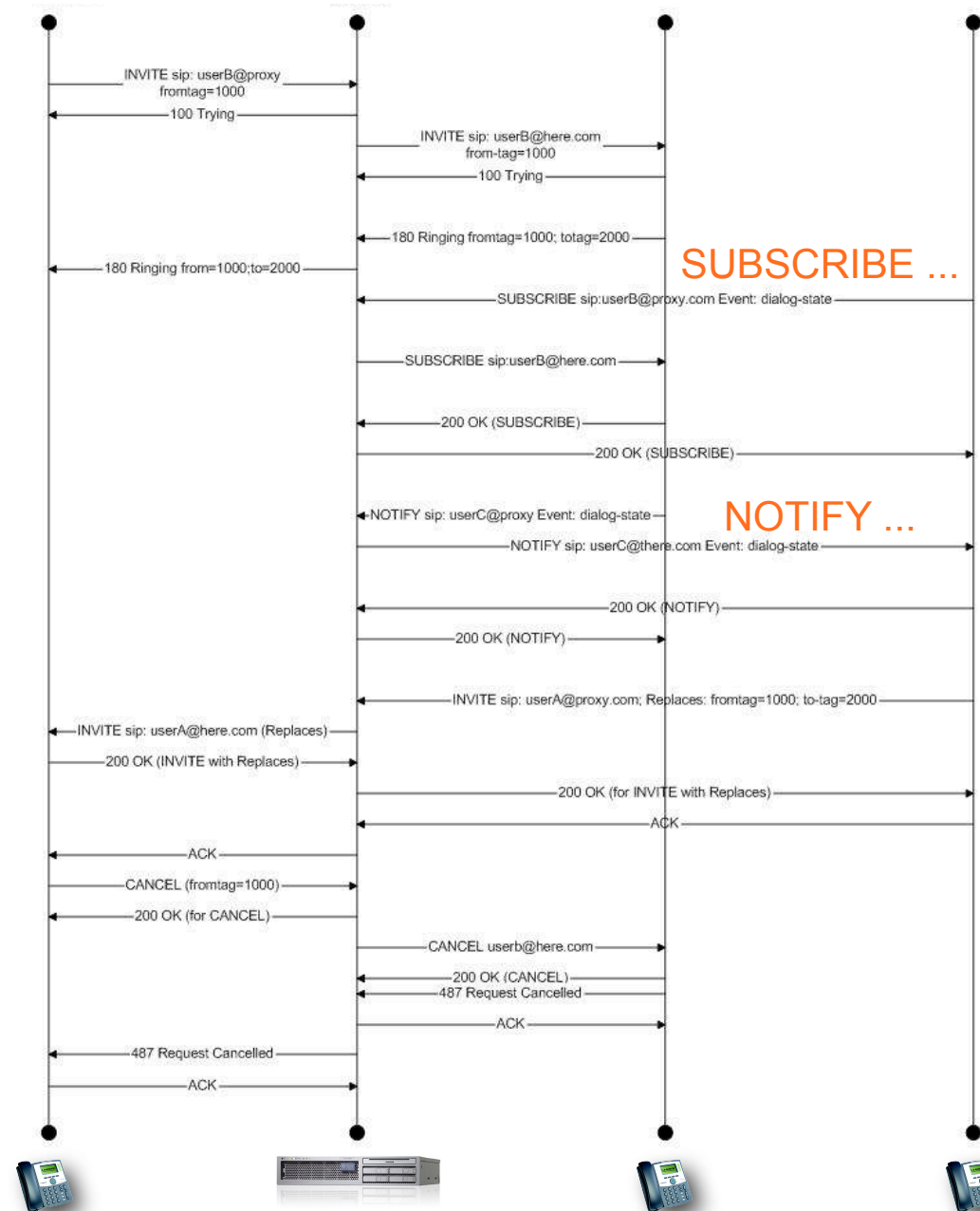


Message waiting



