

CallManager 4.x to 5.x/6.x Upgrade Fails Due to DMA Error

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Introduction

Prerequisites

Requirements

Components Used

Conventions

DMA Fails During Upgrade – Troubleshooting Tips

Solution 1

Solution 2

Solution 3

Solution 4

Error: not enough disk space to perform upgrade

Solution

DMA Stuck due to Informix IDS – Cisco CallManager Service

Solution

Error: "The Installation has Encountered a Unrecoverable Internal Error"

Solution

TcpWindowSize Errors Occur During DMA Installation

Solution

DMA fails due SQL error: -746

Problem

Solution

Problem

Solution

Error message: Only characters A–Z, a–z, 0–9 are allowed in prompt name

Problem

Solution

Warning: LDAP Search Failed

Solution

Warning: NetworkHoldMOHAudioSourceID is set only for Directory Numbers

Solution

Error: DMA Backup Disposition is missing and is mandatory

Solution

SQL Exception attempting to access Devices in database

Solution

Error: Informix is detected in the system. Go to Add/Remove Programs to remove IDS (Informix Dynamic Server)

Solution

Installation of DMA on the 4.x Cisco Unified Communication Manager Publisher Fails

Solution

DMA Warning: The circumflex must appear within brackets

Solution

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction

Data Migration Assistant (DMA) assists you with the first step in the migration from Cisco Unified CallManager 4.1(x) data to CallManager 5.x/6.x. DMA backs up Cisco CallManager 4.1(x) data in a format that Cisco CallManager 5.0 can read. Cisco CallManager 4.1(x) runs in a Windows environment, and Cisco CallManager 5.x/6.x runs in a Linux environment, so DMA exports Windows-based data to a format that Linux can import. The Cisco CallManager 5.x/6.x installation process converts the backed up data as needed for Cisco CallManager 5.x/6.x, which completes the data migration. Refer to Release Notes for Data Migration Assistant Release 5.0(4) for more information on DMA.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on Cisco CallManager 4.1(3) and 5.x/6.x.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

DMA Fails During Upgrade – Troubleshooting Tips

When you attempt an upgrade from Cisco CallManager 4.x to Cisco CallManager 5.x, the DMA fails and the upgrade stops.

The first place to look when you troubleshooting a DMA backup problem is the backup.log file that is created when the backup process is attempted. This file is located in the C:\program files\common files\cisco\logs\dma\ folder:

This file might provide information into the cause of the DMA failure. Most errors can look something like this:

```
[02:34:51 PM] [Error] Failure, Windows-based W1 Migration Verification
```

```
[02:34:51 PM] [Error] Failed to verify Cisco CallManager database and directory backed up data.
```

```
[02:34:51 PM] [Error] The database and/or directory cannot be migrated as they are.
```

```
[02:34:51 PM] [Error] Correct the database and/or directory information and run DMA again.
```

```
[02:34:51 PM] [Error] Verification of DB in IDS failed. Retaining the TAR file as it is.
```

Then check the exportdb.log file to find where the DMA failed during the backup process. This file is located in the C:\ciscowebs\dma\bin\ folder.

In this log file, look from the bottom up for the last operation that failed. An operation in the log looks like this:

Successful Operation:

```
cmd [ /C copy "C:\CiscoWebs\DMA\bin\sdmigration\sql\create_ccm_w.sql"
"c:\tmp\db\sql" ]

[cmd] [ /C copy "C:\CiscoWebs\DMA\bin\sdmigration\sql\create_ccm_w.sql"
"c:\tmp\db\sql" ]

going to GetStartupInfoA()

going to CreateProcessA()

going to WaitForSingleObject()

going to GetExitCodeProcess()

GetExitCode returned TRUE (success)

return value = 0 (0 means success!)
```

Failed Operation:

```
ImportCSV[C:\CiscoWebs\DMA\bin\installdb] [ -f W1 c:\tmp c:\tmp 1 1 ]

going to GetStartupInfoA()

going to CreateProcessA()

going to WaitForSingleObject()

going to GetExitCodeProcess()

GetExitCode returned TRUE (success)

return value = 1 (1 means failure!)
```

The installdb operation that you see fail in this output is the most common source of failed DMA backups.

