Migrating to Unity Connection

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Agenda

- **Why Are You Here?**
  - **In fact, why am I here?**
- **Voice Messaging Options**
  - Voicemail Only (VMO)
  - Unified Messaging (UM)
  - Integrated Messaging (IM)
- **Why is Unity Connection Cisco's flagship voice messaging product?**
- **Unity Connection Fundamentals**
- **Migrate from Unity to Unity Connection**
  - **COBRAS Migration Tools**

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Everyone Is Here For A Reason

Why are we here?

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Why Are You Here?

- You like free refreshments.
- You'd rather be here than work.
  - That's fine. If it gets in you in the door then I'll take it.
- You are genuinely interested in Unified Communications topics.
- You are trying to decide on a voice messaging platform for your organization.
- You're curious as to why Unity Connection garners so much attention.
- You plan on or are considering migrating from Unity to Unity Connection.

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Why Am I Here?

- I like free refreshments, too.
- I enjoy my job and today my job is to be here.
- I believe this presentation will be of interest to the following people:
  - Those genuinely interested in Unified Communications topics
  - Those trying to decide on a voice messaging platform
  - Those curious as to why Unity Connection garners so much attention
  - Those planning to or considering migrating from Unity to Unity Connection

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The Importance of Voice Messaging

A Brief Overview

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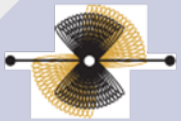
What is Voice Messaging?

- **Essentially, VM is a way of managing telephone messages for a group of users.**
  - **Legacy solutions:**
    - **Answering Machine**
    - **Octel (oh, they're still out there)**
  - **Today's solutions:**
    - **It's a complicated world…**



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Why is Voice Messaging Important?

- **Voice Messaging has evolved into more than just a way to manage phone messages for users.**
  - **Integration with multiple PBX's, email systems, and even mobile devices**
  - **Increased Call Handling abilities**
    - **Automated Attendants**
    - **Interview Handling**
    - **Speech Recognition**
  - **As Voice Messaging capabilities have evolved, productivity gains for end users have become driving factors in selecting the right voice messaging solution for a given organization.**

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Voice Messaging Options

The Cliffs Notes Version

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Voicemail Only

- **VMO is the most basic messaging option in that users *primarily receive messages via the Telephone User Interface (TUI)* (a.k.a., over the phone).**
  - **Depending on the solution, there may also be some web-based access for users to manage VM settings and/or access voice messages via the web.**
- **Tip: Regulatory requirements are often a driving factor in the selection of a VMO solution.**

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Unity Connection: Voicemail Only

- All of Cisco's voice messaging products can provide a VMO solution; however, Unity Connection is the preferred product.
  - Standalone solution and message store
  - Voicemail is stored separately from email, fax, etc.
  - Provides TUI and web-based access to messages for end users

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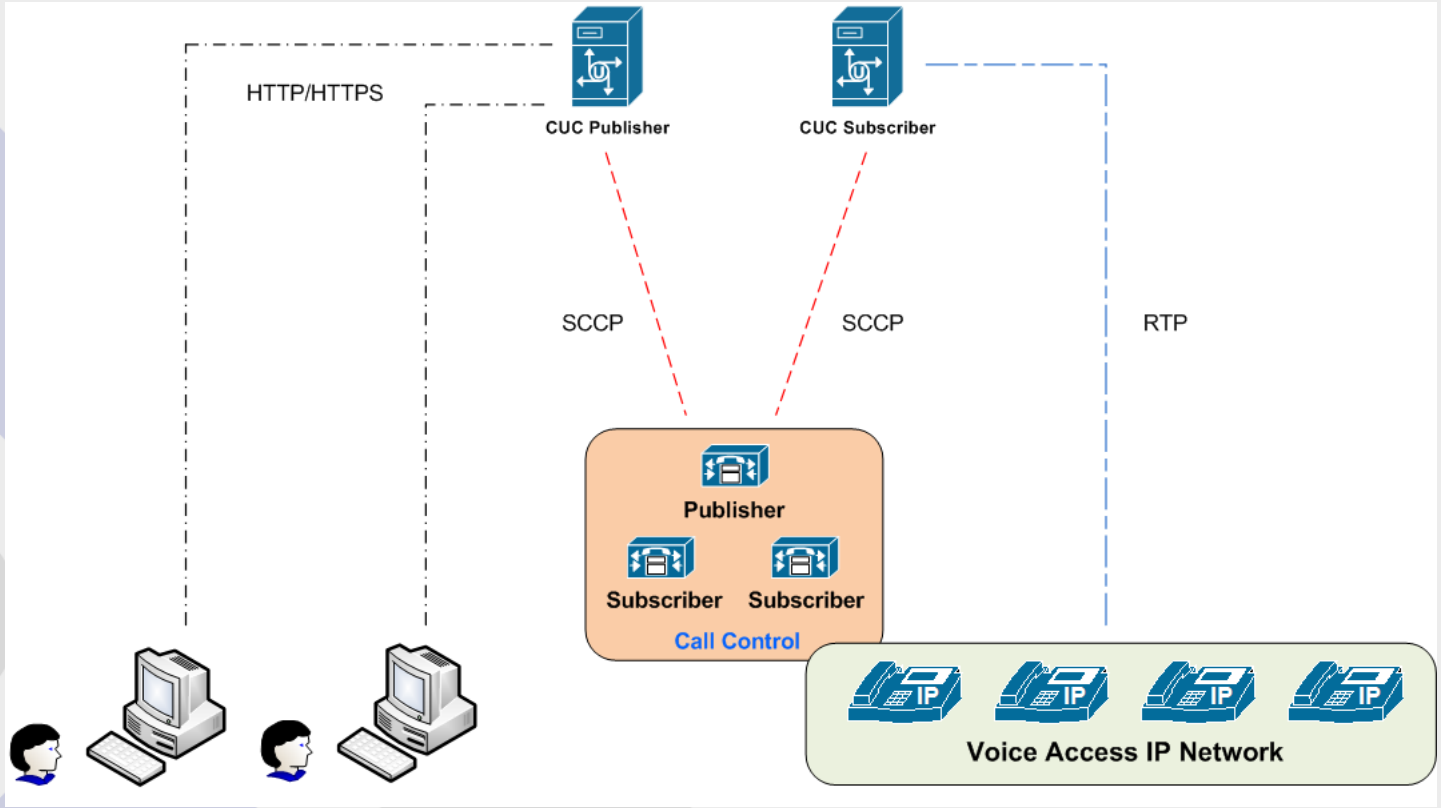
VMO Architecture



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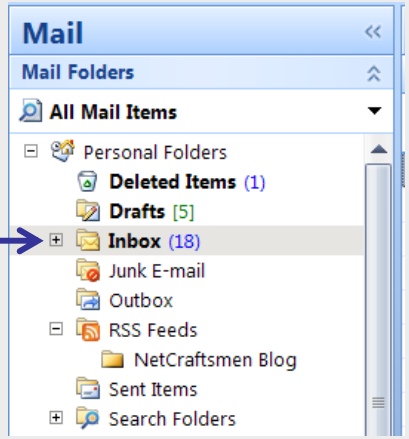
Unified Messaging

- **With UM, there is a *single* message store where *all* messages (email, voicemail, fax) are stored.**
  - **e.g., Microsoft Exchange is the only message store.**
- **For users, this means there is a *single Inbox* where *all* messages (email, voicemail, fax) are received.**

You've got mail and voicemail, too. Voila!



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Cisco Unity: Unified Messaging

- **Unity is Cisco's UM application.**
  - **For all versions up to 7x, Unity is compatible with Exchange 2003/2007 and Lotus Domino.**
  - **Unity 8x no longer supports Lotus Domino.**
- **Unity is tightly integrated into an existing Active Directory and Exchange environment.**
  - **Schema extension**
  - **Extensive permissions set for service accounts**
  - **Highly dependent upon availability of DC/GC and Partner Exchange server**

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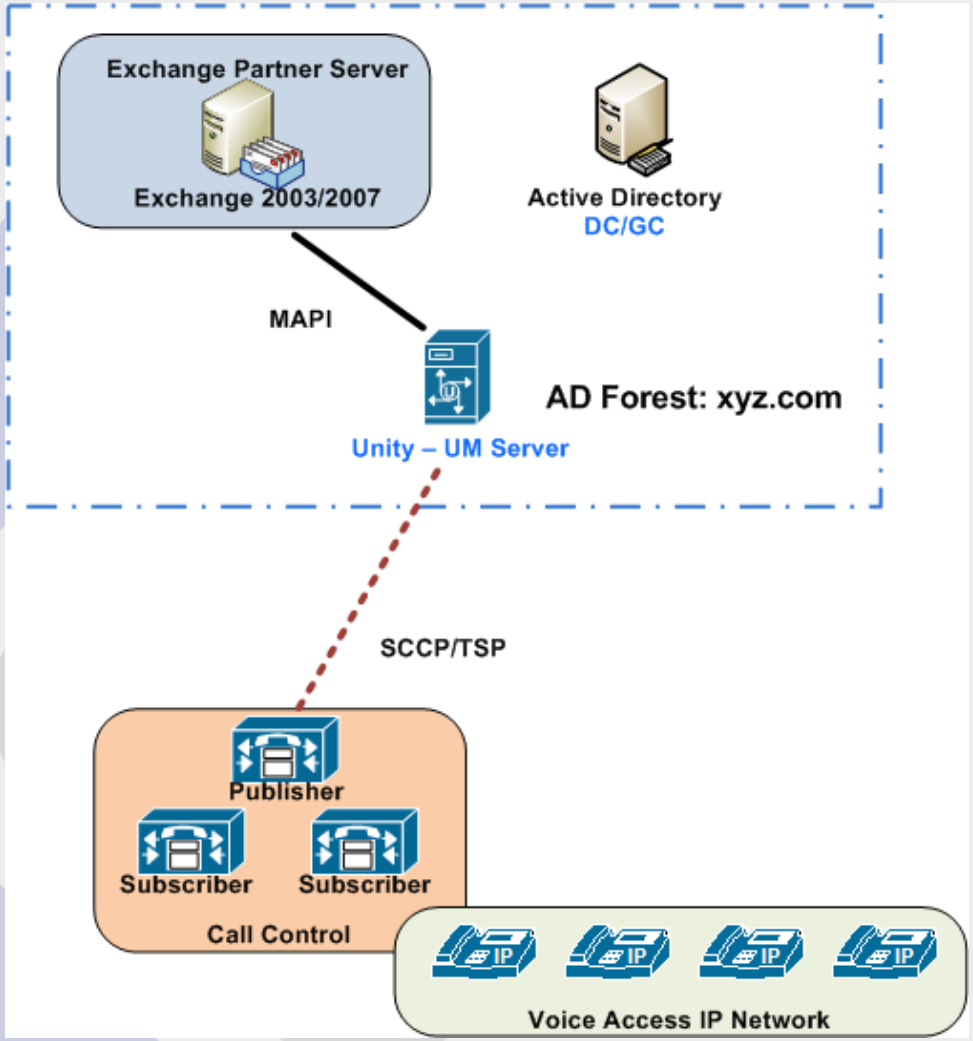
UM Architecture



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A Hot Topic: Microsoft UM

- A preemptive strike…a word about Microsoft
  - Do any of your customers use Microsoft UM?
    - Yes
  - What do you think about it?
    - It leverages SIP for integration with CUCM and it works but may also require 3rd-party application(s), server(s), media termination point (MTP), and etc.
  - It's free, right?
    - Free doesn't always mean zero cost. Understanding your licensing agreement is the key to what "free" means for your business.

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Integrated Messaging

- **With IM, voicemail and email are stored *separately*.**
  - **Microsoft Exchange is the email message store**
  - **Unity Connection is the voicemail message store**
- **For users, this means there are *separate* folders for email and voicemail.**

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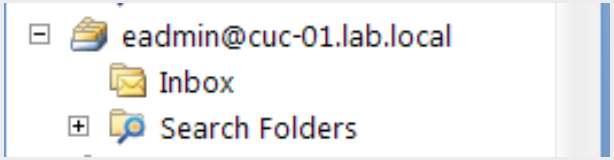
Unity Connection: Integrated Messaging

- **Unity Connection is Cisco's IM application.**
  - **Leverages IMAP to allow users to receive voicemail within a separate folder (not the Inbox)**

You've got voicemail right here.



  - **Integrated Messaging is assigned via Class of Service but can also be controlled on a per user basis. Administrators have the flexibility to provide end users with a choice in how they prefer to receive voice messages.**

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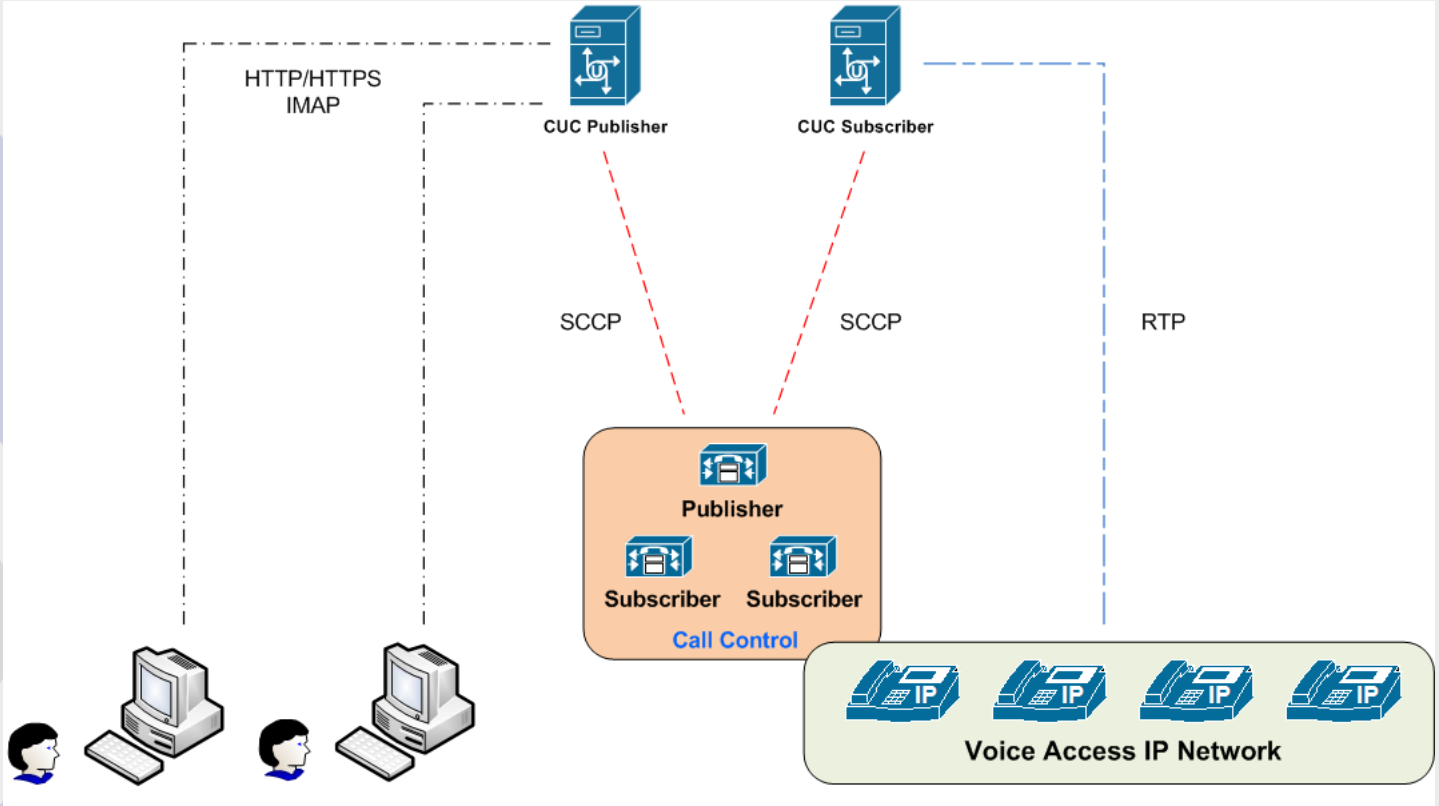
IM Architecture



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What About the Other Cisco Products?

- **Cisco Unity Express (CUE) is a router-based solution that supports less than 275 users.**
- **Cisco UC Manager Business Edition (CUCM-BE) provides a co-resident install of CUCM and CUC that supports up to 500 users.**

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Unity Connection: Cisco's Flagship Voice Messaging Product

Why Customers Are Hearing So Much About CUC

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Unity Connection: Reduced Complexity

- **Separate Message Store**
  - **No dependence on Exchange or Active Directory**
  - **Reduces complexity for voice engineers who may not have sufficient experience with AD/Exchange**
  - **With UM, calculating the size of the mail store to accommodate what essentially is just more email can be very difficult**
  - **Eases legal concerns over UM but still offers a UM-like experience via IMAP**

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Unity Connection: Simple, Efficient, and Flexible

- **Simplicity and Efficiency**
  - System setup can take up to 80% less time than Unity
  - Sustainment/maintenance can take up to 50% less time than Unity
- **Flexible Messaging Options**
  - VMO
  - IMO
  - Store and Forward
  - Message Relay
  - RSS Feed

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Unity Connection: Familiar Platform and High-Availability

- Same platform as Cisco Unified Communications Manager (CUCM)
  - Same version, same image
  - Lock step releases of CUCM and CUC
  - Common platform services
- Active-Active Redundancy
  - CUC redundancy model is Active-Active clustering
  - Intended to provide 100% failover of services between nodes
  - All data, including messages, is replicated between nodes

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Unity Connection: Scalable and Capable

- **Scalability**
  - **10k users/288 ports in VMO deployment**
  - **7500 users/144 ports in IM deployment**
  - **Digitally network 10 standalone servers/clusters to support up to 100k users (requires 7.1)**
  - **CUC 8x brings significant enhancements**
    - **20k users/500 ports**
    - **20 digitally networked nodes, 100k user global directory**
    - **Parity between VMO and IMAP users**

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Unity Connection: Loaded with Features

- **Flexible Administration Options**
  - Import users from LDAP or CUCM
  - BAT or manual configuration
- **Feature Rich Application**
  - Dial Plan (Partitions, CSS)
  - Speech Connect (Speech Enabled Auto Attendant)
  - Virtualization via Unified Computing System (UCS, CUC 8x)
  - Optional integration with Exchange, MP, MPE, etc.
  - Visual Voicemail for IP Phones
  - SpeechView (feature not yet released)

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Unity Connection Fundamentals

The “Skinny” on CUC

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Unity Connection Fundamentals

- Current shipping release is 8.0
- Current CNC recommended version 7.1(3b)SU2
- Can be deployed as standalone server or as Active-Active cluster
  - Cluster can only exist of 2 nodes: Publisher and Subscriber
  - During normal operations, Publisher is primary and Subscriber is secondary.
  - Clusters should be designed to provide 100% redundancy between servers.

