

# What You Make Possible

















## TOMORROW starts here.

## **Cisco TMS Provisioning History** Legacy TMS Agent AKA Opends

- Opends Ver 1.0 was introduced in TMS Ver 12.1 and corresponding version of VCS required was minimum X4.1 for replication.
- Opends Ver 2.0 was introduced in TMS Ver 12.5 and corresponding version of VCS required was minimum X5.1 for replication.
- Revised Ver of Opends 2.0 is still present with latest Version of TMS 13.2.2





## Why Provisioning Extension (PE) **Cisco TMS Agent Legacy—the challenges**

- Cisco TMS Agent Legacy was severely challenged when it came to scaling as well as becoming
- unstable and unpredictable in large networks. For example, some of the reasons for this instability were:
- Total number of replicating nodes.
- High latency or instability in the network between replicating nodes.
- OpenDS replication "collisions" which would create memory stress on the replicating nodes, in some cases requiring a restart of the OpenDS on some or all the replicating nodes, Cisco TMS or Cisco VCS.





# **Cisco TMS Agent Legacy Model**







# **Cisco TMS Agent Legacy - The Challenges**

But what does "fully meshed, multi-master replication model" really mean? To best illustrate this, see the slides below, where as you add more replicating nodes, in particular as you scale in this model, the number of connections that are required to take place between those nodes increases.

## Marginal Connections per Additional Node





# **Cisco TMS Agent Legacy - The Challenges**

- Properly identifying and diagnosing problematic replicating nodes.
- Another challenge was that Cisco TMS Agent Legacy was embedded in the Cisco TMS core application, which meant that any problems with the agent on Cisco TMS would also disrupt regular Cisco TMS services, and Cisco VCS services when Cisco VCS servers were affected.



## **Cisco TMSPE - The Answer** Cisco TMSPE – The Features

Cisco TelePresence Management Suite Provisioning Extension 1.0 is an add-on replacement application for the Cisco TMS Agent Legacy on the Cisco TMS server with the following main features:

- Independent installer (only installed to the Cisco TMS server).
- SQL database on Cisco TMS server is the single configuration source for replication.
- Migration tool for Cisco TMS Agent Legacy to Cisco TMSPE (moving from OpenDS) to SQL).
- Cisco VCS pulls data from Cisco TMSPE using APIs.
- Auto-created phone book includes all provisioning users. Tailored phone books based on groups and sub-groups of provisioning user can be created as desired.



# **Cisco TMSPE Model**





# **Cisco TMSPE – The Features**

- Any phone book/corporate directory from Cisco TMS can be provisioned to any supported device.
- Import users from Microsoft & generic LDAP sources (AD, LDAP, LDAPS).
- User personalisation and administrative device configuration control for devices supporting Cisco TMSPE (such as Jabber Video (Movi), E20, EX60, EX90, MX200, MX300).
- Cisco TMSPE Diagnostics—health checks are run at regular intervals and can also be performed on demand.
- End-user FindMe<sup>™</sup> portal on Cisco TMS using Microsoft Active Directory login, instead of Cisco VCS web UI.
- Increase scale from 10,000 to 100,000 users and devices...





# **Cisco TMSPE – The Features**

Learning from the Legacy TMS Agent challenges, Cisco TMSPE becomes the next generation product in architecture, stability and scale when it comes to the large scale provisioning of users and endpoints through the Cisco TelePresence Video Communication Server (Cisco VCS). can be created as desired.





# **Product Documentation**

The following documents can be found on our website and provide guidance on installation, initial configuration and operation of the product:

- Cisco TelePresence Management Suite Provisioning Extension Software Release Notes
- Cisco TelePresence Management Suite Provisioning Extension Deployment Guide
- Cisco TelePresence FindMe User Guide



# **Pre Requisites & Best Practice**

## **New Install**

- Cisco TMSPE must be installed on the same server as Cisco TMS
- Cisco TMS Version 13.2 or later.
- Java Version 6 (32-bit) Update 33 or higher.
- Cisco VCS Control must be version X7.1 or later.
- SMTP server requirements
- MS SQL sysadmin if the installer will create the database on the MS SQL server
- *db\_owner* if using a manually created database on the MS SQL server. See Manually creating the database on the MS SQL server for further details.
- Hardware specifications : Minimum 4 GB RAM, 2 GHz dual-core processor





## Cisco TelePresence Management Server

Cisco TMSPE may be installed on the now discontinued Cisco TelePresence Management Server, but note that system resources are limited to 2 GB RAM, which will reduce performance. We recommend using the server for small deployments only and ultimately migrating to hardware with more resources available.