Finally, the installdb process generates a log in the DBL trace folder called instaldbw1.log. This file is located in C:\Program Files\Cisco\Trace\DBL\instaldbw1.log.

In this log, search from the top down for the keyword ***Error***.

Note: The asterisks that surround the word Error are very important. In DMA, if a line simply has "Error" without the asterisks, it is non-critical and can be ignored. You also see **Warnings** which can also be ignored.

The reason for the top down search is that errors at the bottom of the trace are most likely caused by an error occurrence earlier on. In Example 1, look at the first line that says **Error** and see that the DMA failed insert into the Informix Dynamic Server (IDS) Database for Cisco CallManager 5.0.

Example 1 – Unspecified System Error = -239 on Informix db Insert

```
10/23/2006 14:25:42.227 installdb|*ERROR* Error executing "insert into NumPlan
```

```
(authorizationcoderequired,authorizationlevelrequired,blockenable,
cfaptvoicemailenabled,cfavoicemailenabled,cfbintvoicemailenabled,
cfbvoicemailenabled,cfdfvoicemailenabled,cfnaintvoicemailenabled,
cfnavoicemailenabled,clientcoderequired,deviceoverride,dnorpattern,
fkroutepartition,iscallable,ismessagewaitingon,outsidedialtone,
patternurgency,personalroutingenabled,pff_cfb,pff_cfna,pffintvoicemailenabled,
pffvoicemailenabled,pkid,supportoverlapsending,tkautoanswer,tknetworklocation,
tkpatternprecedence,tkpatternusage,tkpresentationbit_callingline,
tkpresentationbit_connectedline,
tkpresentationbit_connectedname,tkreleasecausevalue,tkstatus_
usefullyqualcallingpartyname)
values('F',0,'F','f','F','F','f','f','F','f','F131F',
'4a3945ba-7319-42ff-8f75-f2487e51380e','T','f','F','F','F','F','F','F','F',
'7917e56e-8c50-4f8f-b851-db45b23220b2','f',0,0,5,7,0,0,0,0,0):
[Informix][Informix ODBC Driver][Informix]Unspecified System Error ==-239.]
```

Note the error number on the last line. This number is important because it helps you resolve the problem. You can see the DN or Pattern that has the issue in the bold font. In this case, it is a duplicate voicemail pilot number that was created during an upgrade from Cisco CallManager 3.3(5) to CallManager 4.1(3). It is also important to note that this problem was only found after looking in the Cisco CallManager Admin pages for directory number (DN) 1131. These error messages can give some tips on where to look for the problem, but many times, they do not indicate the exact problem directly.

These are the most common system error numbers:

- -239: Error trying to insert a duplicate record.
- -691: Trying to insert a record with a pointer to null value.

This typically refers to a piece of data that you try to insert that references data that never got inserted earlier.

- [-691 Missing key in referenced table for referential constraint]

Example 2 – Unspecified System Error = -691

```
10/23/2006 14:29:34.467 installldb|*ERROR* Error
executing "insert into DeviceNumPlanMap
(busytrigger,callinfodisplaymask,ctiid,fkdevice,fknumplan,maxnumcalls,
numplanindex,pkid,tkmwlpolicy,tkringsetting,tkringsetting_consecutive)values
(1,9,2117155668,'a13d0022-1002-4386-b28d-094643addf84',
'7917e56e-8c50-4f8f-b851-db45b23220b2',2,0,
'2fa36f13-6a7a-43f4-965d-be534860666e',0,4,0):
[Informix][Informix ODBC Driver][Informix]Unspecified System Error ==-691.
sqlerrm(DMABack_Admin.fk_devicenumberplanmap_fknumplan) |
```

Note that the PKID matches between the errors and that the time stamp for these errors are about 4 minutes apart.