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Unity Connection Fundamentals

- **Server Functions**
  - **Publisher handles HTTP/HTTPS traffic, IMAP connections (essentially all administrator and user sessions).**
  - **Subscriber should primarily handle calls, if there are no ports available then calls can rollover to the Publisher.**
- **Cluster Servers Deployed in Separate Sites**
  - **Bandwidth requirements based on number of ports**
    - **48 ports/server = 50Mbps, 96 ports/server = 100 Mbps, 144 ports/server = 150 Mbps**
    - **20ms RTT latency between sites**

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Unity Connection Fundamentals

- **Sizing and Scalability Notes**
  - **288 ports per cluster (7x), 500 ports per cluster (8x) for VMO**
  - **IM deployments support reduced number of ports due to additional load for IMAP clients, 144 ports per cluster (7x)**
  - **IMAP reduces the total number of supported users from 10k to 7500 in 7x – this assumes the IMAP Idle protocol is used**
    - **Standard IMAP connections reduce capacity by 75%**
    - **Parity in VMO/IM users to come in 8x release**

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Unity Connection Fundamentals

- **Sizing and Scalability Notes**
  - **CUC supports a number of CODECS including G.722 and Internet Low Bandwidth Codec (iLBC); however, these CODECS reduce port capacity by 50%.**
    - **CNC recommendation is to use G.711 whenever possible**
  - **CODEC used affects the total storage capacity of message storage minutes.**
    - **240k message minutes when using G.711**
    - **480Kb/min when using G.711**

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Unity Connection Fundamentals

- **CUCM Integration**
  - **Supported via SCCP or SIP**
  - **Cluster configuration:**
    - **2 Line Groups – one for Subscriber ports, one for Publisher**
    - **1 Hunt List – Subscriber Line Group preferred, Publisher Line Group is secondary**
    - **Tip: Do not include MWI ports (i.e., ports that do not answer calls) in VM line groups**

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Unity Connection Fundamentals

- Telephony Integration Configurations in CUC
  - 3 Basic Components
    - Define a Phone System integration
    - Add Port Group(s)
      - 1 for Publisher
      - 1 for Subscriber
    - Add Ports
      - Tip: Add Subscriber ports then Publisher ports – add ports in groups based on function.

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Unity Connection Fundamentals

- **Telephony Integration Configurations in CUC**
  - **Example Port Configuration**
    - **CUC Cluster, 144 ports/server**
    - **Plan port usage – We want to reserve 25% of the ports to Perform Message Notification, Send MWI Requests, and provide TRAP connections**
    - **Subscriber – Add 108 ports that only Answer Calls then add 36 ports with "Answer Calls" disabled (all other functions enabled)**
    - **Repeat the same process for the Publisher**
    - **Tip: If CUC ports initially register with private IP addresses, reboot the CUC cluster.**

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Unity Connection Fundamentals

- **SMTP**
  - **Essential to a number of CUC services and features**
    - **Digital Networking**
    - **Message Relay**
    - **Store and Forward**
  - **Tip: The term "SMTP Smart Host" is used throughout all of the CUC documentation and can be a source of confusion. An SMTP Smart Host is simply an SMTP Relay host. During the platform configuration, if you specify an SMTP server then it is automatically populated as the SMTP Smart Host within CUC.**

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Unity Connection Fundamentals

- **SMTP**
  - **Why is it important?**
    - **Networked servers use SMTP to communicate. For CUC clusters, an SMTP Smart Host is required to resolve the SMTP domain name on a cluster to both the Publisher and Subscriber servers in order for message traffic to reach the Subscriber if the Publisher is offline.**
    - **CUC relies on an SMTP Smart Host to provide message relay features as well as Fax Server integration.**

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Unity Connection Fundamentals

- **SMTP**
  - **Why is it important?**
    - **CUC can receive/process SMTP messages generated by IMAP clients.**
    - **When clusters are networked together, message relay can be configured so that messages are sent between IMAP clients on different clusters.**
  - **Security Considerations**
    - **Configure ACL's within CUC to control access via SMTP or allow untrusted connections.**
    - **If untrusted connections are allowed, will you require authentication?**

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Unity Connection Fundamentals

- **SMTP**
  - **Security Considerations**
    - **Authentication can be configured to require Transport Layer Security (TLS).**
      - **By default, CUC will use the self-signed certificate or you can install a certificate generated by an internal or external CA.**
      - **The trust certificate of the CA should be added to the Trusted Root Store on workstations to avoid security alerts.**

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Unity Connection Fundamentals

- **Mailstore and Message Management**
  - **By default, CUC creates a DB for configuration information and a mailstore DB.**
    - **It is possible to create up to 4 additional mailstores; however, it is best to use this cautiously.**
  - **Tip: CUC Mailstore configurations include a "Maximum Size Before Warning" configuration set to 15 MB, by default. When this size is reached, an error is logged BUT the mailstore is not affected. Assuming you have adequate disk space, this value can be modified on the fly with no impact to the mailstore.**

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Unity Connection Fundamentals

- **Mailstore and Message Management**
  - **Since the mailstore is independent of Exchange (or Domino), administrators have more control over mailbox size.**
    - **Tip: By default, Unity and CUC are configured to automatically purge deleted messages. In return, users stop deleting anything. The CNC recommendation with CUC is to disable this setting.**
      - **Class of Service > Message Options > Uncheck "Delete Messages Without Saving to Deleted Items Folder"**

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Unity Connection Fundamentals

- **Mailstore and Message Management**
  - **Mailbox Quotas**
    - **Specifies a mailbox size in MB for Warning, Send, and Send/Receive Quotas on mailboxes**
    - **Can be applied system-wide and customized on a per-user basis (maximum mailbox size is 2GB)**
    - **Default Warning Quota = 12 MB (25 min of recording with G711)**
    - **Default Send Quota = 13 MB (27 min of recording with G711)**
    - **Default Send/Receive Quota = 14 MB (29 min of recording with G711)**

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Unity Connection Fundamentals

- **Mailstore and Message Management**
  - **Message Aging Policy**
    - **If enabled, it applies system-wide but can be disabled on a per-user basis.**
    - **If disabled, no message aging policies are applied and cannot be enabled on a per-user basis.**
    - **Tip: Use Mailbox Quotas and Message Aging Policies in conjunction with the Deleted Items folder to encourage users to manage their mailbox. By default, messages in Deleted Items are purged in 15 days (customize as needed).**

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Unity Connection Fundamentals

- **Mailstore and Message Management**
  - **Message Aging Policy**
    - **Tip: Should you need to be more aggressive in your Message Aging Policy, you can optionally choose to move saved messages to the Deleted Items folder within a specified timeframe. This is disabled by default.**

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Unity Connection Fundamentals

- **Service Management**
  - **Unified Services**
    - **Built into CUCM/CUC application platform and accessed via Cisco Unified Serviceability**
      - **AXL & UXL Web Services**
      - **Serviceability Reporter**
      - **DirSync**
  - **CUC Services**
    - **Specific to CUC and accessed via Cisco Unity Connection Serviceability**
    - **Services are divided into 4 major groups**

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Unity Connection Fundamentals

- **Service Management**
  - **CUC Services**
    - **Database Services**
    - **Critical Services**
      - **Services that are critical for a server based on cluster role (Primary or Secondary).**
    - **Base Services**
      - **Services started during system startup.**
      - **Not controlled by SRM**
    - **Optional Services**
      - **Primarily feature-based services that can run on one or both servers in a cluster**

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Unity Connection Fundamentals

- Server Roles
  - Within a cluster, cluster roles are controlled by the SRM process.
  - There are 2 primary roles:
    - Primary
      - Master DB
      - Runs all 4 critical services
    - Secondary
      - Writes to the master DB on the Primary
      - Runs 2 critical services: Conversation Manager and Connection Mixer

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Why Are My Customers Migrating to CUC?

How many of you are considering Unity Connection (new install or migration)?

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Why Are My Customers Migrating to CUC?

- **Organizational Support Issues**
  - **Voice and AD/Exchange engineers are not engaged with each other.**
  - **If problems with Unity arise, the finger pointing begins.**
  - **Many Voice engineers do not have the necessary Microsoft skills to fully understand Unity (and vice versa).**

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Why Are My Customers Migrating to CUC?

- **Technical decisions are often made by non-technical managers blinded by "the cool factor".**
  - **"Wow, voicemail in my Inbox? I want it!"**
    - **(6 months later) "Hailey, is there a way to not get all these voicemails in my email?"**
  - **Some companies fail (or just skip) the requirements definition phase of a project. Further, they often don't account for what the end users would like to have.**

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Why Are My Customers Migrating to CUC?

- **Regulatory Factors**
  - **With UM, *everything* is email.**
  - **It's not uncommon for a company to go with a UM solution and, shortly after implementation begins, the legal department starts asking lots of questions about electronic records, retention policies, and so forth.**
  - **Sometimes the rules change when email is email and voicemail is voicemail.**

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Why Are My Customers Migrating to CUC?

- **The advent of the appliance model has companies moving away from Windows-based server applications.**
  - **Reduced maintenance**
  - **Increased uptime**
  - **Active and Inactive partitioning of CUCM/CUC simplifies upgrades and reduces associated risk.**
  - **There really is no such thing as an “upgrade” as far as Unity is concerned.**

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Why Are My Customers Migrating to CUC?

- **Unity and Microsoft Interoperability**
  - **MS is trying to make an impact in the UC space so collaboration has shifted to competition.**
  - **Changes to MAPI in Exchange 2010 brought about some challenges for Cisco and interoperability with Unity.**
  - **Thought: What if CUC could provide a UM experience without being so dependent upon AD and Exchange?**

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Why Are My Customers Migrating to CUC?

- **Timing**
  - **Many companies are refreshing older hardware platforms and the migration tools available from Cisco make migrating to CUC fairly easy.**
  - **Many companies are still on Unity 4x and, as I said earlier, the words "Unity" and "upgrade" do not go hand in hand. CUC appliances are pre-loaded (like CUCM) and the migration tools available from Cisco make migrating to CUC fairly easy (yes, I said that twice already).**

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How Do I Migrate from Unity to Unity Connection?

COBRAS – not the snakes, the Consolidated Object Backup and Restore Application Suite Migration tools from Cisco.

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Unity to Unity Connection Migration

- **What can be migrated?**
  - **Subscribers (including messages, if required)**
  - **Call Handlers**
  - **Interview Handlers**
  - **Public Distribution Lists (including membership, if required)**
  - **Schedules**

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Unity to Unity Connection Migration

- **What cannot be migrated?**
  - **Contacts**
  - **Class of Service**
  - **Subscriber Templates**
  - **Directory Handlers**
  - **Restriction Tables**
  - **Password Policies**
  - **Holidays**
  - **Locations**
  - **Secure messages**
  - **Miscellaneous (switch info, advanced settings, etc.)**

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Unity to Unity Connection Migration

- **High-Level Process**
  - **Build and verify health of CUC server or cluster**
  - **Configure general settings**
    - **Time Zone**
    - **System Services**
  - **Build settings that cannot be migrated**
    - **Class of Service**
    - **Subscriber Templates**
    - **Restriction Tables**
    - **Password Policies**

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Unity to Unity Connection Migration

- **High-Level Process**
  - Activate DB Proxy service
  - Configure DB Proxy service and SMTP parameters
  - Disable local firewall and/or antivirus
  - COBRAS Installation
    - Export and Data Viewer (Unity)
    - Informix ODBC Drivers and Import (Win XP or Win 2003 Server)
  - Export data from Unity via COBRAS Export
  - Import data via COBRAS Import
  - Verification and post-migration tasks

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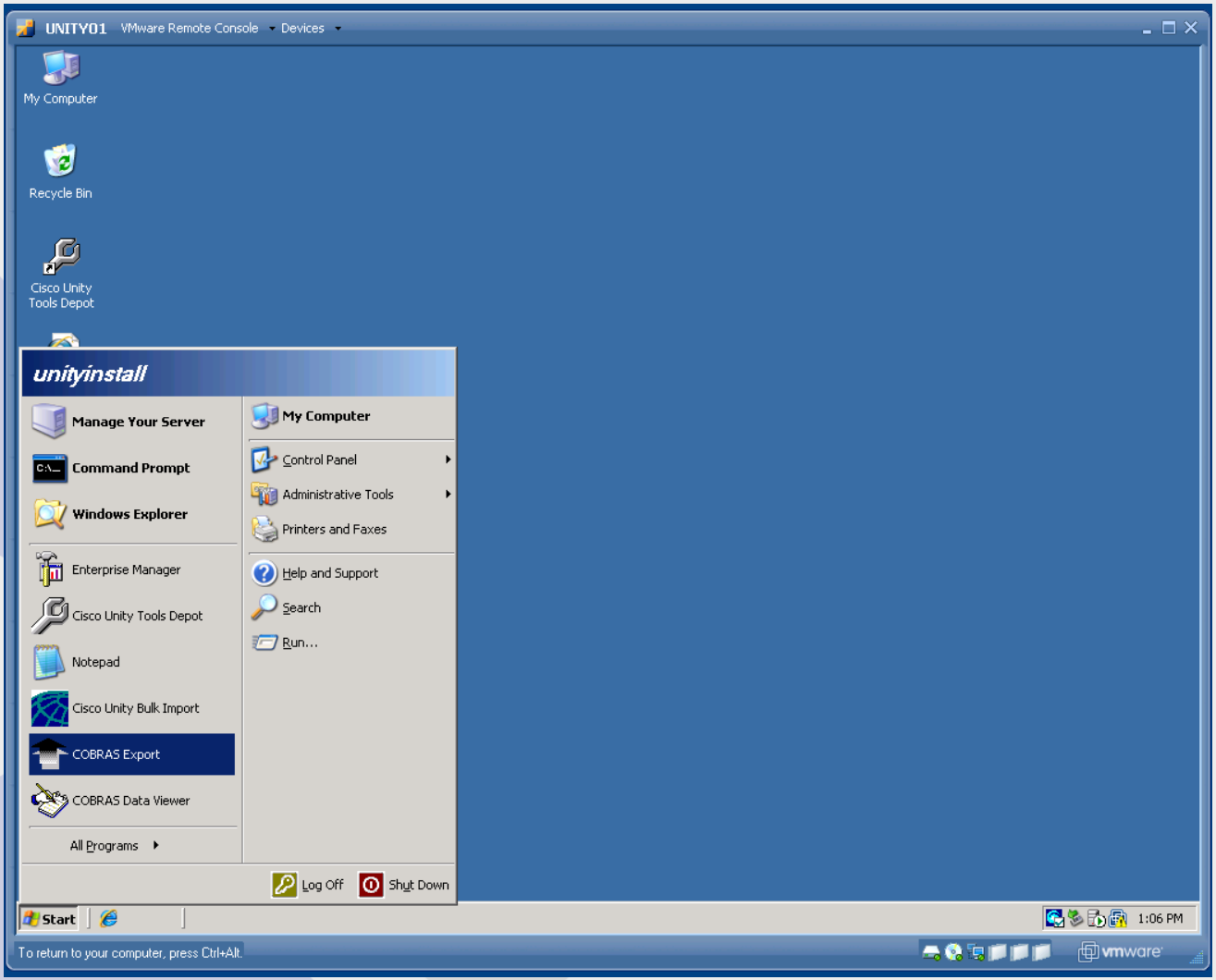
Unity to Unity Connection Migration