## No support for multiple network cards

Multiple network cards on the Cisco TMS server are not supported. Like Cisco TMS, Cisco TMSPE cannot use multiple network cards on a server and will only bind to the first available network interface.



# **Migrating from Opends**

In addition to above points (New Install), For migration Local TMS Agent should be in healthy condition.

	Local TMS Agent (TS-TMS-194)					
Diagnostic	S					
Run Sele	cted Diagnoses Run All Diagnoses					
	Diagnosis					
<b>V</b>	Verifies that the TMS Agent Diagnostics API is available and working properly.	\$				
<b>V</b>	Verify that all OpenDS database indexes are installed.	\$				
<b>V</b>	Verify that all OpenDS database indexes are in a consistent state.	\$				
<b>V</b>	Verify that OpenDS is available.	\$				
<b>V</b>	Verify that OpenDS database indexes are not degraded.	\$				
V Checl	or Uncheck All					

	~
	~
Schedule (Last run)	
Hourly (1/11/2013 9:13:41 AM)	0
	-
Weekly (1/6/2013 12:14:25 AM)	$\sim$
Weekly (1/6/2013 12:16:48 AM)	<u>^</u>
noong (norzono nz. no. no rung	~
Daily (1/11/2013 8:13:41 AM)	$\sim$
Daily /1/11/2013 8:13:50 AM	~
Daily (1/11/2013 0.15.30 Alvi)	~



# **Best Practice**

- Upgrade endpoints to the latest software
- Delete unused templates If migrating from Cisco TMS Agent Legacy,
- Automate user creation and management with AD/LDAP
- Use secure communication
- Synchronise time in Cisco VCS and Cisco TMS
- Should have a service account created for PE installation



# **License Keys**

icenses and Option Keys	
Licenses	
Total Client Solution Package Licenses:	C
Available Client Solution Package Licenses:	C
Total System Licenses:	1
Available System Licenses:	8
Total Provisioning Licenses:	2
Available Provisioning Licenses:	2
Used Provisioning Licenses:	C

113612A1-1-2CBD5A66 - Application Integration Package (1 servers) 113612M25-1-59114E7D - Cisco TMS Provisioning Extension (25 active clients/devices) 113612S25-2-C7473E42 - Systems (25 systems) 113612S100-1-65B2FAFC - Systems (100 systems)

Add Option Key





# **PE Diagnostics**

This pane displays a list of alarms raised by Cisco TMSPE **System Status** In this table, a coloured circle indicates which diagnostics run on which system. No coloured circle indicates that the test does not apply. The circles can be: Green: Status is OK. **Orange:** The diagnostics task has not started yet. Red: The system has a warning or a critical error. Gray: The diagnostics task is idle or disabled. Blue: The diagnostics task is inprogress.

Alarms				
No alarms have been raised.				
System Status				
Service	Status	User Import	Device Import	Cleanup
User Repository	•			•
Device Repository	•			0
User Preference	•	•		
Phone Book	•			0
FindMe	•	•	0	0
Diagnostics	Θ			•
Cisco VCS Communica	ation			
VCS IP Address	Cluster Name		Last F	Request
10.75.176.81	Unknown		01/14 Time)	/2013 12:55:41 (Ir
			Ci	scolive

## **Provisioning Configuration**

TMS PE service account created should be used for the configuration.

Summary Settings Registrations Active Calls	Services Clustering Provisioning Connection Permissions Logs
Configuration	
VCS Provisioning Mode:	Provisioning Extension
TMS Connection Settings	
Server Address:	10.75.176.67
Encryption:	TLS
Certificate Verification Enabled:	No
Certificate Hostname Checking Enabled:	No
Username:	tmspeuser
Password:	••••••
Base Group:	TSG Escalation - APAC Lab
Services	
Save Force Refresh Set Default Connection Settin	ngs Check for Updates Perform full Synchronization
	Ciscoliv

## **Provisioning Configuration**

Choose the respective polling interval and verify the status of the respective parameters.