Example 3 shows another example of a user that fails to be inserted into the DB:

Example 3 – Primary Error – Error Code = -391

```
10/15/2006 23:02:09.265 installldb| DBUtil::CopyTable insert into
enduser (pkid,uniqueidentifier,userid) values
a02117a9-ffa3-4f6a-aa6c-d120842d55cd','9f2e66c656779a4dbaccdcdb3a320d676','cpush')

10/15/2006 23:02:09.265 installldb| DBUtil::CopyTable
ErrorCode=-391, SQLState=HY000|
```

It is the userid that has the problem. This is most likely an empty field in the user page (for example: Last Name, PIN Password, and so forth). It is possible that a field in Cisco CallManager 4.x was not required and this blank field causes an error when you try to insert it into IDS.

Example 4 – Secondary Error – Error Code = -691

```
10/15/2006 23:03:01.546 installldb| *ERROR* Error executing
"insert into EndUserDeviceMap
(defaultprofile,description,fkdevice,fkenduser,pkid,tkuserassociation) values
('F','','55cff786-90c9-4cac-b051-18da97bfcba2','a02117a9-ffa3-4f6a-aa6c-d120842d55cd',
'5f9fc849-a799-433f-98bd-9ea074ed5b71',1):
[Informix][Informix ODBC Driver][Informix]Unspecified System Error = -691.
sqlerrm(DMABack_Admin.fk_enduserdevicemap_fkenduser) |
```

Note the matching PKID and the difference in timestamps. The -391 error causes a -691 error roughly a minute later.

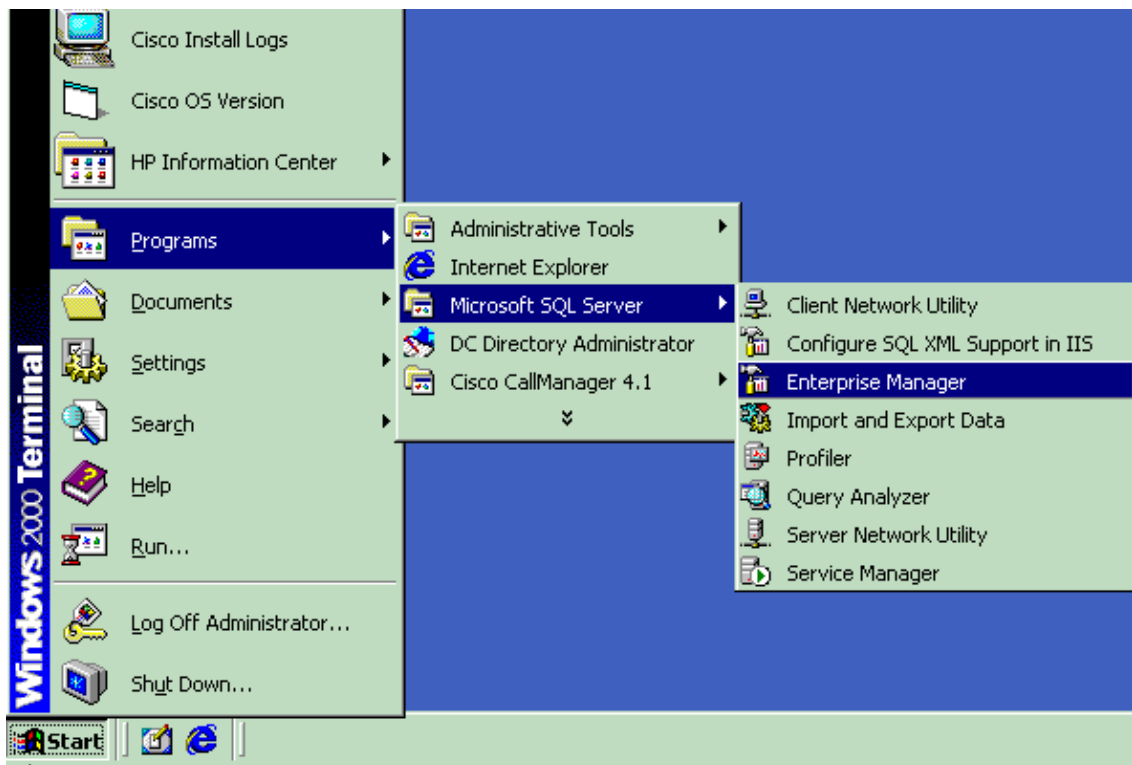
```
-391: Trying to insert a record that has null field where data is required.
```