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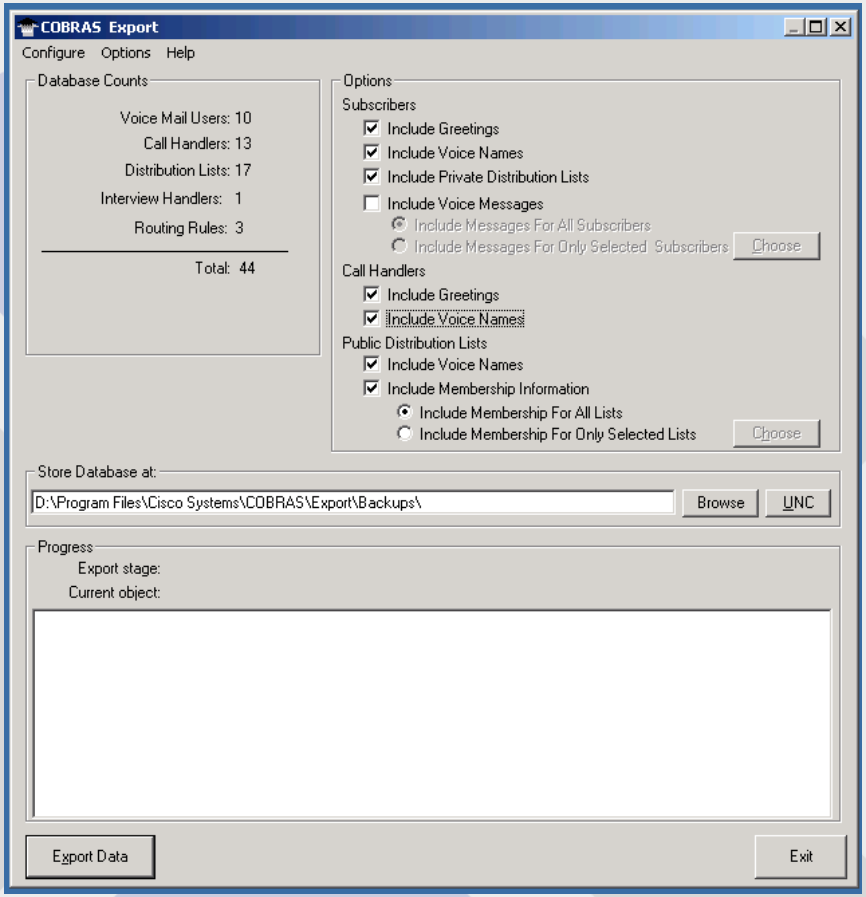

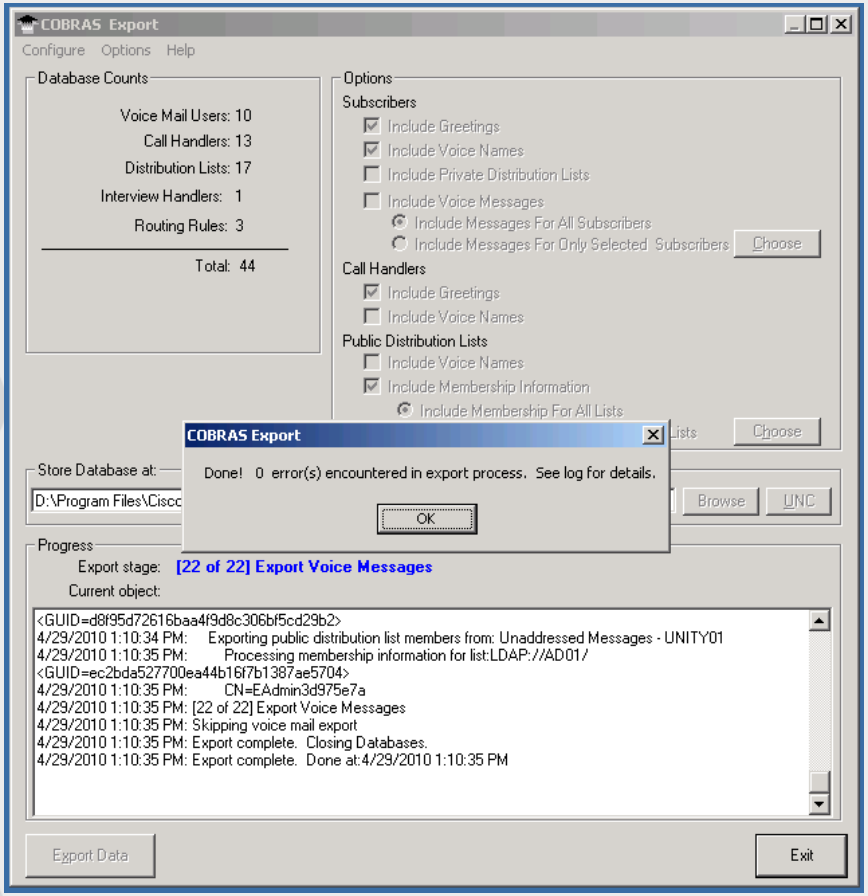

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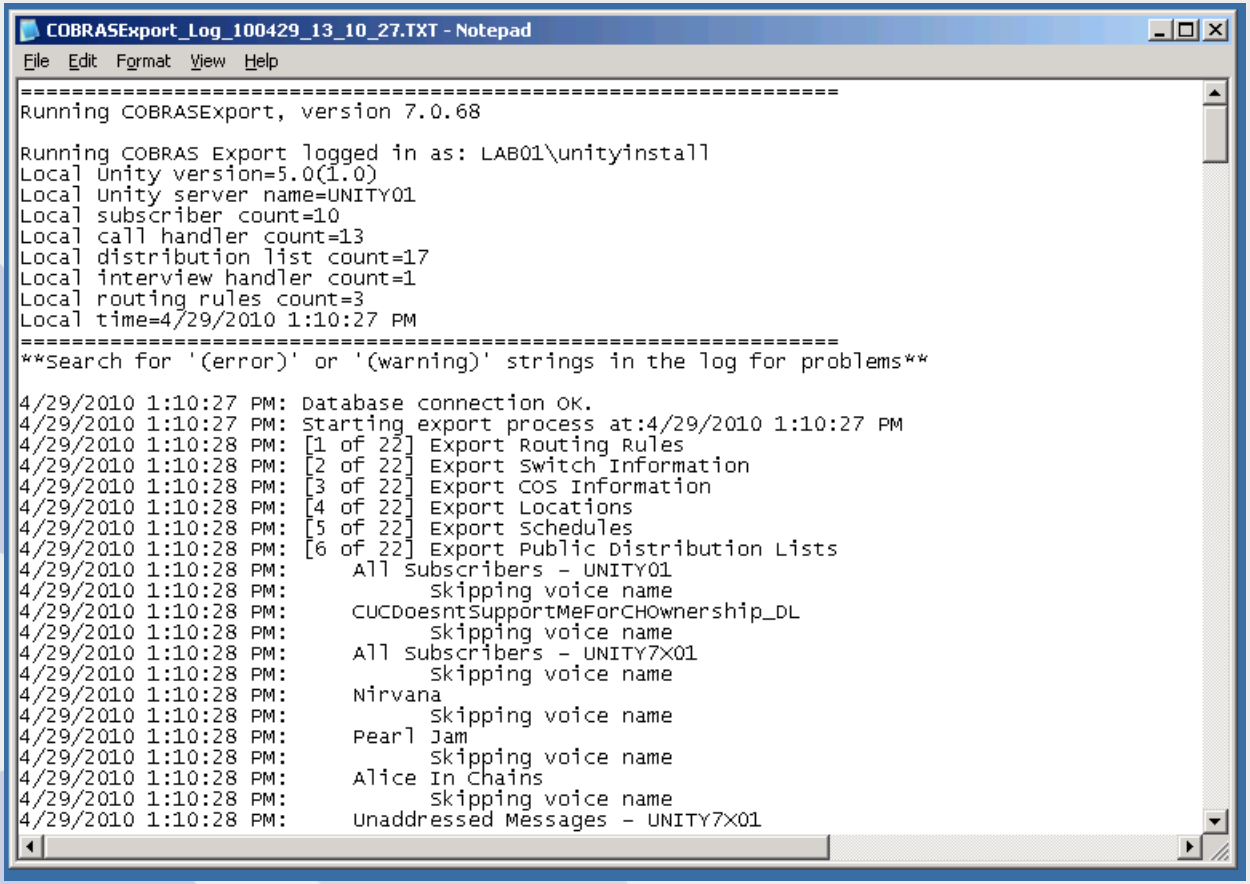

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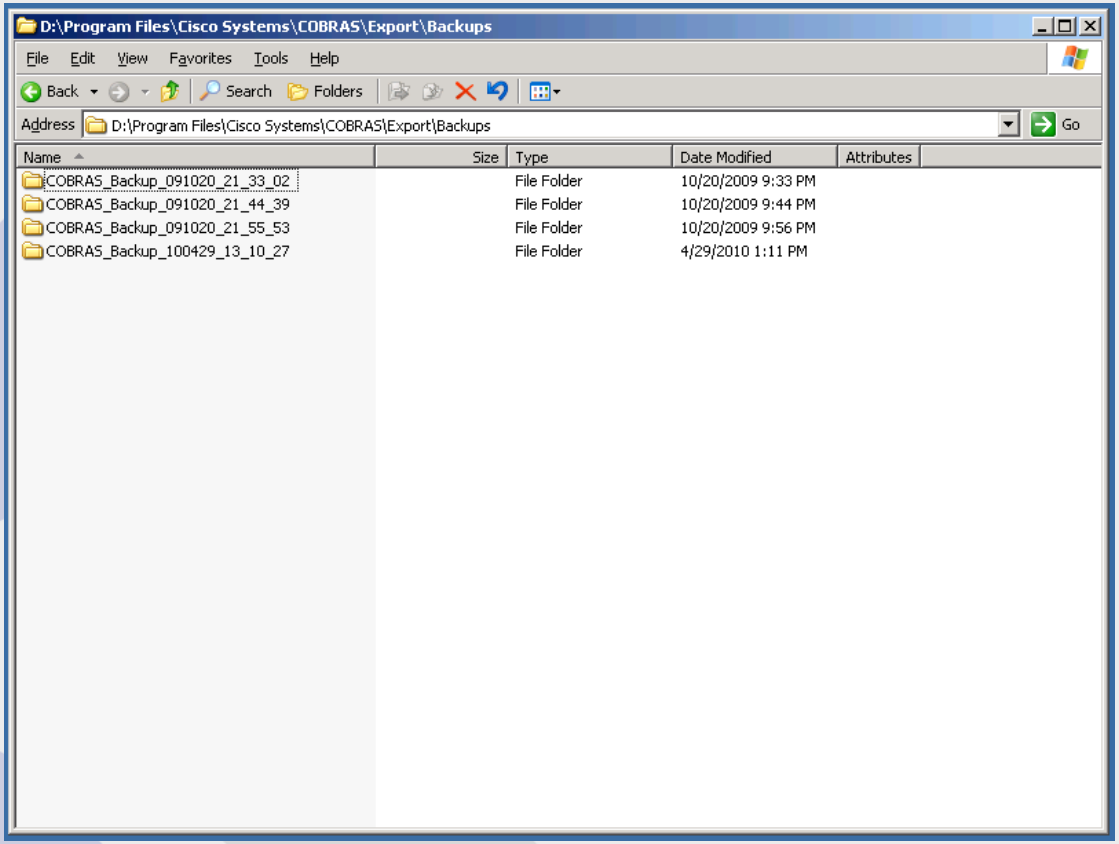

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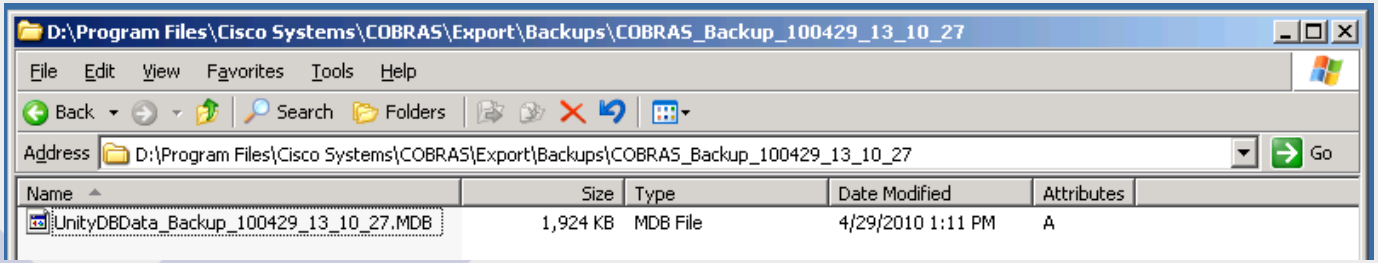

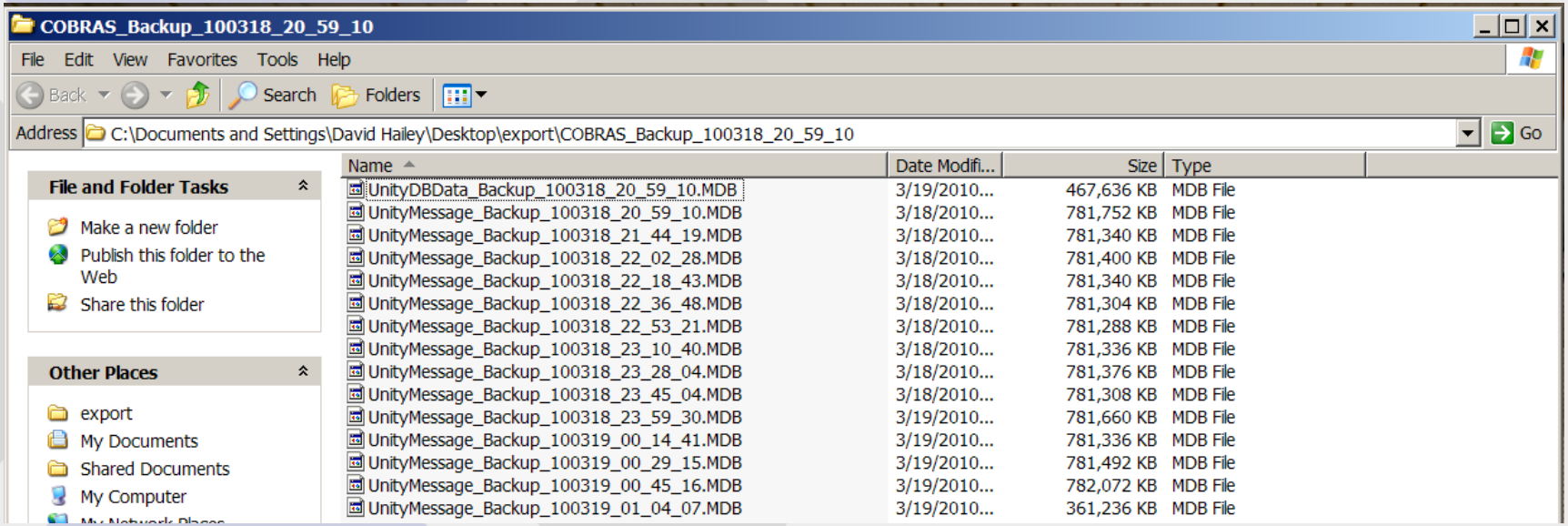

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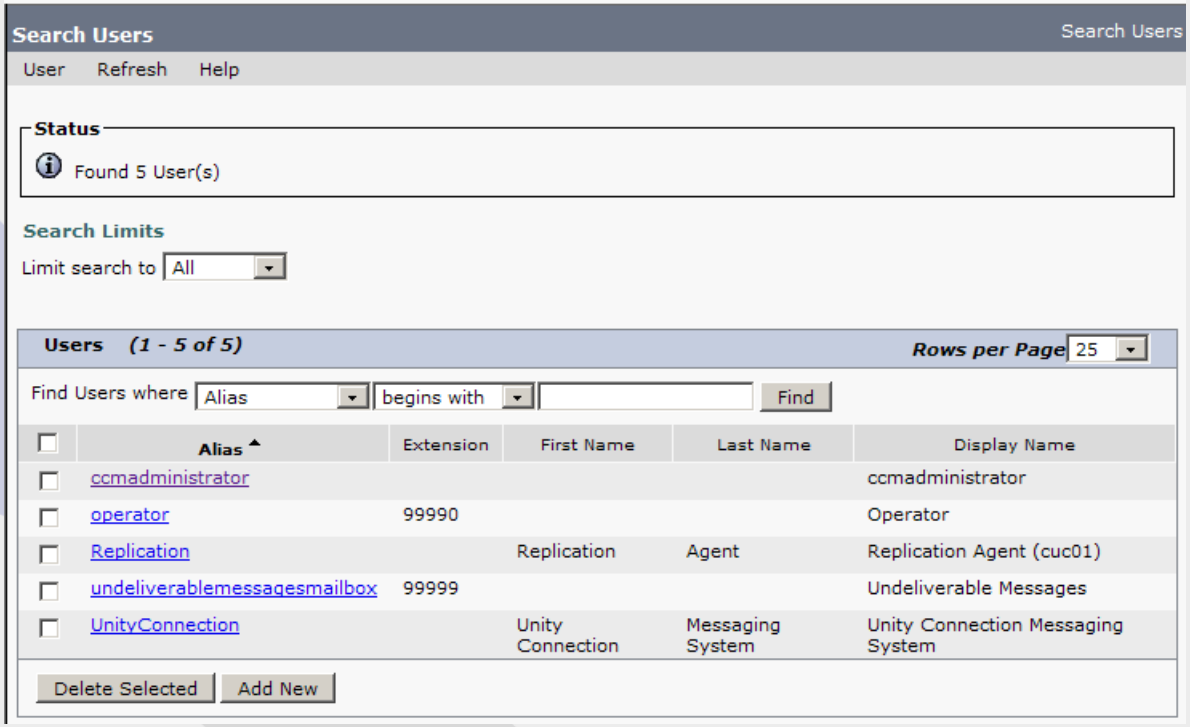