Summar	y Settings	Registrations	Active Calls	Services	Clustering	Provisioning	Connection	Permissions	Logs
User	S								
Enat	le Service:			J					
Pollir	ng Interval (secor	nds):		2 minu	utes				
State	us:			V OK	(click for de	tails)			
Findly	10			•					
r in un									
Enak	le Service:			<b>v</b>					
Pollir	ng Interval (secor	nds):		2 minu	utes				
State	ls:			V ok	(click for de	tails)			
Phon	e Books								
Enat	le Service:			V					
Pollir	ng Interval (secor	nds):		1 hou	r			-	
State	is:			🔨 ок	(click for de	tails)			
Devid	es								
Enat	le Service:			<b>V</b>					
Base	e Group:			root				📄 🗶	
State	is:			🔨 ок	(click for de	tails)			
Save	Force Refresh	Set Default Co	onnection Settings	Check fo	or Updates	Perform full Synch	ronization		
									1.
								Ci	scoliv

## **PE Setting**

Verify the username, it should be the service account.

If any parameter modified or re-configured on this page you should restart the PE service.

🛉 Portal 🕘 Booking  Monitoring	Systems	T Phone Books	🙋 Reporting	Administrative Tools
Provisioning Extension Settings				
FindMe				
Enable FindMe *	Yes	O No		
Provisioned Devices *	Set as default dev		*	
📳 Save 🛛 📕 Cancel 📑 Restore Def	ault			
Cisco TMS Connection				
HTTPS *	() Yes	No		
Connection Timeout *	10			(seconds)
Receive Timeout *	60			(seconds)
Username *	tmspeuser			
Password *	•••••			
🔄 Save 🛛 🔀 Cancel 🖉 Restore Def	ault			
LDAP Connection				
LDAP Connection Timeout *	5000			(milliseconds)
Follow Referrals *	• Yes	O No		
📑 Save 📑 Cancel 📑 Restore Def	ault			

## **Provisioning User** configuration

**Device Address Pattern and** Video Address Pattern must be configured.

cisco TelePresence Management S	Suite
🛐 Portal 🕘 Booking 🏼 📢 Monitoring	🙀 Systems 🔲 Phone
Users	
Users and Groups	
Search for users	TSG Esca
🗟 Add Group 🛛 & Add User 🧔 Reload	
🝷 🔄 TSG Escalation - APAC Lab	🤯 Rename Group
APAC TSG TAC	
PE_Test	User Settings
	Name
	Video Address Pattern
	Caller ID Pattern
	Device Address Pattern
	Image URL Pattern
	🤯 Edit 🛛 🧔 Reload

alada.





# **Provisioning User Configuration**

uluilu cisco	Cisco Tele	Presence Vi	deo Communio	cation Server Control	
Status Sys	tem VCS	configuration	Applications	Maintenance	
Domains					
Name	<b>*</b>				
tpesc.c	om				
New Delete	Select all	Unselect all			

Respective SIP domains must be created on the VCS.



Actions

View/Edit



## **Provisioning User** Configuration

Templates for all devices and versions in use should be added to TMS.





# **Provisioning User Configuration (Template)**

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Products & Services

Support

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## Download Software

Downloads Home > Products > TelePresence > TelePresence Endpoints - Personal > TelePresence Personal > Cisco Jabber Video for TelePresence (Movi) > TelePresence Software-4.5.7.16762

## Cisco Jabber Video for TelePresence (Movi)

Search	Release 4.5.7.16762					
Expand All Collapse All	File Information	Release Date	Size			
<ul> <li>Latest Releases</li> <li>4.5.7.16762</li> <li>All Releases</li> <li>4</li> <li>4.5.7.16762</li> <li>4.4.3.14479</li> </ul>	Maintenance release for Cisco Jabber Video - Mac OS X installer only Jabber Video4.5.dmg	12-OCT-2012	11.47			
4.3.12.13351 4.2.0.10318	Maintenance release for Cisco Jabber Video - Windows installer only Jabber Video Setup 4.5.exe	12-OCT-2012	13.92			
	Maintenance release for Cisco Jabber Video - complete package S85000MCX4_5_7_16762.zip	12-OCT-2012	49.17			

The .zip package contains the xml template for Provisioning user configuration.



🗯 Download Cart (1 items) 🛛 Feedback 🛛 Help

Release Notes for	4.5.7.16762 📳 🚑
e	
47 MB	Download
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	Publish
92 MB	Download
	Add to cart
	Publish
17 MB	Download
	Add to cart
	Publish



## **Provisioning User** Configuration

Minimum configuration for template.