Solution 1

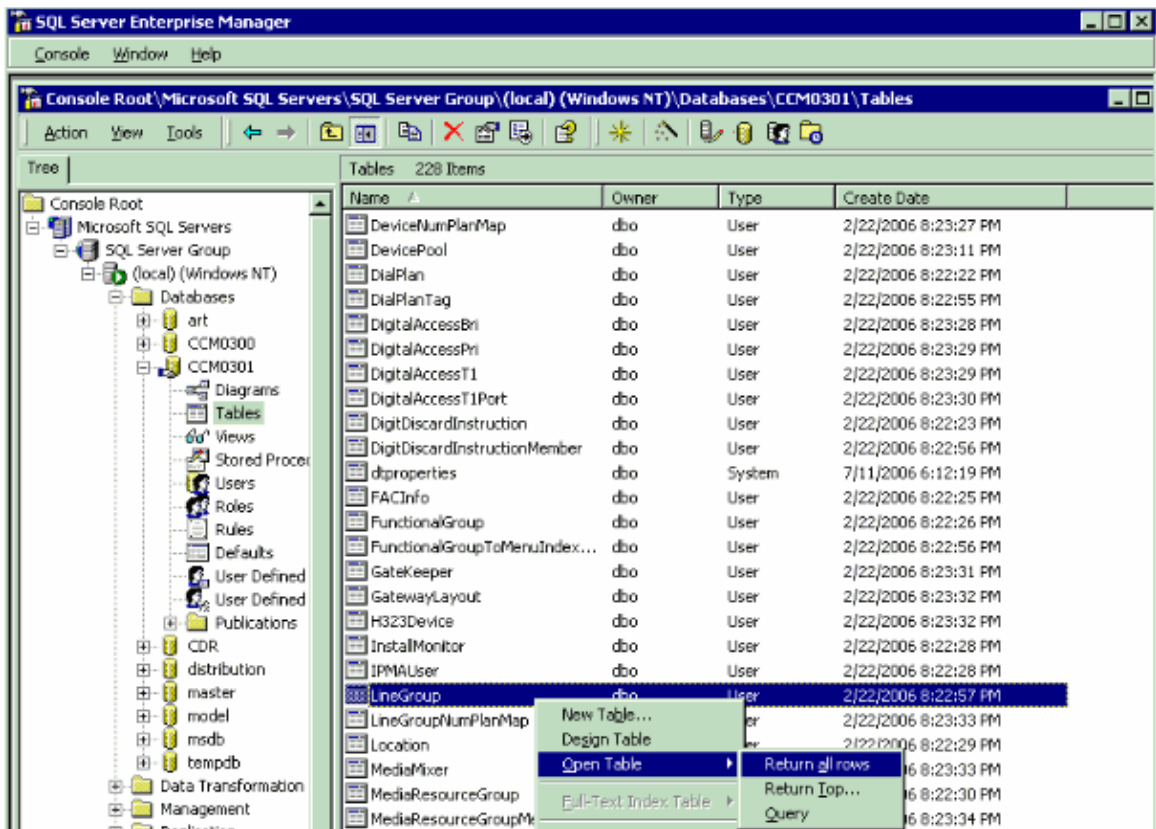
Complete these steps in order to resolve this issue:

Note: Before you run DMA , make sure you disable the Cisco Security Agent (CSA) service, the Antivirus application, or any other third party application that runs on your server.

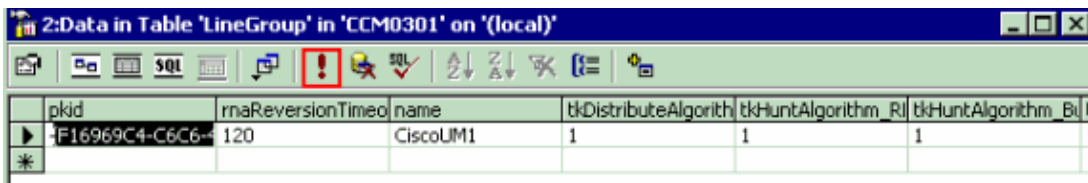
1. Choose **Start > Programs > Microsoft SQL Server > Enterprise Manager**.