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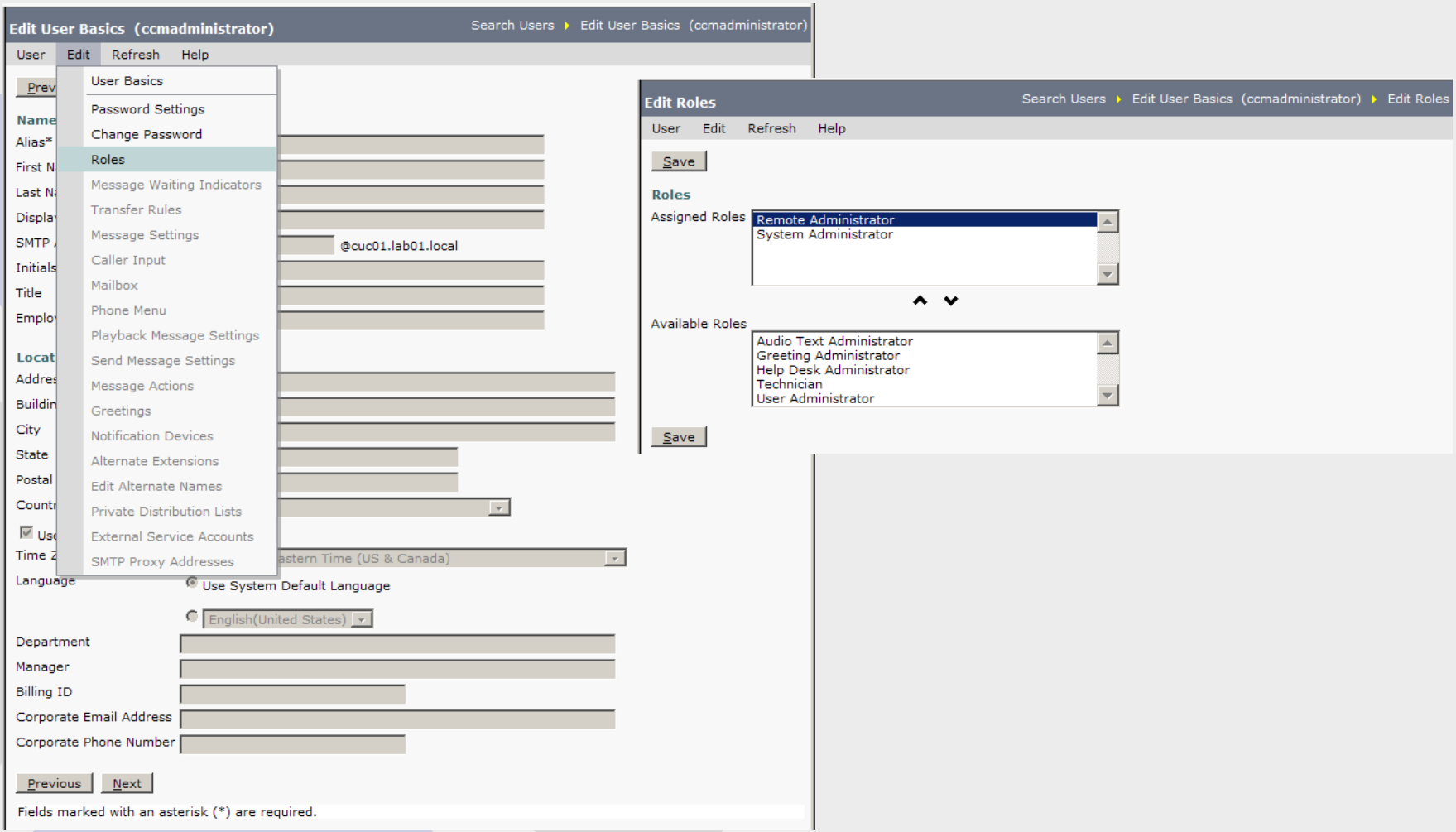

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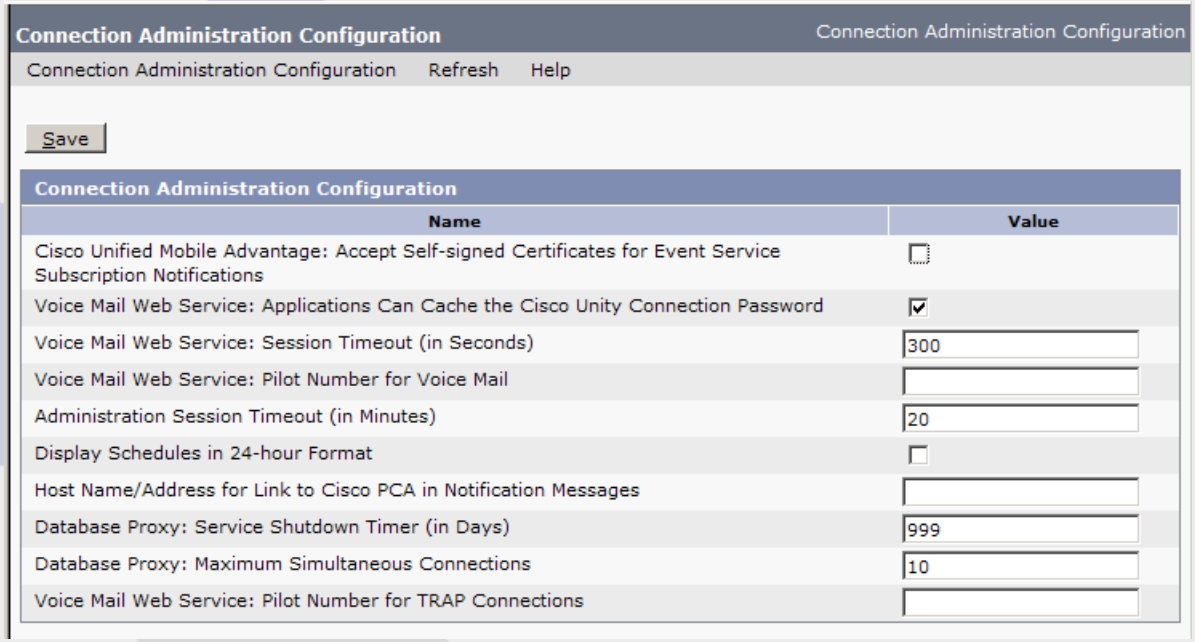

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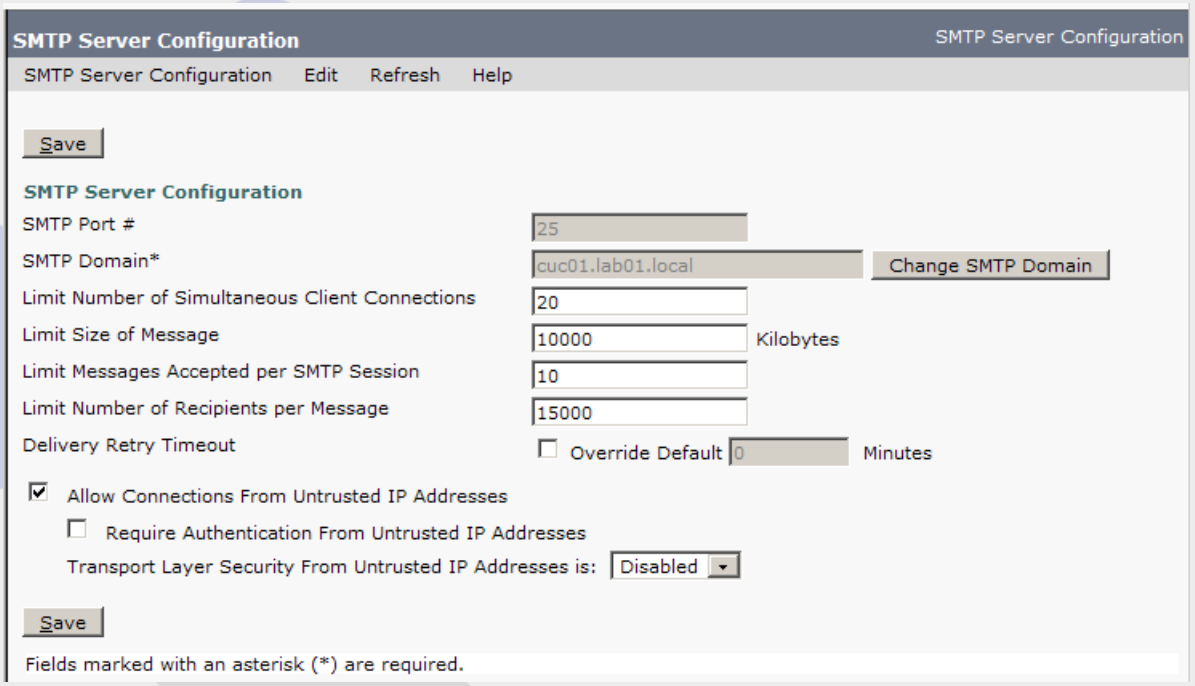

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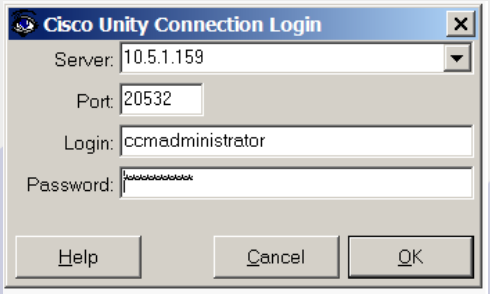
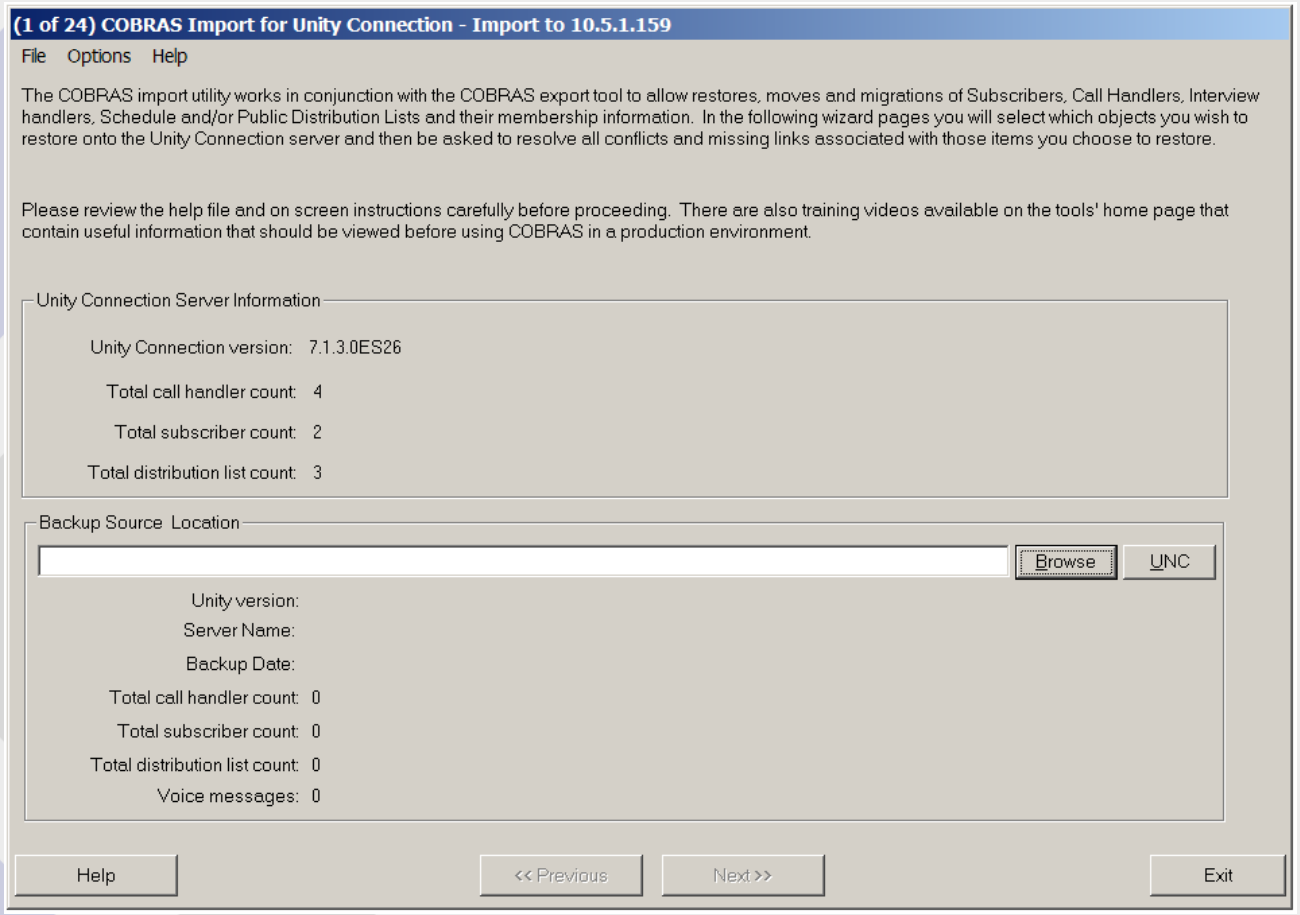
Unity to Unity Connection Migration





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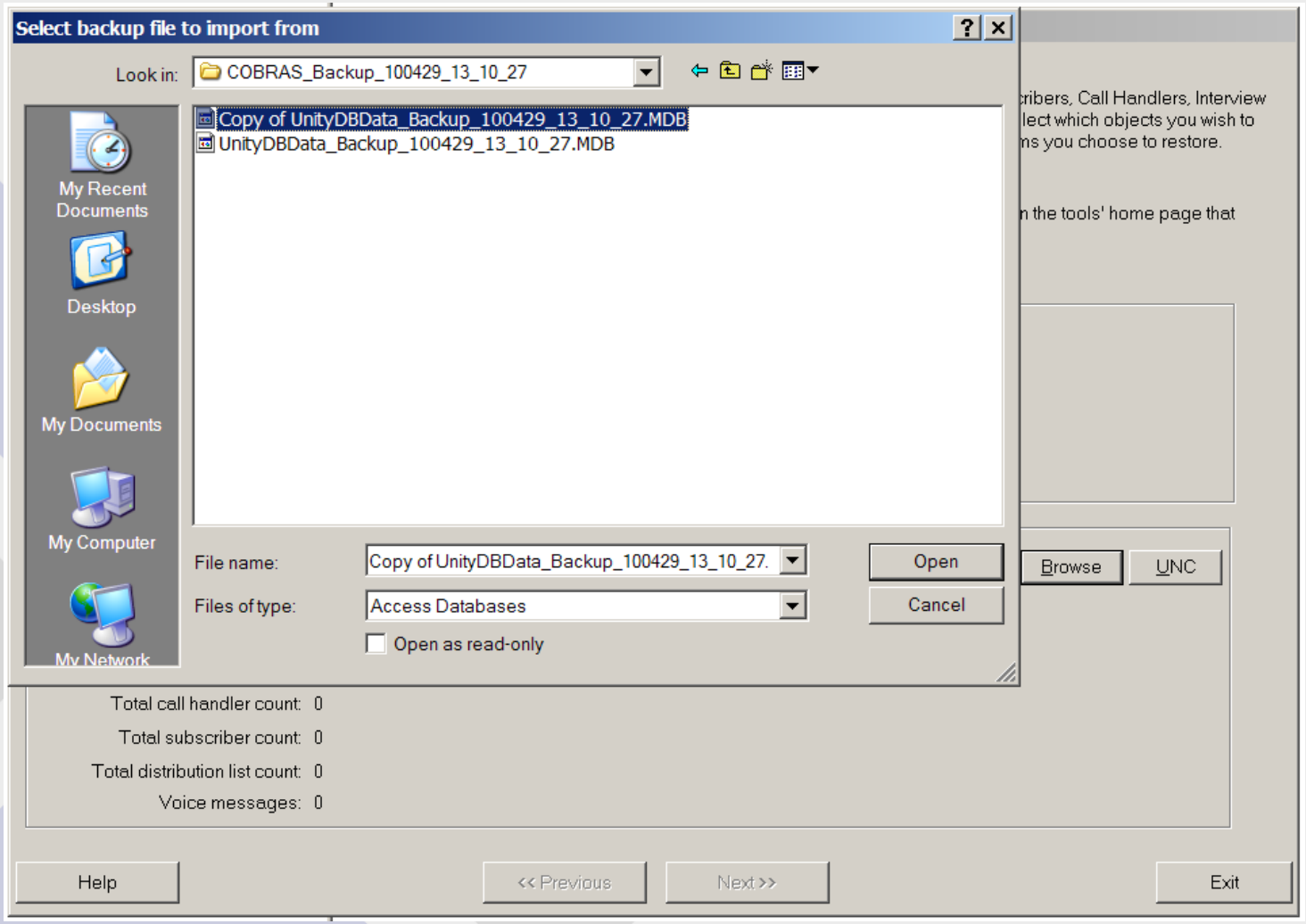