¢	👔 Rename Template 🛛 📑 Delete	Template 🛛 🔒 Copy Configurations				
(	Configurations					
	Name	Value				
	Phone Book Server URI	phonebook@tpesc.com				
	Presence Server URI	presence@tpesc.com				
	Public Phone Book Server URI	phonebook@tpesc.com				
	Public Presence Server URI	presence@tpesc.com				
	Public SIP Server Address	202.95.105.170				
	SIP Server Address	10.75.176.81				
	🔯 Edit Configurations					



Provisioning Source should be connected to the Provisioning Phone Book.

CISCO TelePresence Management Suite	
🛐 Portal 🕘 Booking  Monitoring 🔖	Systems 👖 Phone Books 🙋 Reporting 🎤 Administrative Tools
Manage Phone Books	
Directory	Workspace
Phone books     AD test     All Systems     APAC TSG TAC     Drovisioning Phone Book	Provisioning Phone Book
SR	🗟 New 🔯 Edit 🤤 Delete 🚊 Set On Systems
	Sources Access Control View Contacts
	Below are the currently connected sources.
	Name Type
	Provisioning Source Cisco TMS Provisioning Directory
	Connect Update Disconnect Manage Phone Book Sources



Respective folder selected will receive the phonebook.

/orkspace	
Provisioning F	hone Book
🗟 New 🔯 Edit 🥥 Delete	🚊 Set On Systems
Sources Access Control	View Contacts
<b>Provisioning Directory Groups</b>	TMS User Grou
Select the provisioning directory gro	oups that are to hav
Directory Groups	
🖃 🔲 Groups	
TSG Escalation - AF	ACLah
DE Toot	

access to this phonebook.



V TEST 2			Source: Provisioning Source
H323	test.2@.tpesc.com	False	Auto
SIP	test.2@.tpesc.com	False	Auto

Verify under view contact page each user should have two entries.



To provide registered system phonebook to JV users select the respective folder here.



one Books 🙋 Reporting 🎤 Administrative Tools
l Systems
: 🤤 Delete 🚊 Set On Systems
ess Control View Contacts
ectory Groups TMS User Groups
ning directory groups that are to have access to this phonebook.
Escalation - APAC Lab APAC TSG TAC PE_Test
o "All Systems" and all underlying phone books.



Upper's FindMa Configuration	On behalf of Firstname My Locations
	<ul> <li>Home</li> <li>Initial devices to ring</li> <li>Jabber Video firstnamelastname.jabber@example.co</li> <li>Mobile</li> </ul>
	<ul> <li>✓ ① Office</li> <li>Initial devices         <ul> <li>to ring</li> <li>Cisco IP Video Phone E20                  firstnamelastname.e20@example.com</li> <li>Jabber Video                  firstnamelastname</li> </ul> </li> </ul>

**TelePresence FindMe** 



## Lastname





## **TMSPE Troubleshooting TMS Provisioning Extension – New Mode**

## Log Location

**Migration log:** C:\Program Files (x86)\TANDBERG\TMS\TMSProvisioningExtension\app\logs\migration.log

**TMSPE log:** C:\Program Files (x86)\TANDBERG\TMS\TMSProvisioningExtension\app\logs\tmsprovisioningextension.log

**TMSPE install log:** C:\Program Files (x86)\TANDBERG\TMS\TMSProvisioningExtension\app\logs\tmsprovisioningextensioninstall.lo g



## **TMSPE Installation Issue Problem Description**

- TMSPE installation has failed.
- Error Msg: SQL Authentication Error.

🔂 Cisco TMS Provisioning Extension Setup	×
SQL Server Credentials	
Please enter your SQL Server name and credentials	cisco
SQL Server Name: (local)	-
f <mark>i</mark> g SQL Authentication Error ≦C	×
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified)	
Use separate SQL Credentials for the TMS Provisioning Extension	
<u>B</u> ack <u>N</u> ext	Cancel

## **Resolution:**

This issue is caused by the SQL Browsers Services not running on SQL server. If TMS is using built-in SQL server, this service should be running on TMS server and must be started. If there is external SQL server, this service needs to be started on SQL server.

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- Migration has failed

- Error Msg: WARN - Invalid caller id pattern for group TSG Escalation - APAC Lab could not be migrated: {OfficePhone}. Legal replacement values are {mobile\_phone} and {office\_phone}.