2. Drill down to **Microsoft SQL Servers > SQL Server Group > <local_server> > Databases > CCM0XXX > Tables**.



3. Locate and right-click on **LineGroup** and choose **Open Table > Return all rows**.
4. Check the **rnaReversionTimeout** field. The problem might be because this field is set to 180 and it should be between 0 and 120. If it is 180, set this field to **120**. You need to click the "!" (exclamation mark in the tool bar) in order to run so that the value is saved.



5. Close the Microsoft SQL Enterprise Manager and run the DMA again. The upgrade should work fine.

Solution 2

This error can also occur when the Personal Address Book has some invalid entries, such as x, +, and the DMA fails to parse those entries. This results in the data validation error.

In order to resolve the issue, complete these steps:

1. Convert the entries to the standard format or delete them.
2. Re-run the DMA.

The upgrade is likely to be successful.

Solution 3

This issue can also occur if there is some Unassigned Directory Number (DN) in the Cisco CallManager database. You can see a list of DNs that are not associated with any phones in the Cisco CallManager Route Plan Report. In order to resolve the issue, you need to delete the unassigned DN from Cisco CallManager and re-run the DMA.

Note: Before you start the DMA backup, make sure that ALL Extension Mobility Users are "logged OUT". If any of the users are logged into Extension Mobility, the DMA backup will not succeed.

Solution 4

In the extension mobility section, choose **Not Selected** from the Log Out Profile drop-down box, and save the changes.

Error: not enough disk space to perform upgrade

When an attempt is made to retrieve the upgrade file for Cisco Unified Communications Manager from a remote server through a File Transfer Protocol (FTP) server, the not enough disk space in the common partition to perform the upgrade error message appears.

Solution

Use a Secure FTP server to retrieve the upgrade file from the backup. Make sure you have access to an SFTP server in order to backup Cisco Unified Communications Manager over a network.

DMA Stuck due to Informix IDS – Cisco CallManager Service

When a user runs the DMA to backup the Cisco CallManager database, the Informix IDS-CCM service does not stop. This causes the DMA to appear in a hung or stuck state.

Solution

Complete these steps in order to resolve this issue:

1. In order to stop the IDS service and allow the DMA resume, choose **Start > Programs > Informix Dynamic Server > ccm**.

A command prompt window opens with Informix privilege.

2. Run the **onmode -yuk** command in order to stop the Informix Dynamic Server. DMA then resumes and is operational.

Error: "The Installation has Encountered a Unrecoverable Internal Error"

The upgrade from Cisco CallManager 4.x to Cisco CallManager 5.x fails, even when the same IP address and hostname are used and these steps are completed:

1. Create a backup with the Data Migration Assistant (DMA).
2. Boot the Cisco CallManager 5.x DVD.
3. Choose Microsoft Windows Upgrade.
4. Download the TAR file that the DMA generates from a File Transfer Protocol (FTP) server.

When these steps are completed, the data downloads and is applied without problems. After a while, a dump generates with this message in the install.log file:

```
The installation has encountered a unrecoverable internal error.  
For further assistance report the following information to your support  
provider. Script "/usr/local/cm/script/5.0.2.1000-3/cm-dbl-install W1
```

```
PostInstall 5.0.2.1000-3"4.1.3"
usr/local/cm/common/download/windows/ /common/log/install/install.log"
exited with errors (1).The system will now halt.
```

Solution

This issue occurs due to the presence of a delete file among your CSV files. There is a file, which is not a part of the regular install in Windows, that must be removed from the TAR. It is called **delete.csv**.

Complete these steps in order to resolve this issue:

1. Delete this file from the TAR.

In order to delete this file, run the tar command with **--delete** with the **delete.csv** file, such as:

```
tar -f --delete ccm/csv/delete.csv
```

2. Re-run the install.
3. After the issue is resolved and the software upgrade is complete, make sure to upgrade the Licenses as well.