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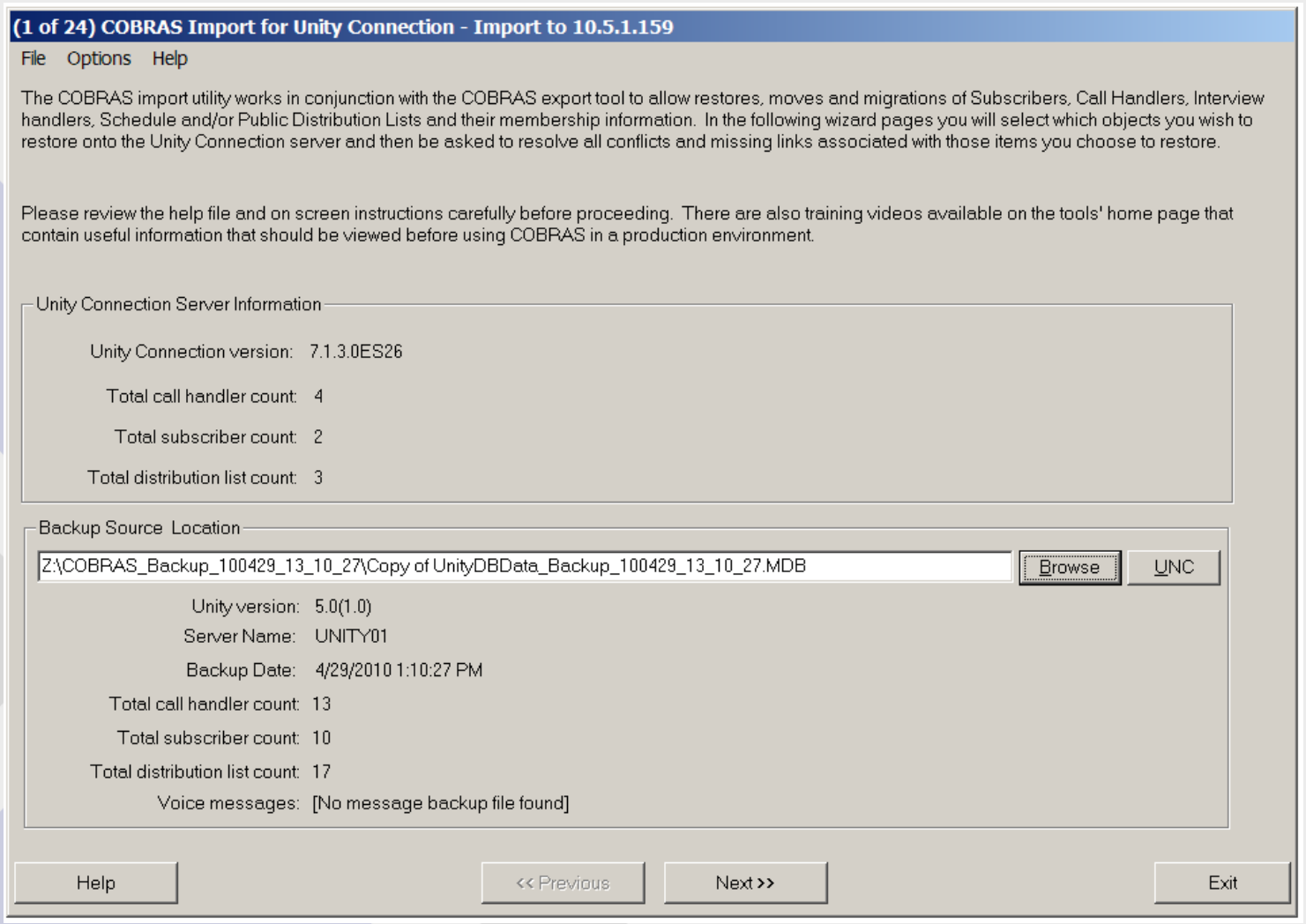

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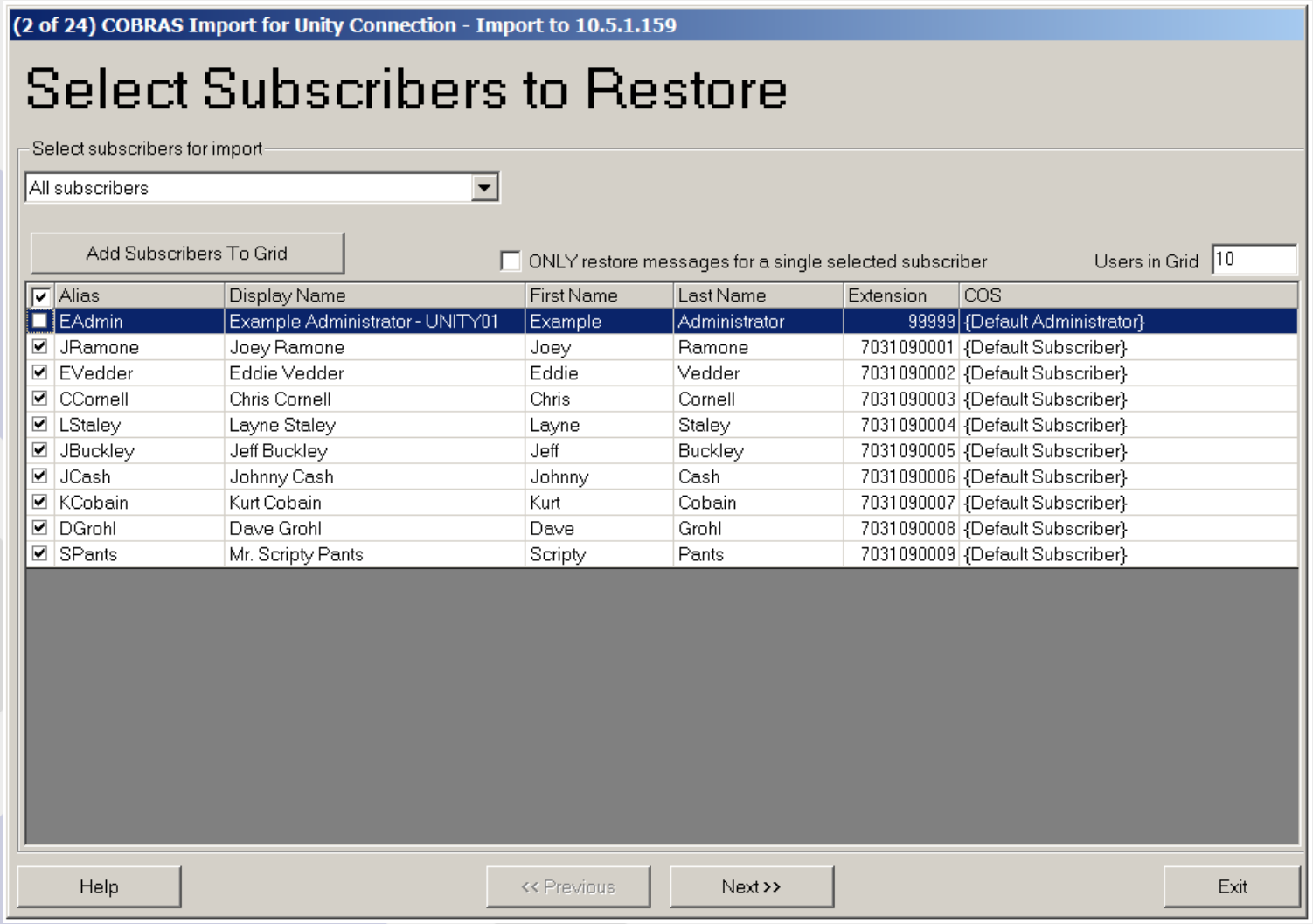

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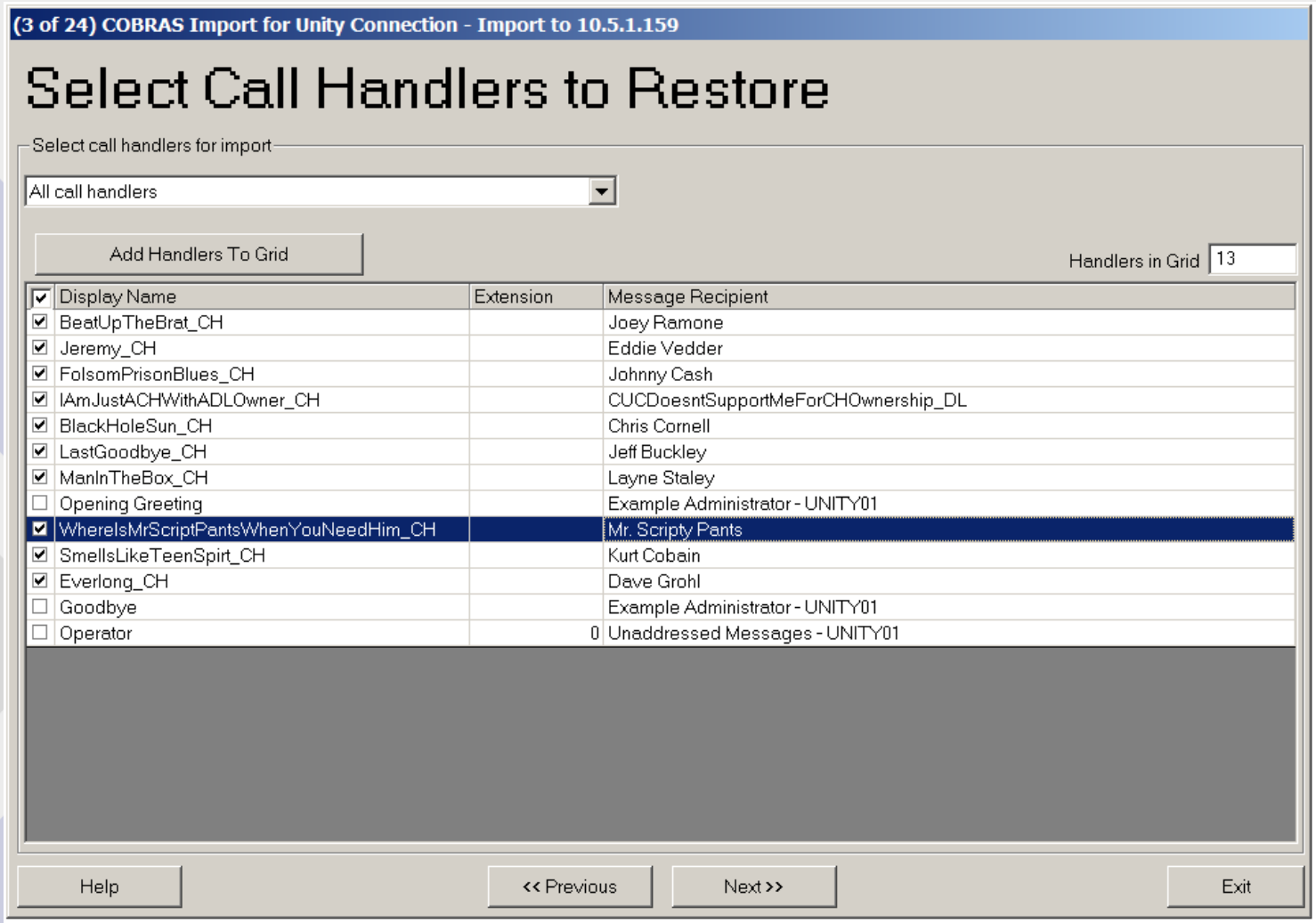

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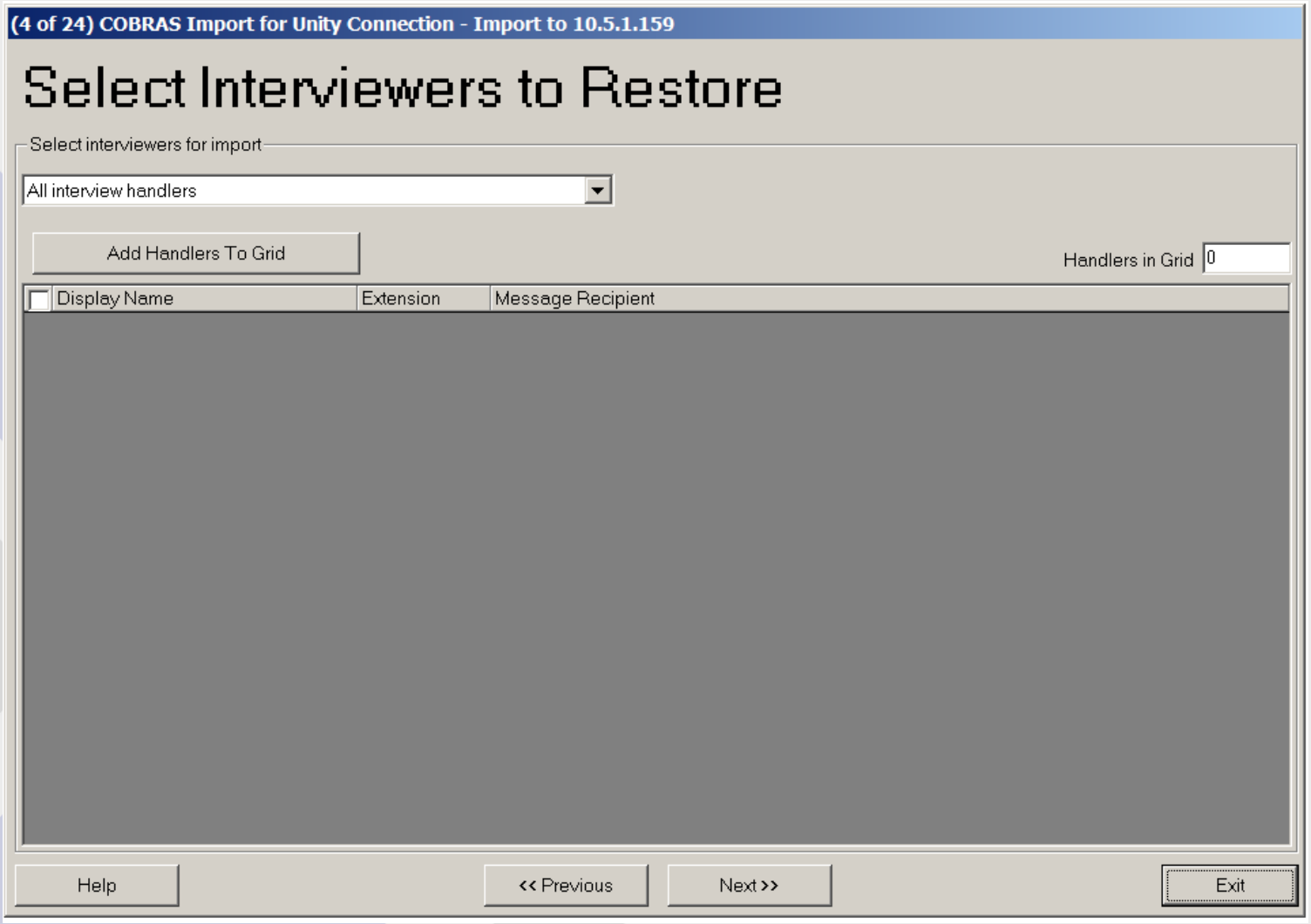

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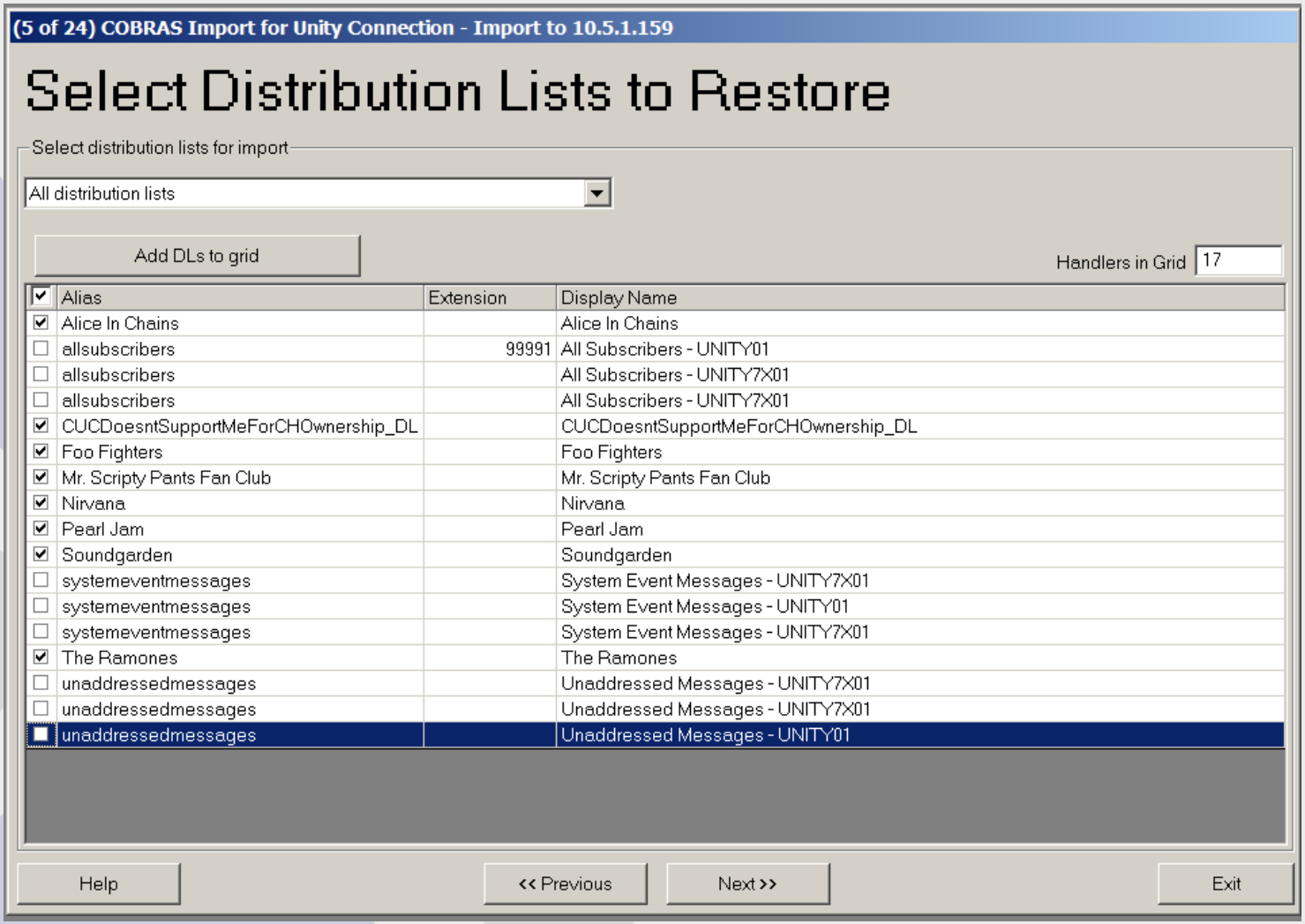