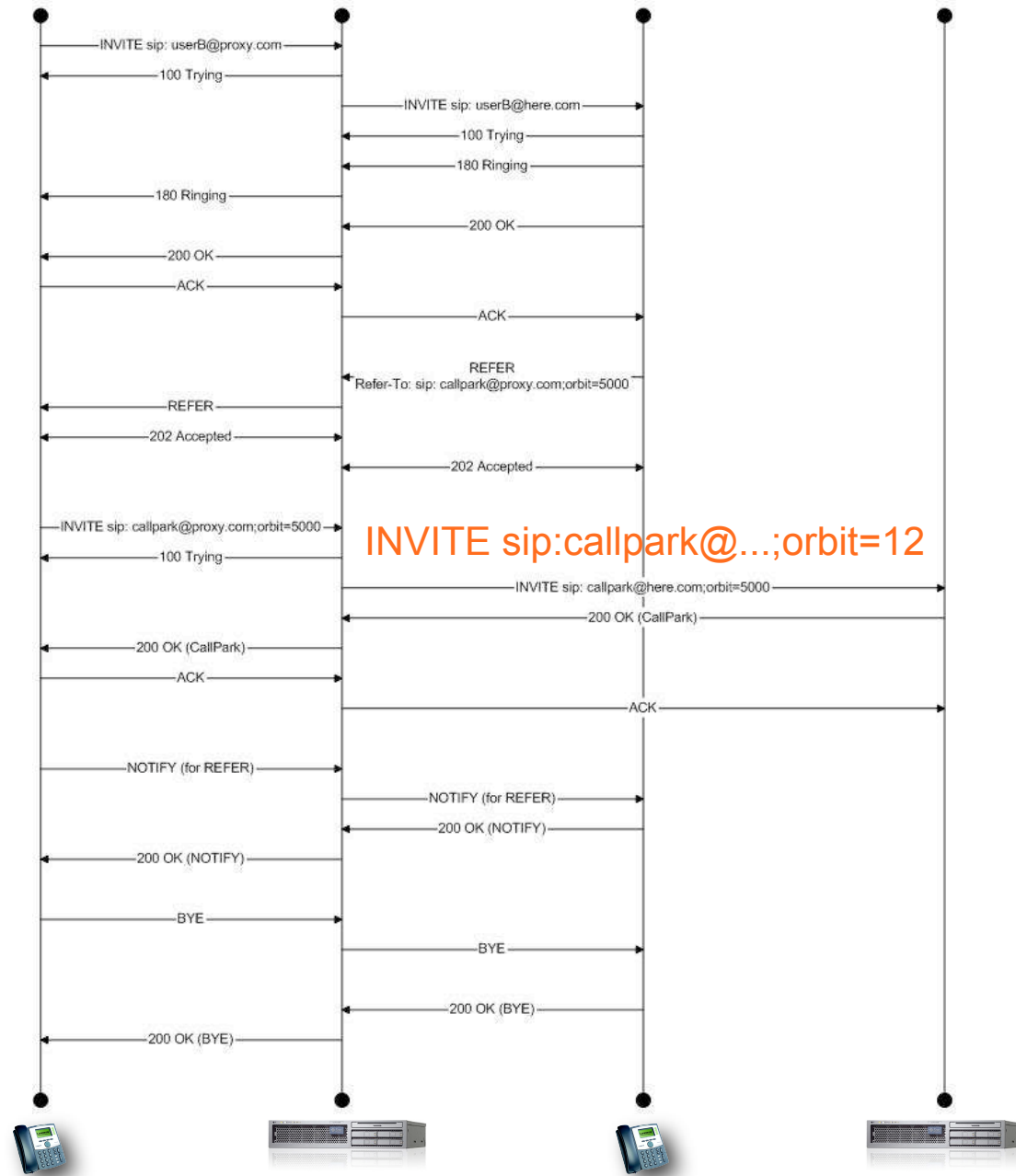
Enhanced services I.