E-mail the Cisco licensing team at licensing@cisco.com. It is not possible to make any changes to Cisco CallManager, such as adding phones, until the new license is updated in the servers.

TcpWindowSize Errors Occur During DMA Installation

When an attempt is made to upgrade from Cisco CallManager 4.x to Cisco CallManager 5.x, the DMA fails, and this error appears in the DMAInstUI.log:

```
DMAInstall.cpp fnIDSInstallPreCheck --> fnIDSInstallPreCheck
DMAInstall.cpp fnIDSInstallPreCheck Cannot find TcpWindowSize registry key in SYSTEM\C
DMAInstall.cpp fnIDSInstallPreCheck Cannot find Tcp1323Opts registry key in SYSTEM\Cur
```

Solution

In order to resolve the issue, login as the local administrator and complete the DMA installation.

Note: If you have logged in as a user that has administrative rights, you cannot run the DMA installation successfully. You must login with the local administrator account in order to run the installation successfully.

DMA fails due SQL error: -746

Problem

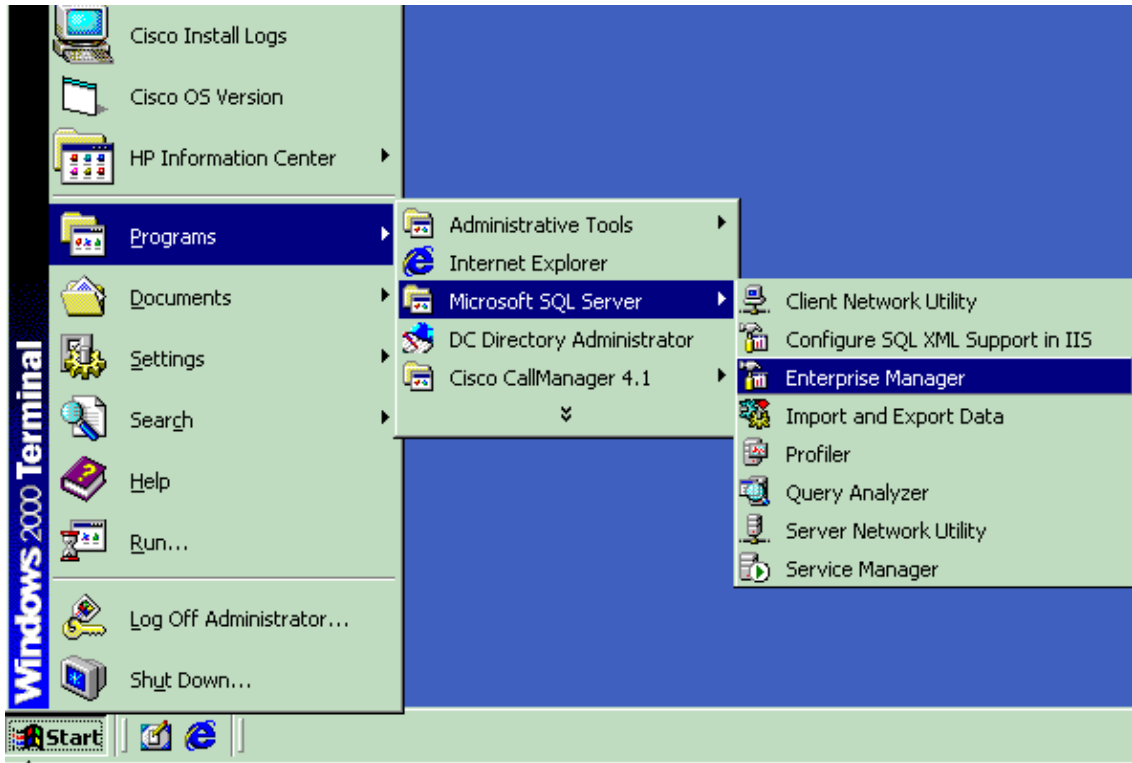
When an attempt is made to upgrade Cisco CallManager with the DMA tool, this SQL error appears:

```
Device
SQL error: -746(2700)
Warning message (business rule violation): A device that uses phone templates must have a
specific phone template assigned
pkid e373e786-c9c3-49e3-89bb-1e595f07e66f Not modifiable
VGC0ab73c0a2b00
```