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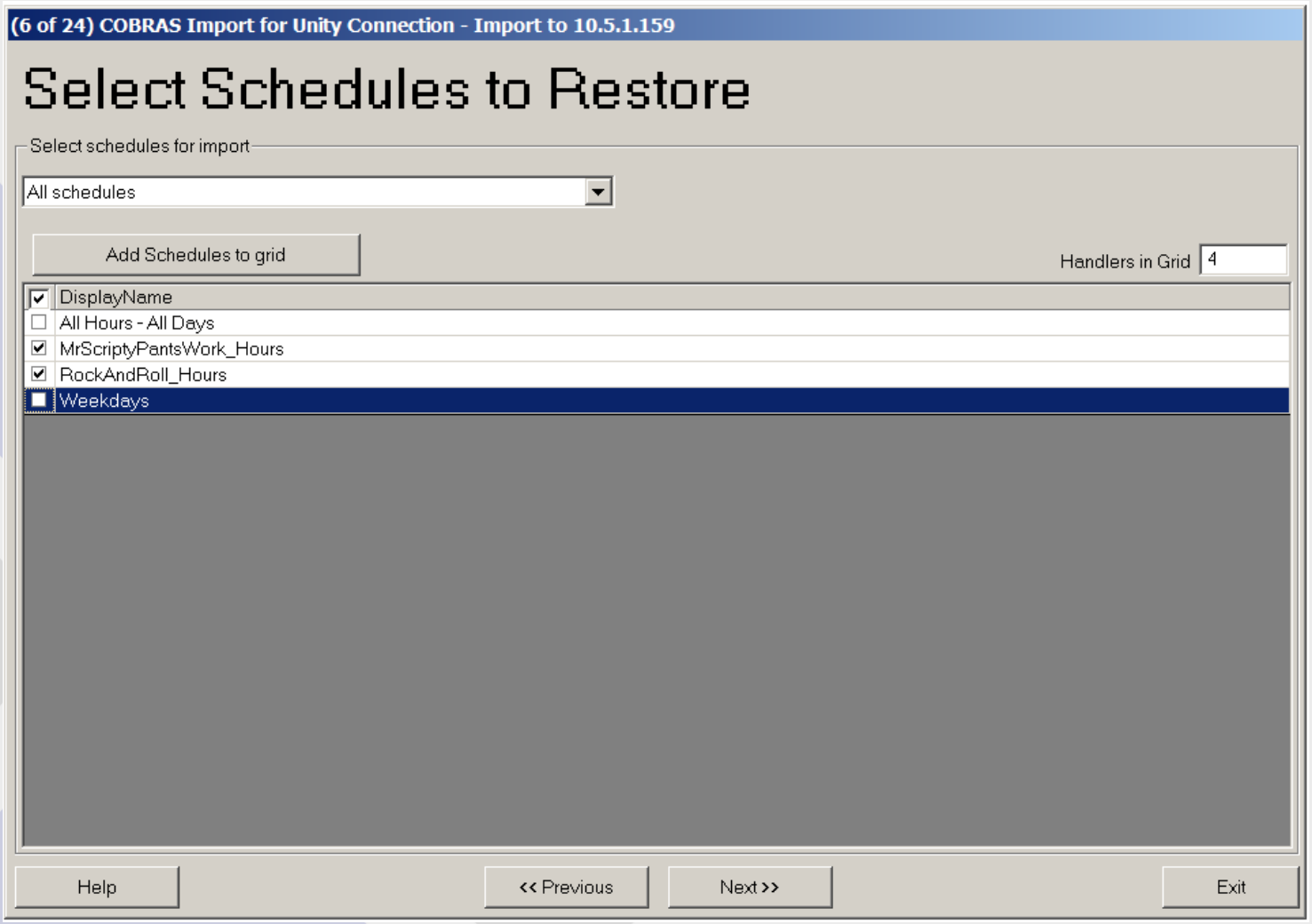

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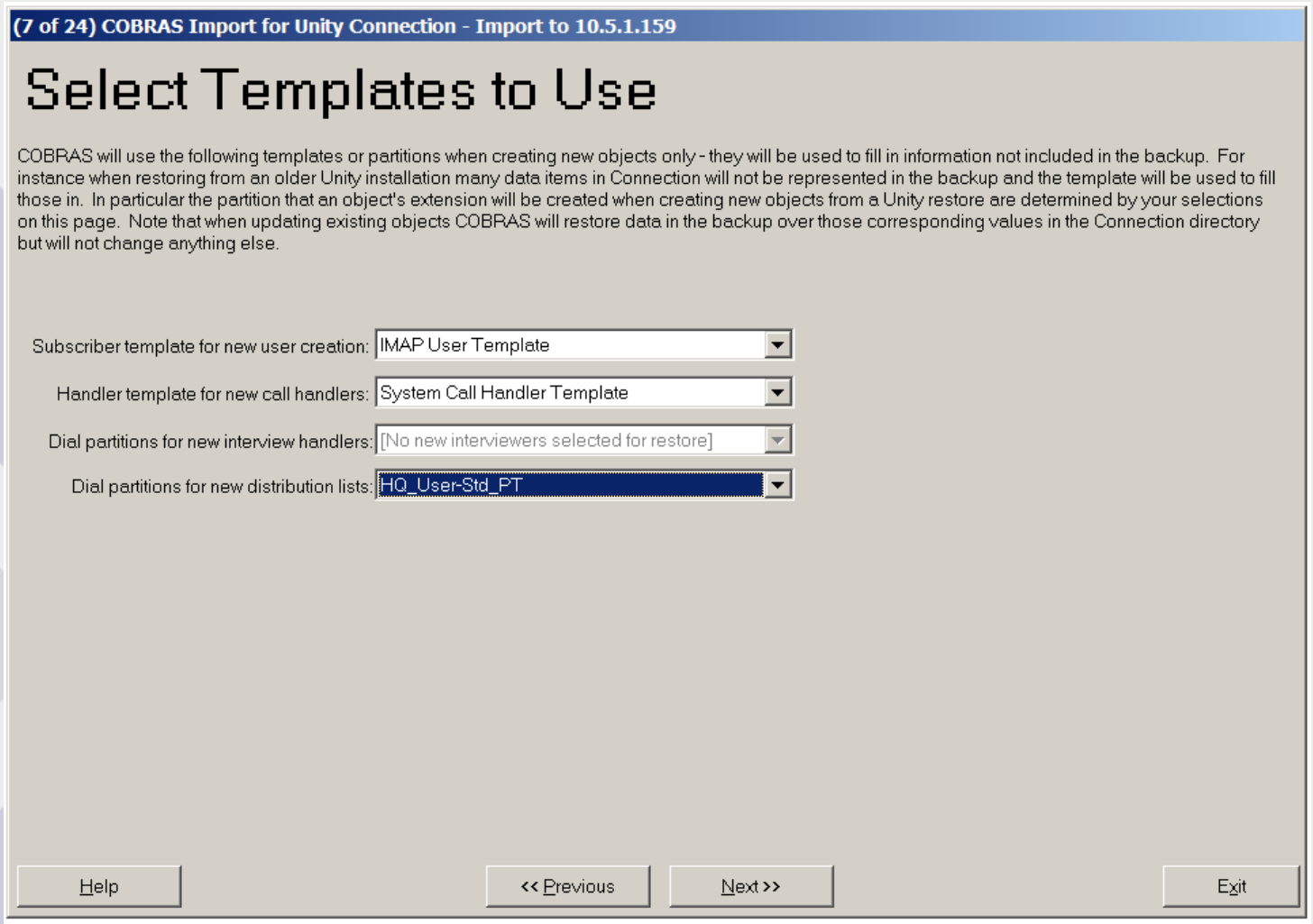

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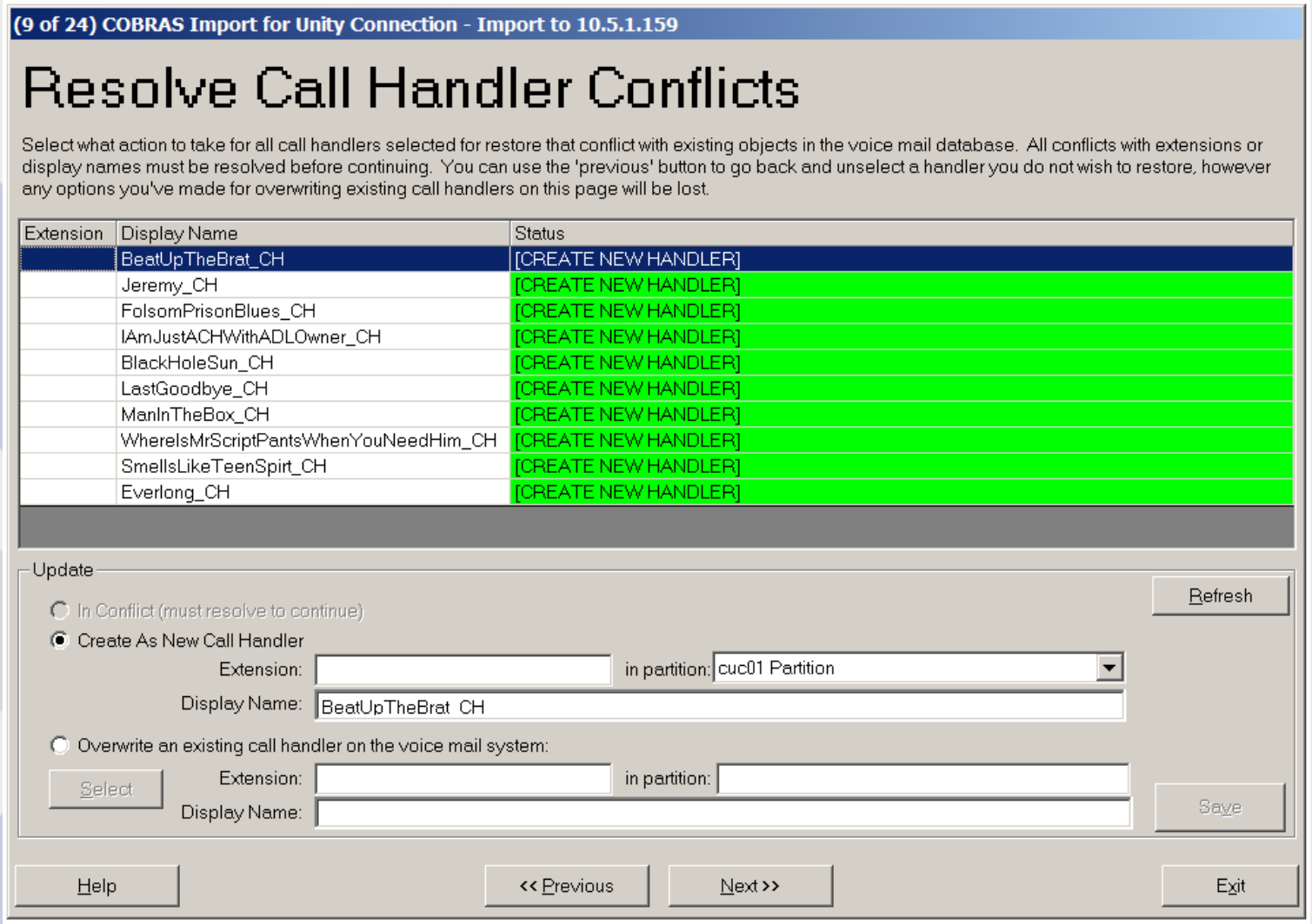

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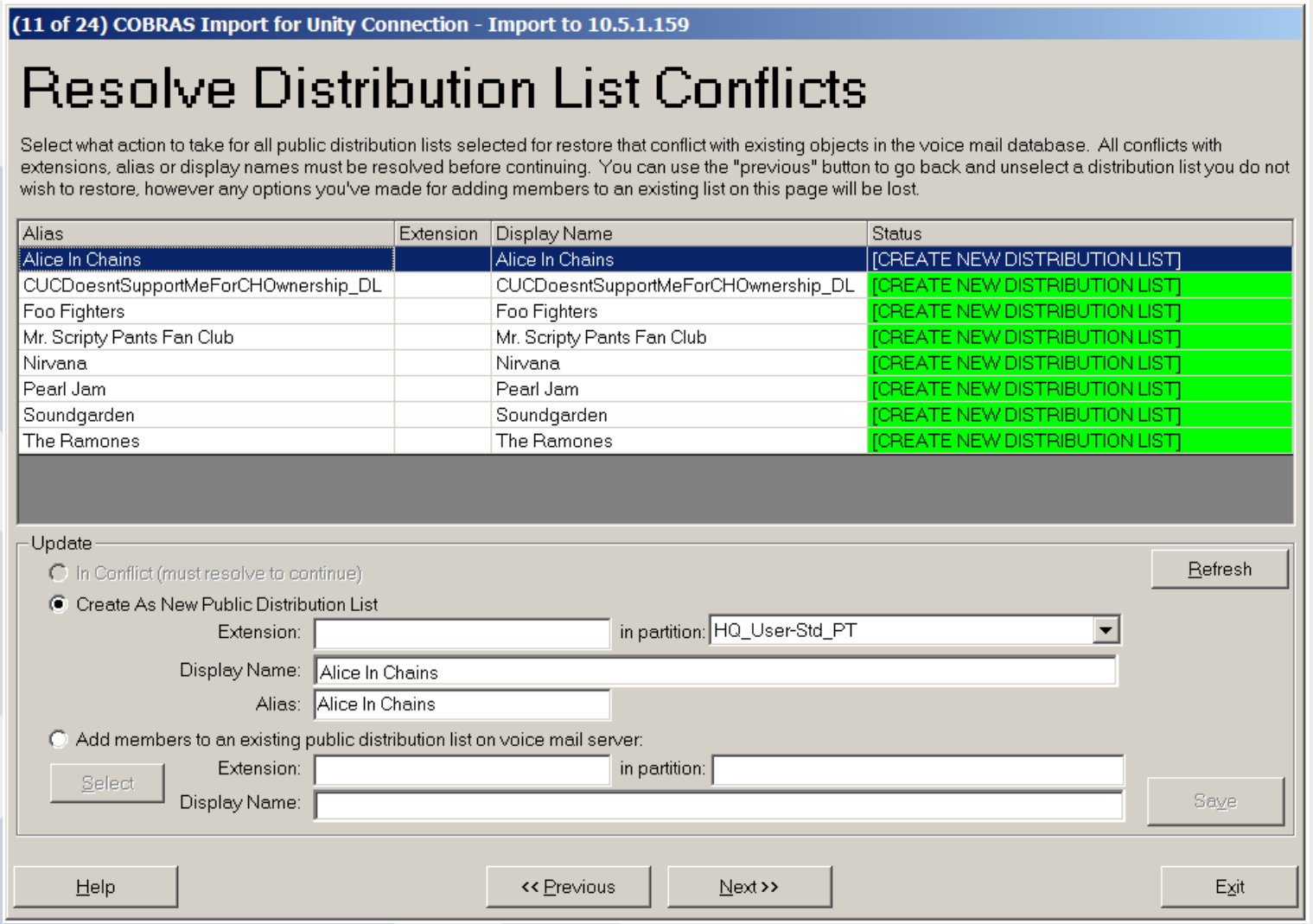

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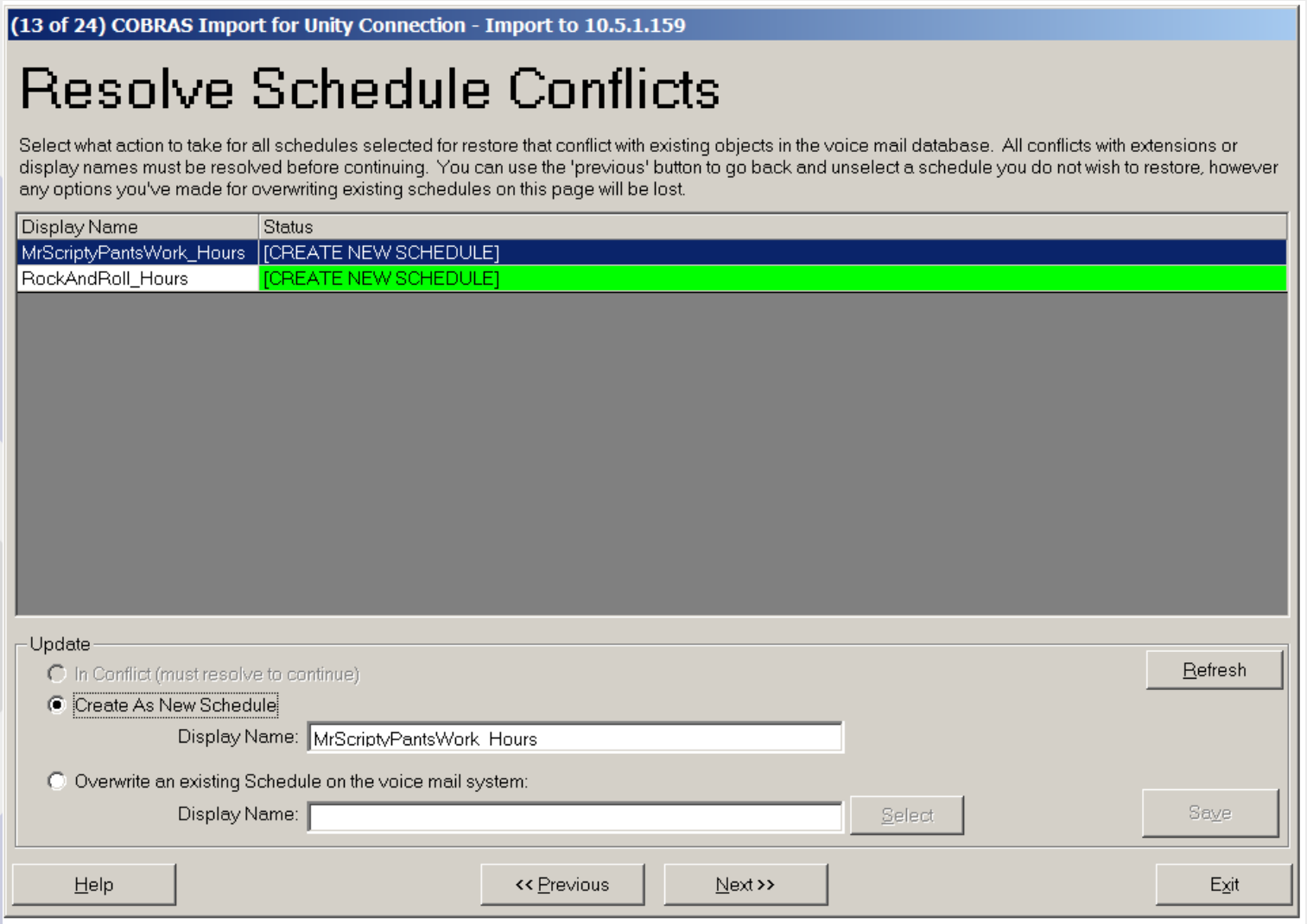