Call pickup

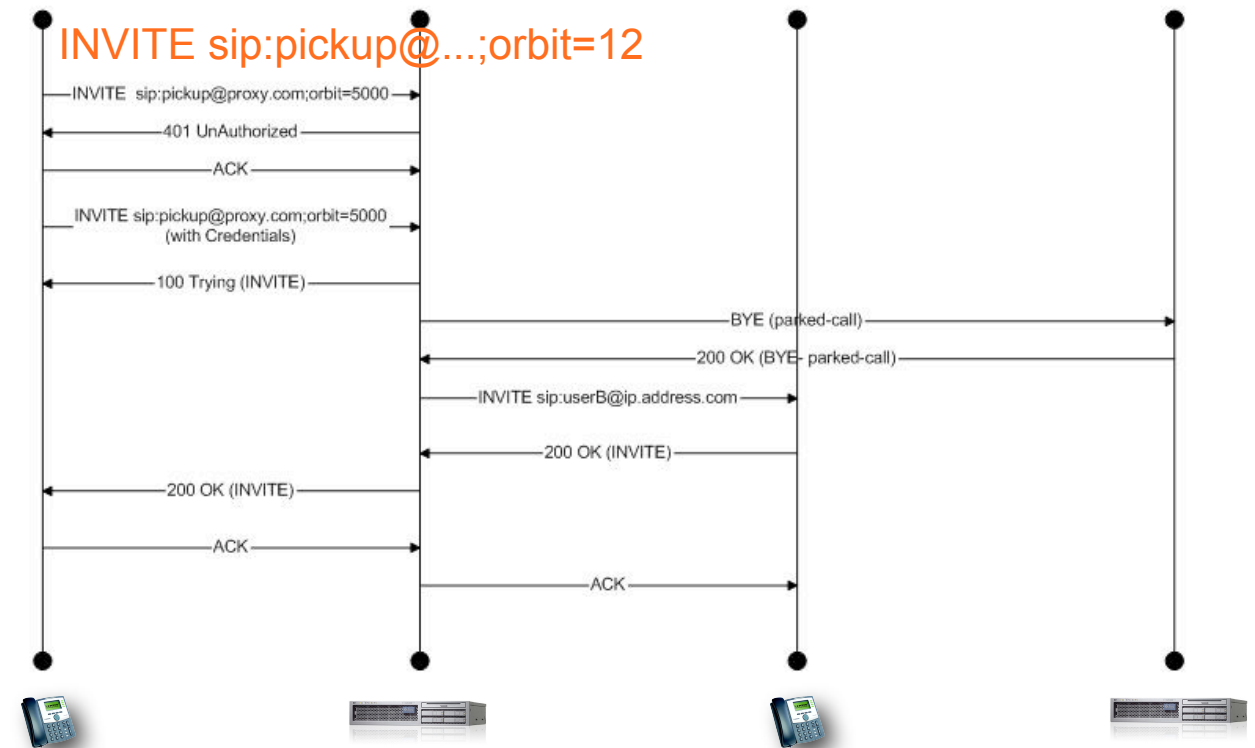


Enhanced services II.