Solution

SQL error: -746(2700) implies that a device is not assigned a phone template or the template is not valid. In order to resolve this error message, complete these steps:

1. Find the **pkid** of the device from the details of the error message.
2. Choose **Start > Programs > Microsoft SQL Server > Enterprise Manager** in order to look for the **pkid** in the **SQL enterprise manager** device table.



3. Assign a phone template to it.

Problem

This SQL error message appears when an attempt is made to upgrade Cisco CallManager with the DMA tool.

```
SQL error: -746(35288) Warning message (Business Rule Violation):  
DeviceNumPlanMap Label has invalid format.
```

Solution

This error message appears when the **DeviceNumPlanMap** Label field exceeds the maximum length, so ensure the **DeviceNumPlanMap** Label field does not exceed the maximum allowed length.

Error message: Only characters A-Z, a-z, 0-9 are allowed in prompt name

Problem

When the DMA runs, the Error message: Only characters A-Z, a-z, 0-9 are allowed in prompt name error message appears in the data validation log.

The data validation log from a DMA run reports errors and suggests to change the entry with Microsoft SQL server in order to fix them. This error message appears in the log:

```
Row: 19 SQL error: 5000
Error message: Only characters A-Z, a-z, 0-9 are allowed in prompt name
pkid af975a89-3708-4186-a278-8ae34f6bd175 NOT MODIFIABLE
fkEndUser 014cec85-aba9-4494-a342-5c235a3dc03a
aakeypadmapping 78445247374286
aapromptname
FNameAltPronun
LNameAltPronun
```

Solution

These are the workarounds for this issue:

Workaround 1

Complete these steps:

1. Create an end user without Unicode characters and save it.
2. Modify the names to include Unicode characters.

Workaround 2

Complete these steps:

1. Create an end user without Unicode characters and save it. An error appears.
2. Modify the value in the **Name Dialing** field. Save again.

Note: Ensure there is no space in the **aapromptname**. Remove the space from the **aapromptname** if any, because spaces are not allowed in this field.

Warning: LDAP Search Failed

DMA displays this warning when an attempt is made to upgrade from Cisco CallManager 4.x to Cisco Unified Communications Manager 6.x:

```
Warning: LDAP Search Failed
LDAP Search ErrorCode = 32
LDAP Search ErrorMessage = No such object
LDAP Search ErrorName = LDAP_NO_SUCH_OBJECT
LDAP Search ErrorText = The server cannot find an object specified in the request
LDAP Search SearchBase = ou=user_info,ou=CCN,o=cisco.com
LDAP Search SearchScope = sub
LDAP Search SearchFilter = (|(objectclass=ciscocontact)(objectclass=person))
LDAP Search List Of Attributes Queried for =
Condition: LDAP Search failed
Solution: Please note the LDAP error
```

Solution

This is seen if the directory does not contain the required location `ou=user_info,ou=CCN,ou=Cisco,dc=cvm,dc=org`. Data in this location is not present or invalid, hence not backed up and you see this warning a few times. It always points to the fact that `ou=user_info` does not exist or is invalid. You need to check the directory to see if this user exists. If it does, delete it and add it again.

In order to delete the user in AD, complete these steps:

1. Choose **Start > Programs > Microsoft Exchange > Active Directory Users and Computers > Users**.
2. Select the user to be deleted.
3. Right-click the user, and choose **Delete**.

If you do not have AD, complete these steps:

1. Go to the **Cisco Callmanager Administration Page**.
2. Choose **User Management > End User**.
3. Search for the user and delete the user.

If the user does not exist, you can ignore this warning.