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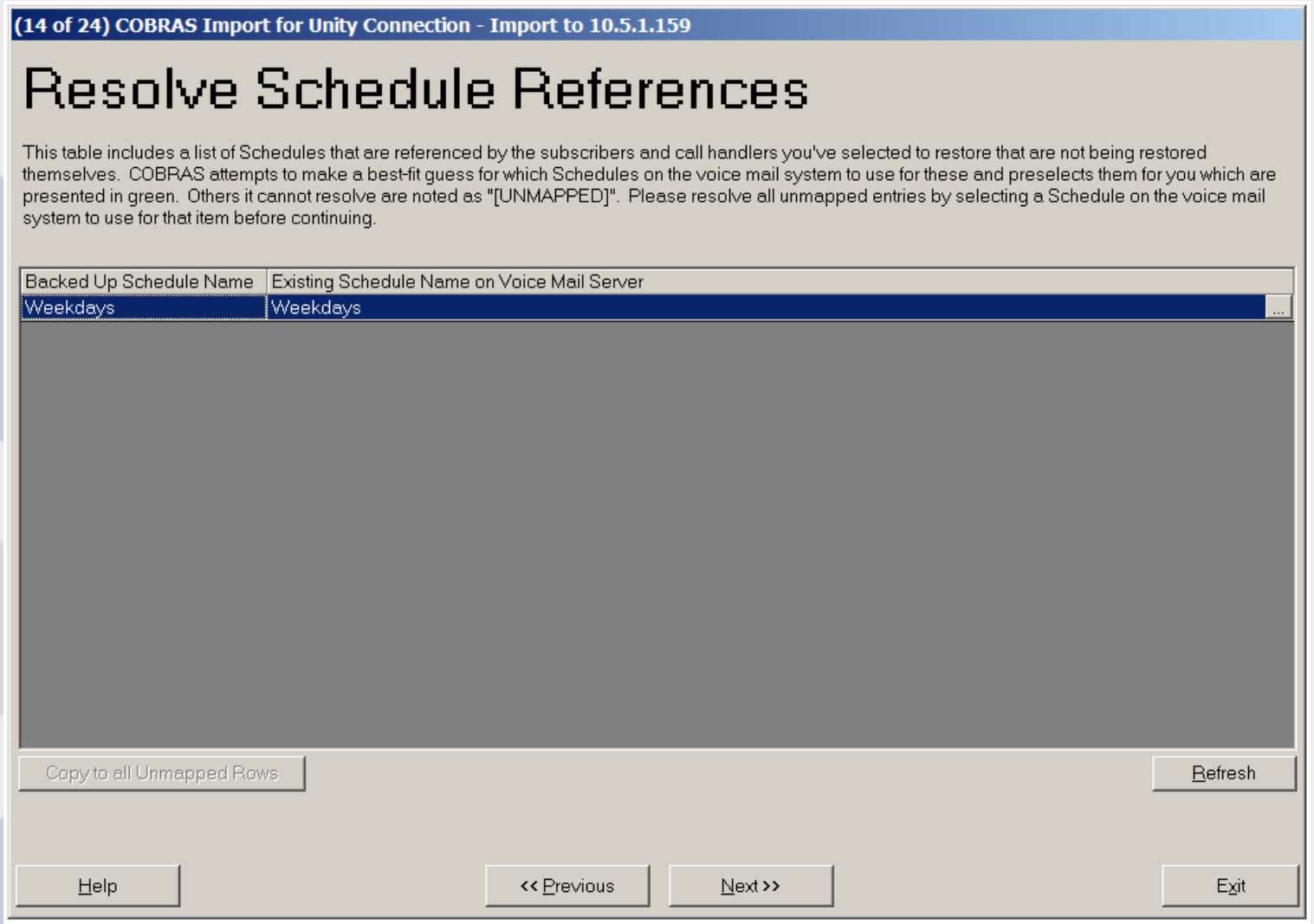

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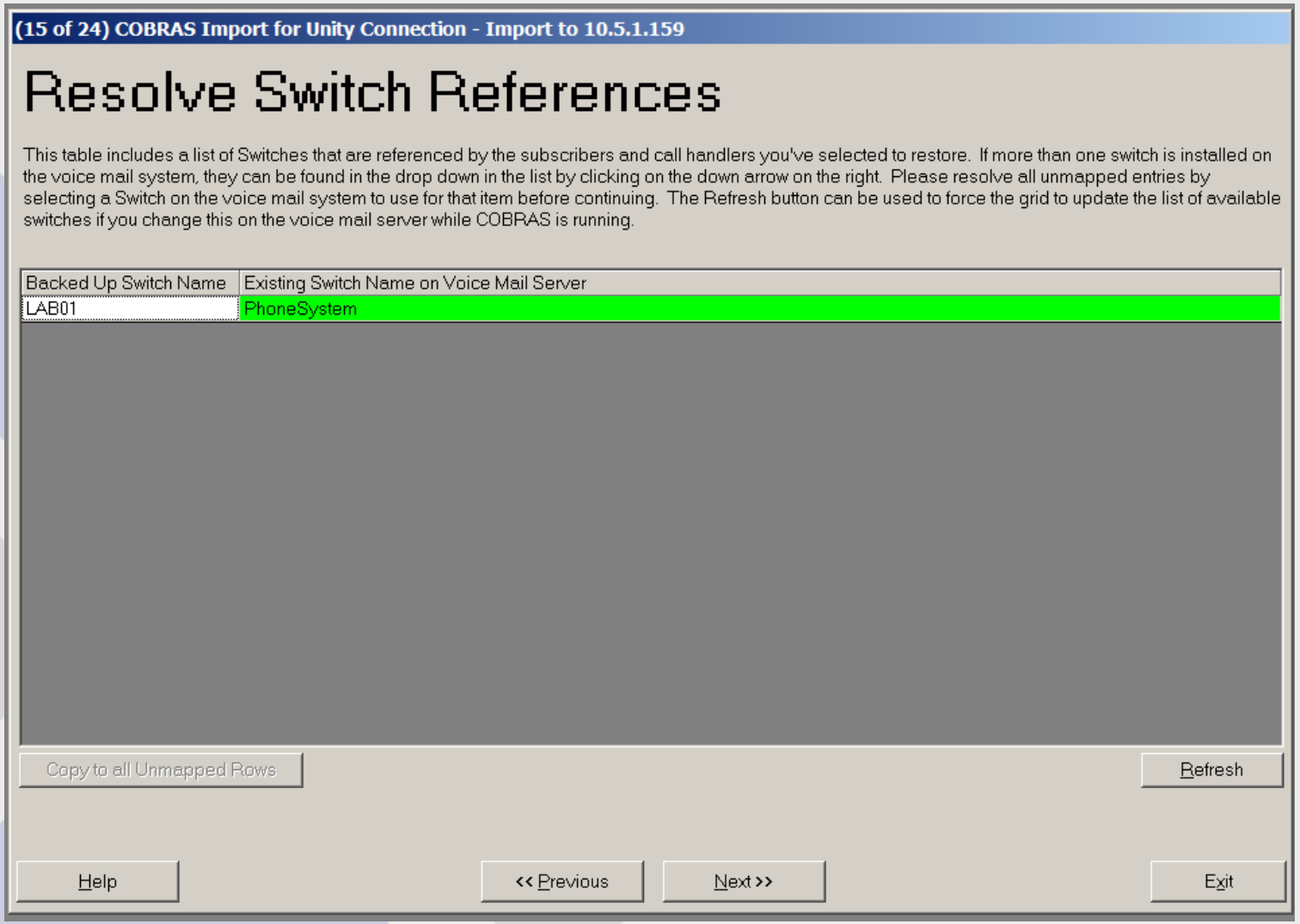

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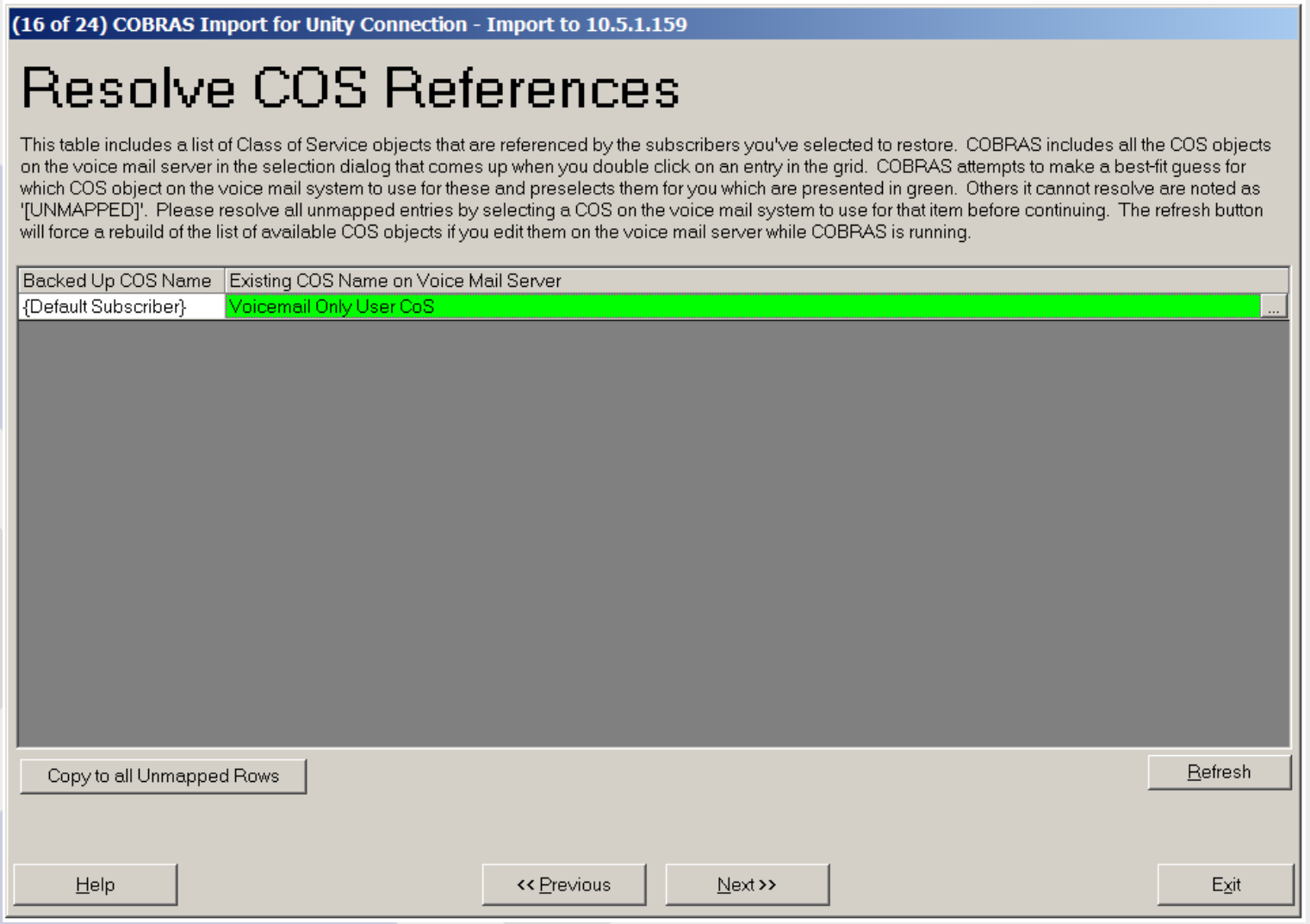

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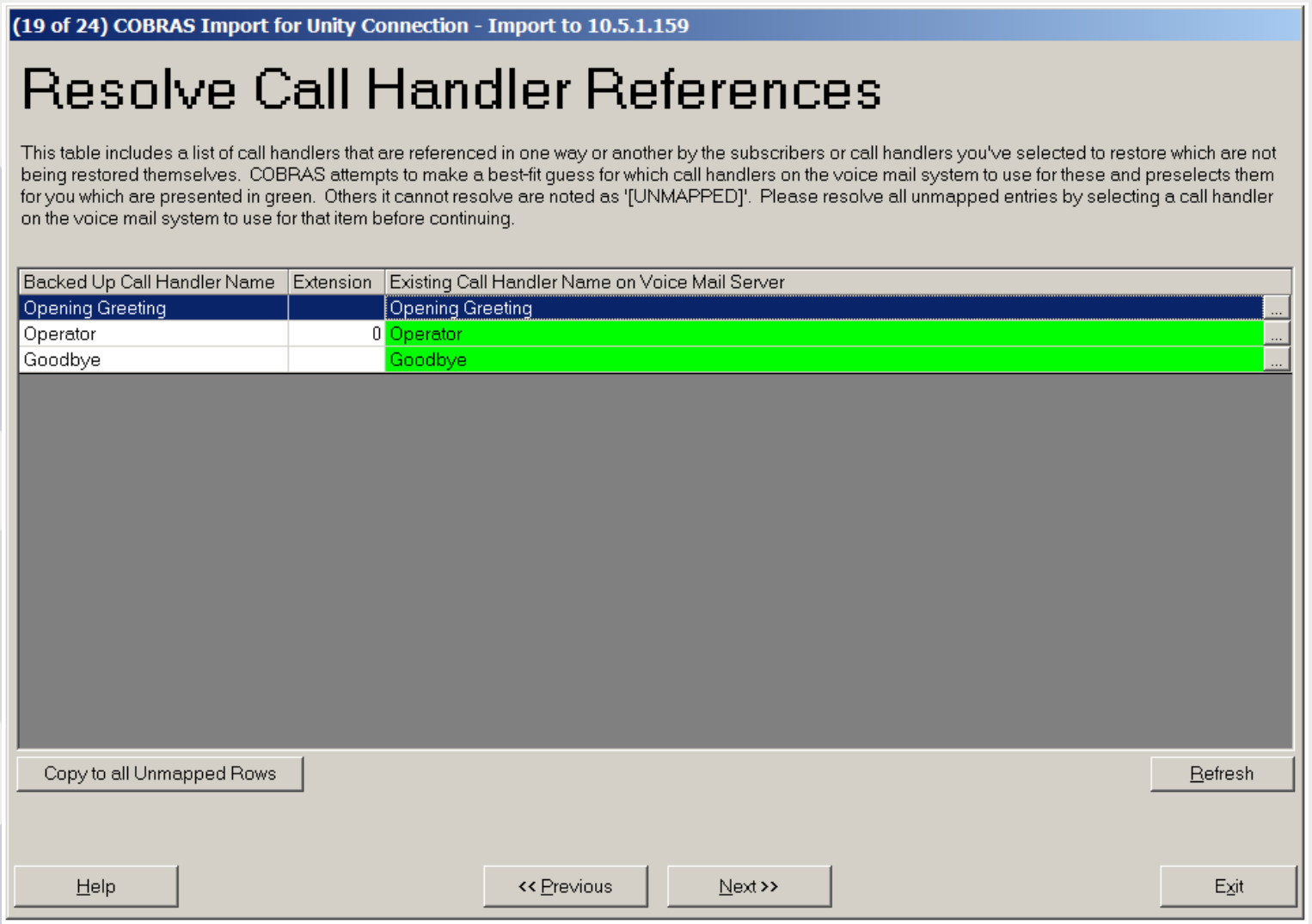