Call park



Call unpark



Deverto solution

Managed Corporate Communication Network

MCCN Highlights

Web Administration, CRM,
Customer Self Care



Video terminal

HotSpot



Soft phone

Video integration

IP phone with application



Custom tailoring

PBX Service transparency

Global presence

Fix-mobile convergence



3G mobile



Range of phones



Basic IP phone

Multi tenant

ERP & Directory integration

Access independent

Analog integration



Analog gateway



Agent

IP phone



Wi-Fi mobile



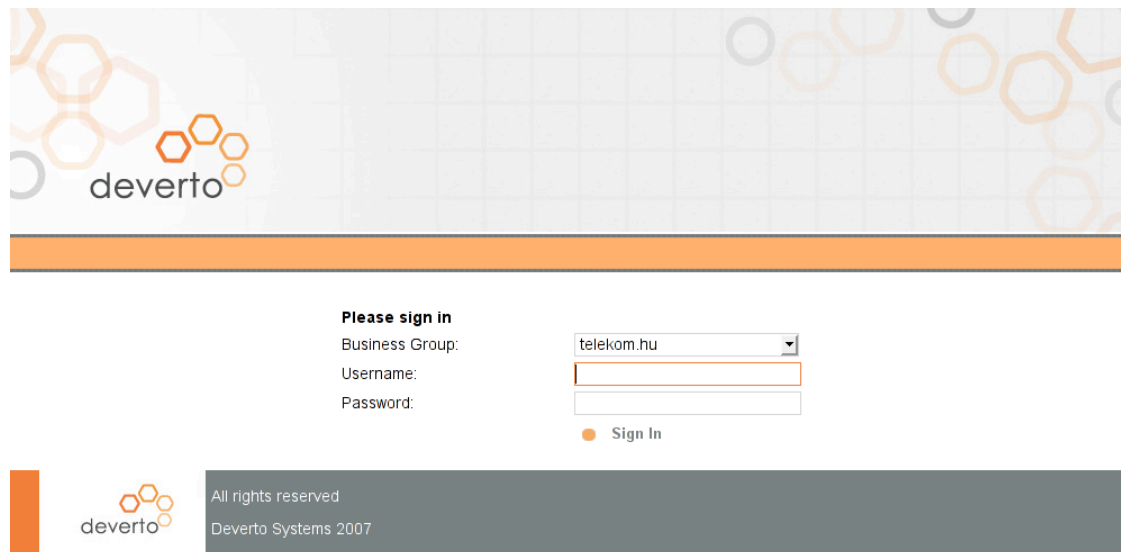
Analog DECT



FAX



Extension Management



The screenshot shows the Deverto web interface. At the top left is the Deverto logo. Below it, the text "Please sign in" is displayed. The form includes a "Business Group:" dropdown menu with "telekom.hu" selected, a "Username:" text input field, and a "Password:" text input field. A "Sign In" button is located below the password field. At the bottom left, there is a footer with the Deverto logo and the text "All rights reserved Deverto Systems 2007".



- **Web interface**

Multiple levels of authorization:

- System Administrator
 - Group Administrator
 - User
- **Service codes - voice confirmation**
 - **IVR operator - menu based, with DTMF input**

“PBX like” functions

- **Number Identification**

- Calling Line Identification Presentation (CLIP)
- Calling Line Identification Restriction (CLIR)
- Calling Name Identification Presentation (CNIP)
- Calling Name Identification Restriction (CNPR)
- Direct Inward Dial (DID)
- Direct Outward Dial (DOD)
- Multiple Subscriber Number (MSN)
- Malicious Call Identification (MCID)

- **Call Offering**

- Call Transfer (CT)
- Call Forward Unconditional (CFU)
- Call Forward No Reply or Busy (CFNR/CFB)
- Call Forward Not Available (CFNA)
- Call Park (CPK)
- Directed/Group Call Pick Up (CPU)
- Serial/Parallel Hunting (SH/PH)
- Intercom / Private Line Automatic Ringdown



- **Call Completion**

- Call Hold (CH)
- Call Waiting (CW)
- Do Not Disturb (DND)
- Anonymous Call Rejection (ACR)
- Screening List (SCR)
- Call Completion on Busy Subscriber (CCBS)
- Call Completion on No Reply (CCNR)
- Distinctive Ringing (DR)

- **Community of Interest**

- Phone lock/unlock with PIN (LUL)
- Private Numbering Plan (PNP)
- Outgoing Call Barring (OCB)
- Selective Outgoing Call Barring (SOCB)
- Selective Outgoing Call Barring Change with PIN
- Abbreviated Dialing (AD)
- Closed User Group (CUG)
- Emergency Call (EC)



(Soft)client Capabilities

- Corporate Directory Integration (e.g. LDAP)
- Personal Buddy Lists (presence information of buddies)
- Ability of Initiating a Communication Session:
 - audio
 - video
 - text chat (IM)
- Ability to make Internet and PSTN calls (audio and video)
- “PBX like” functions (transfer, CW, CH, etc.)
- Client configuration provisioning

Q&A

Thank You!

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