Warning: NetworkHoldMOHAudioSourceID is set only for Directory Numbers

When an attempt is made to upgrade from Cisco CallManager 4.x to Cisco Unified Communications Manager 6.x, DMA shows this warning:

```
Table: NumPlan
Row: 3118 SQL error: -746(25048)
Warning message (Business Rule Violation): NetworkHoldMOHAudioSourceID is set only for Directory Numbers
```

This error occurs when the data in a specific field is anything but a period (.).

Solution

The DNorPattern must be removed and re-added through CCMAAdministration. Then, DMA must be re-executed so that the change is picked up in the latest export.

Error: DMA Backup Disposition is missing and is mandatory

When you upgrade from Cisco Callmanager 4.1(3) to Cisco Unified Communications Manager 6.1(2), DMA displays this error message:

```
DMA Backup Disposition is missing and is mandatory.
This DMA tar file is not usable without disposition.
```

This issue can arise when the SQL transaction log files for some databases grow over 1 GB in size.

Solution

In order to resolve this issue, complete these steps:

1. Shrink the ART/CDR database size with these commands:

ART

```
C:\>osql -E
```

```
1>use art
2>go

1>backup log art with no_log
2>go

1>dbcc shrinkdatabase (art)
2>go
```

CDR

```
C:\>osql -E
1>use cdr
2>go

1>backup log cdr with no_log
2>go

1>dbcc shrinkdatabase (cdr)
2>go
```

Refer to Shrink the CDR/CAR Database Size for more information

2. Manually purge the CAR or CDR database with the procedure mentioned in Using Manual Database Purge
3. Re-run the DMA.

SQL Exception attempting to access Devices in database

Unable to run DMA and this error message appears:

```
ExportDatabase, returning [Failure - SQL Exception attempting to access Devices in database]
```

Solution

In order to resolve this issue, run this command in SQL Query Analyzer.

```
DBCC CHECKDB (CCM0300,repair_allow_data_loss)
```

Note: Before you run this command, it is highly recommended to take a backup.

Error: Informix is detected in the system. Go to Add/Remove Programs to remove IDS (Informix Dynamic Server)

Unable to install or uninstall DMA and this error message appears:

```
Informix is detected in the system. Go to Add/Remove Programs to remove IDS (Informix Dynamic Server).
When prompted, you must remove ALL database server files and all database information, and remove the informix user account.
```

Solution

In order to resolve this issue, complete these steps:

1. Remove this informix directory: \HKEY_LOCAL_MACHINE\SOFTWARE\Informix and for the registry key
 \HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\IDS 10.00\
 2. Change these values:
 - ◆ set the modify value from 1 to 0
 - ◆ set the uninstall value from 1 to 0

Installation of DMA on the 4.x Cisco Unified Communication Manager Publisher Fails

These two errors appear when you try to perform the installation for DMA on 4.x Cisco Unified Communication Manager Publisher, and the installation fails:

The Windows Installer Service could not be accessed. This can occur if you are running Windows in safe mode, or if the Windows Installer is not correctly installed. Contact your support personnel for assistance.

msiexec.exe: Error 1601: The windows Installer service could not be accessed. Contact your support personnel to verify that the Windows Installer service is properly registered.

Solution

In order to resolve this issue disable the Cisco Security Agent (CSA) and do the DMA installation.

DMA Warning: The circumflex must appear within brackets

This warning is received after the DMA is run on Cisco Unified Communications Manager 6.x.

```
Warning message (Business Rule Violation): The circumflex must appear within brackets
```

Solution

In Cisco Unified Communications Manager 6.x, the circumflex (^) can only appear once in a pattern.

Example: The pattern 9.[^0^3^7^9]11 is not supported in 6x versions due to DB rule constraints. This rule is not present in Cisco CallManager 4.x, so the same pattern 9.[^0^3^7^9]11 can be added in Cisco CallManager 4.x. The alternative for 9.[^0^3^7^9]11 in Cisco Unified Communications Manager 6.x is 9.[^0379]11. You can modify them prior to the new installation or add them once installation is done. Check for patterns (check emergency call patterns) in which there are circumflex (^) present and modify them as required. Otherwise, you can continue with the upgrade and then re-add these patterns later.

Note: If there are no patterns configured with circumflex (^), the warnings are cosmetic.

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