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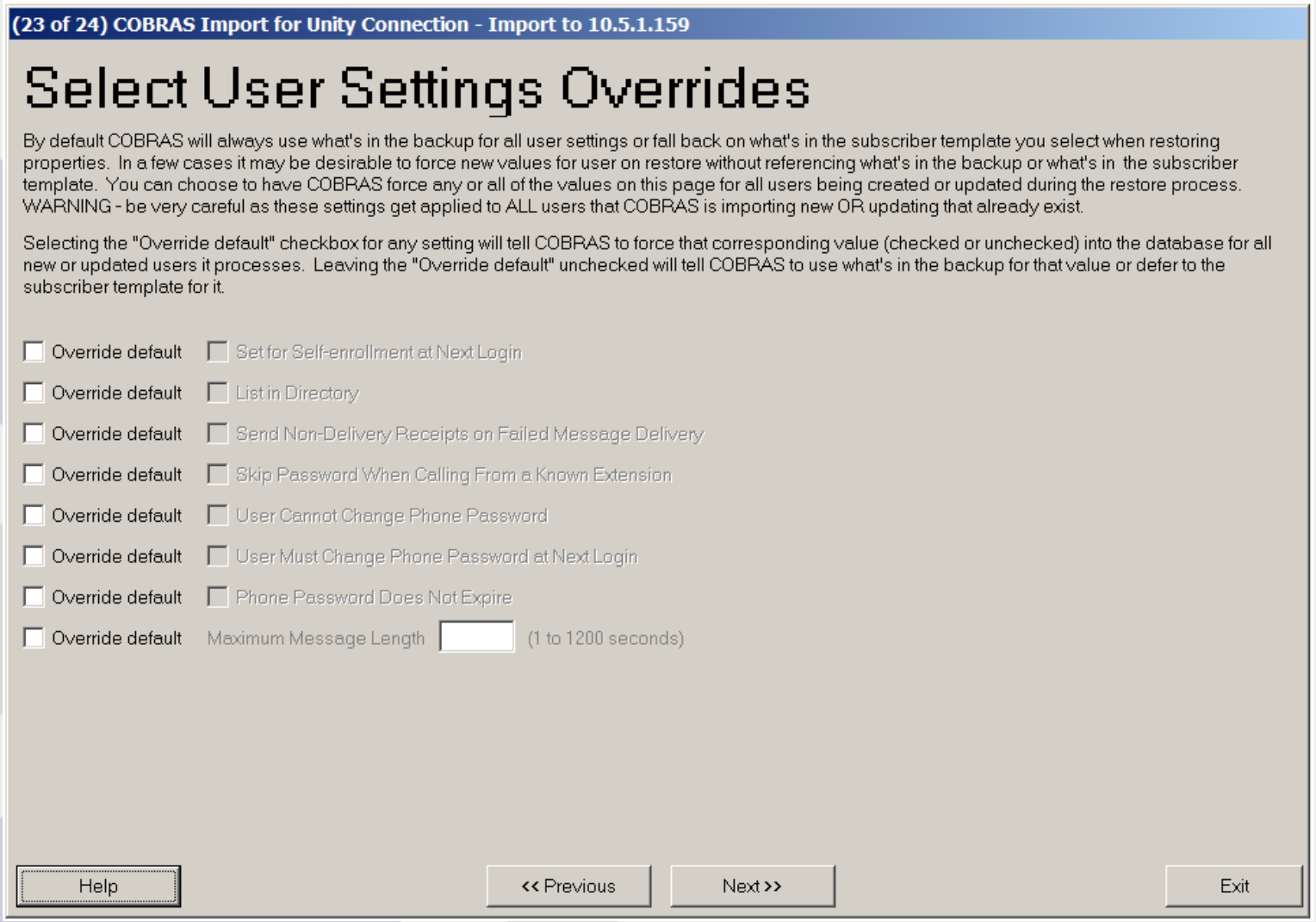

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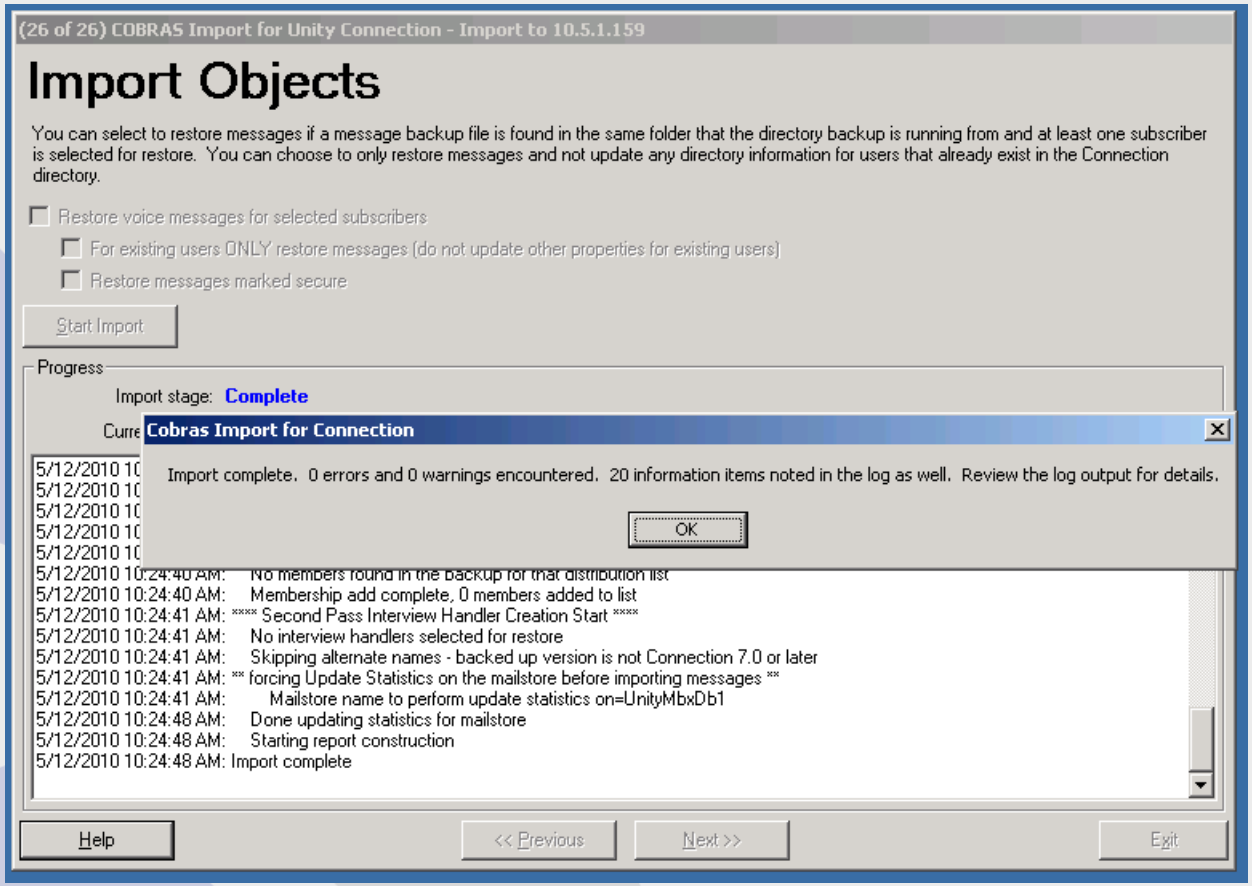

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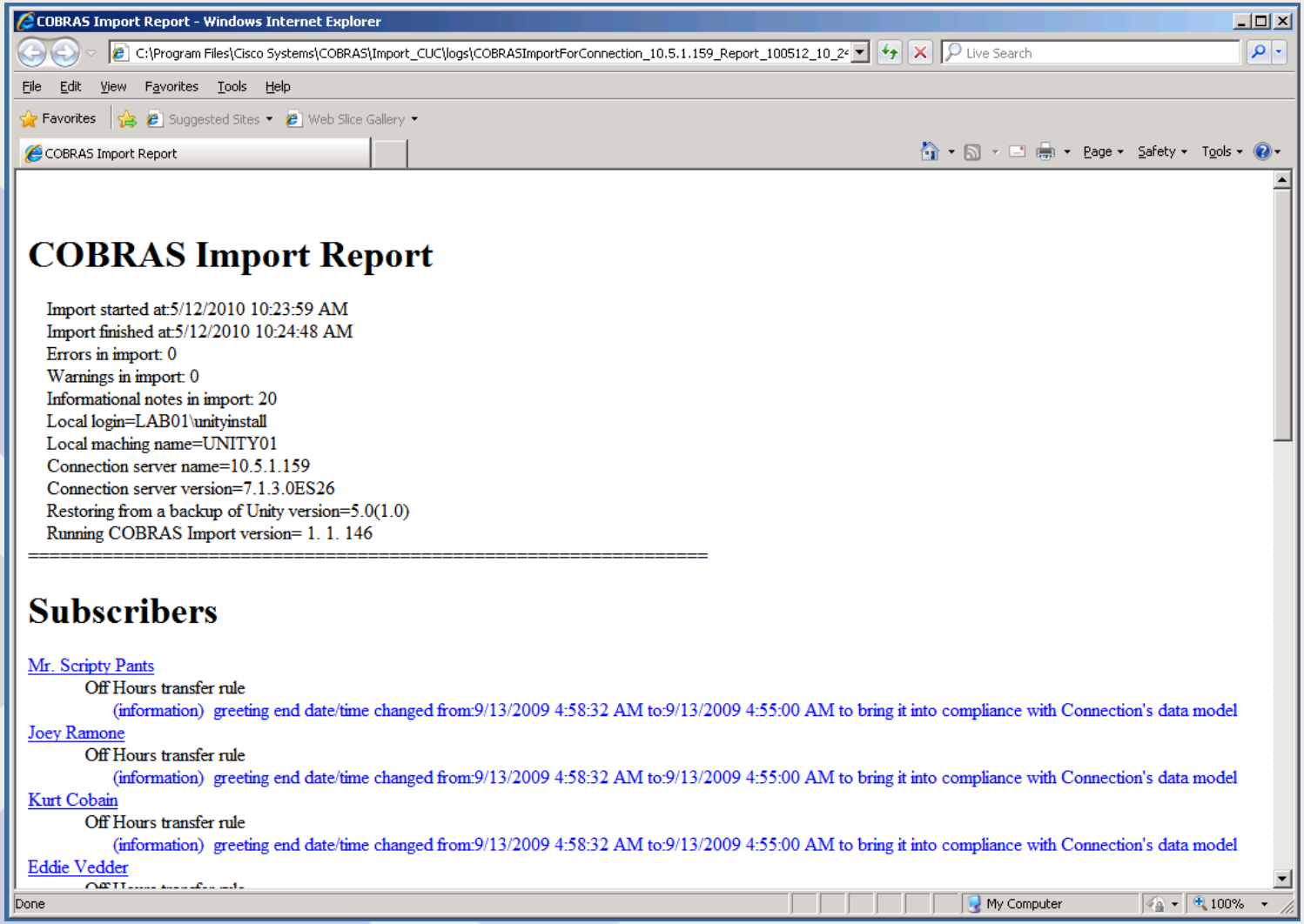

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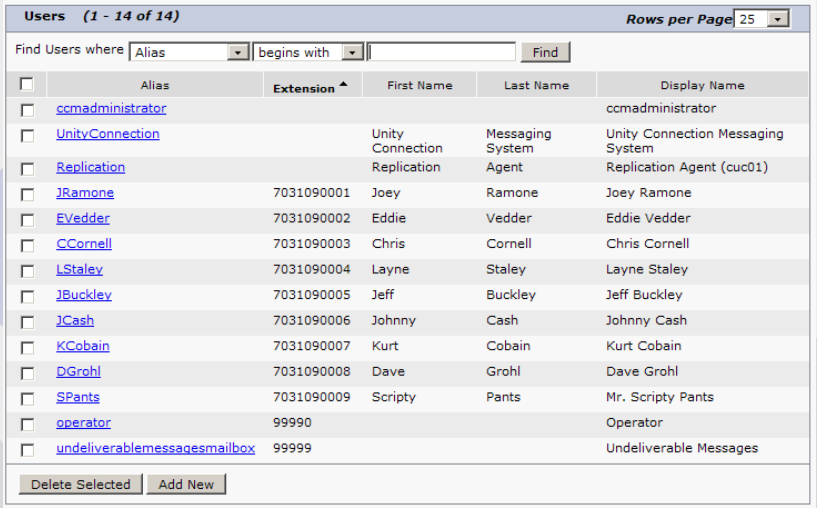
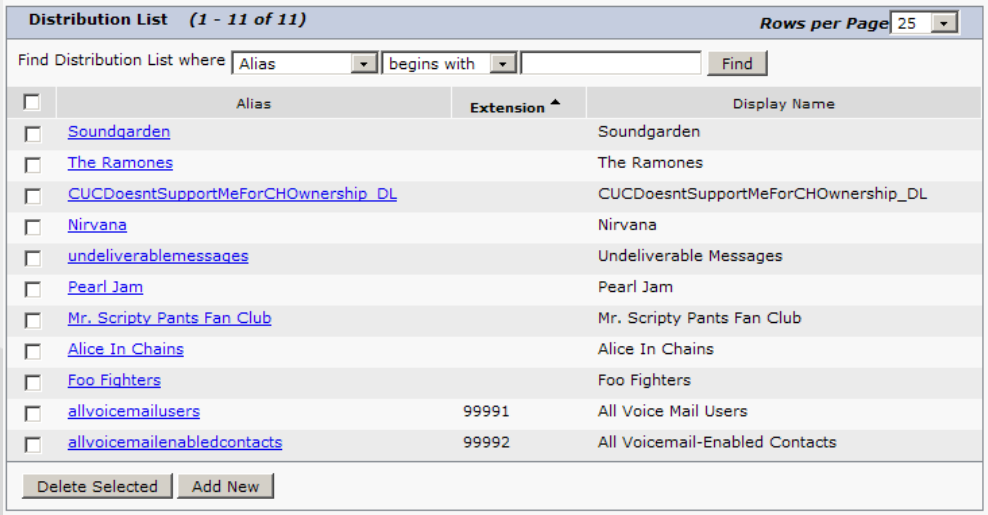


Users (1 - 14 of 14) Rows per Page 25

Find Users where Alias begins with Find

Alias	Extension	First Name	Last Name	Display Name
ccmadministrator				ccmadministrator
UnityConnection		Unity Connection	Messaging System	Unity Connection Messaging System
Replication		Replication	Agent	Replication Agent (cuc01)
JRamone	7031090001	Joey	Ramone	Joey Ramone
EVedder	7031090002	Eddie	Vedder	Eddie Vedder
CCornell	7031090003	Chris	Cornell	Chris Cornell
LStaley	7031090004	Layne	Staley	Layne Staley
JBuckley	7031090005	Jeff	Buckley	Jeff Buckley
JCash	7031090006	Johnny	Cash	Johnny Cash
KCobain	7031090007	Kurt	Cobain	Kurt Cobain
DGrohl	7031090008	Dave	Grohl	Dave Grohl
SPants	7031090009	Scripty	Pants	Mr. Scripty Pants
operator	99990			Operator
undeliverablemessagesmailbox	99999			Undeliverable Messages

Delete Selected Add New

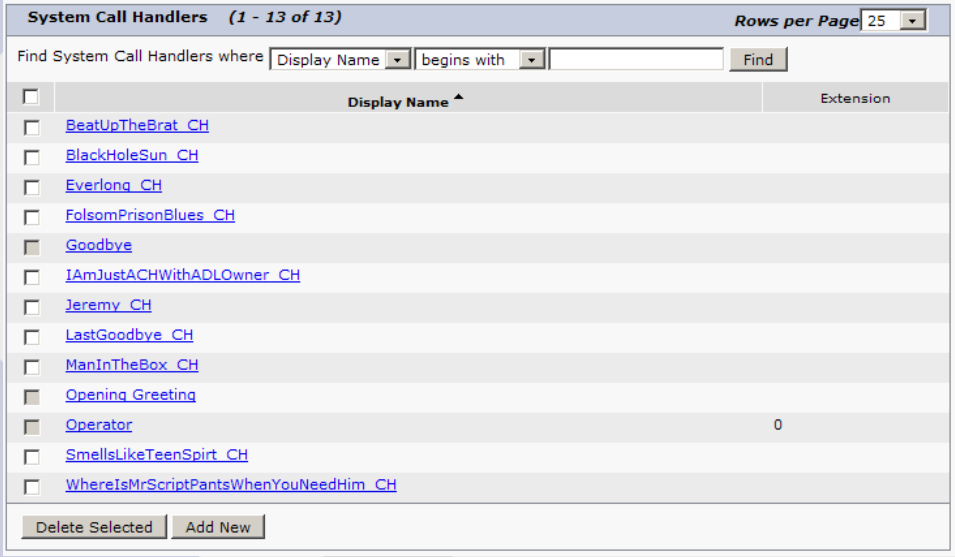


Distribution List (1 - 11 of 11) Rows per Page 25

Find Distribution List where Alias begins with Find

Alias	Extension	Display Name
Soundgarden		Soundgarden
The Ramones		The Ramones
CUCDoesntSupportMeForCHOwnership_DL		CUCDoesntSupportMeForCHOwnership_DL
Nirvana		Nirvana
undeliverablemessages		Undeliverable Messages
Pearl Jam		Pearl Jam
Mr. Scripty Pants Fan Club		Mr. Scripty Pants Fan Club
Alice In Chains		Alice In Chains
Foo Fighters		Foo Fighters
allvoicemailusers	99991	All Voice Mail Users
allvoicemailenabledcontacts	99992	All Voicemail-Enabled Contacts

Delete Selected Add New



System Call Handlers (1 - 13 of 13) Rows per Page 25

Find System Call Handlers where Display Name begins with Find

Display Name	Extension
BeatUpTheBrat_CH	
BlackHoleSun_CH	
Everlong_CH	
FolsomPrisonBlues_CH	
Goodbye	
IAmJustACHWithADLOwner_CH	
Jeremy_CH	
LastGoodbye_CH	
ManInTheBox_CH	
Opening Greeting	
Operator	0
SmellsLikeTeenSpirt_CH	
WhereIsMrScriptPantsWhenYouNeedHim_CH	

Delete Selected Add New

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Resources

- COBRAS Migration Tools
  - http://www.ciscounitytools.com/Applications/General/COBRAS/COBRAS.html
- Chesapeake NetCraftsmen UC Blogs
  - http://www.netcraftsmen.net/resources/blogs/tags/70/
- Cisco NetPro Forums
  - https://supportforums.cisco.com/community/netpro

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