## **Resolution:**

Don't use {OfficePhone}



- Migration has failed- Error is related to Kerberos Authentication setting under TMS User Directory > **External Source Configuration** 

## - Error Message below:

Failed to post user import settings for group : {port=[389], mapping\_last\_name=[sn], mapping\_external\_user\_id=[objectGUID], mapping\_first\_name=[givenName], group\_id=[3c75bba2-706d-46a0-8c47ffab493a54ea], hostname=[dc.psttandberg.com], distribution\_center=[dc.psttandberg.com], mapping\_mobile\_phone=[mobile], user\_import\_type=[AD\_KERBEROS], username=[psttandberg\administrator], mapping\_department=[department], mapping\_office\_phone=[telephoneNumber], mapping\_display\_name=[displayName], search\_filter=[(memberOf=CN=APACTAC,CN=Users,DC=psttandberg,DC=com)], realm=[PSTTANDBERG.COM], mapping\_company=[company], mapping\_title=[title], mapping\_email=[mail], mapping\_username=[sAMAccountName], base\_dn=[DC=psttandberg, DC=com], distribution\_center\_timeout=[20000], skip\_host\_validation=[true]} URL: /groups/id/1b86b6a8-4947-4d4a-a730-97b317e281d2/user\_import/settings The exception returned from API was One or more user import setting is invalid Status: UserImportSettingsValidationException Status Code: 2001.The exception message is: POST http://localhost:8788/ur/groups/id/1b86b6a8-4947-4d4a-a730-97b317e281d2/user\_import/settings returned a response status of 400 Bad Request"

## **Resolution:**

Remove the Kerberos Authentication setting from TMS, then re-run migration tool and the migration should be completed successfully.



- Migration has failed
- Sample Error Msg:

Failed to create account for {first\_name=[Lars], display\_name=[Psykologpartners Lars Stenbakken], username=[psykologpartners.lars.stenbakken.movi], title=[MEs kund], video\_uri\_generated=[true], email=[olof.johansson@officemanagement.se], company=[Psykologpartners TBA AB], last\_name=[Andersson]} URL: /groups/id/2fa9d2c6-16dd-4177-9b5e-747a05bd2f9d/users/ The exception returned from API was Validation failed with the following messages: [Password length must be shorter than 30 characters] and the following invalid values: [psykologpartners.lars.stenbakken.movi] Status: BeanValidation Status Code: 1010.The exception message is: POST http://localhost:8788/ur/groups/id/2fa9d2c6-16dd-4177-9b5e-747a05bd2f9d/users/ returned a response status of 400 Bad Request"

## **Resolution:**

Go into TMS provisioning directory, locate this specific user and change the password.



- Migration has failed
- Uppercase in device url is used (i.e. {Username}.movi@cisco.com)
- Error Msg: ERROR:

Failed to create group for {display\_name=[Knightec], device\_uri\_pattern=[{ame}@omvideo.se], device\_uri\_pattern\_inherited=[false]} URL: /groups/id/b9c16e9a-d5a5-43b9-bb56-ddb7c105bcb0/groups The exception returned from API was The argument device\_uri\_pattern={ame}@omvideo.se is invalid Status: InvalidArgument Status Code: 1005.The exception message is: POST http://localhost:8788/ur/groups/id/b9c16e9a-d5a5-43b9-bb56ddb7c105bcb0/groups returned a response status of 400 Bad Request"

## **Resolution:**

Go into TMS provisioning directory, locate this device URI and change any uppercase to lowercase.



- Migration fails without any error message nothing in migration log, however if you look into TMS provisioning extension logs you will find:

[C:\Program Files\TANDBERG\TMS\TMSProvisioningExtension\app\up-temp\webapp\WEB-INF\classes\com\cisco\ts\mgmt\up\api\impl\GroupsResourceImpl.class]: Unsatisfied dependency expressed through constructor argument with index 2 of type [com.cisco.ts.mgmt.up.service.TemplateService]: : Error creating bean with name 'templateService' defined in file [F:\Program Files\TANDBERG\TMS\TMSProvisioningExtension\app\up-temp\webapp\WEB-INF\classes\com\cisco\ts\mgmt\up\service\impl\TemplateServiceImpl.class]: Unsatisfied dependency expressed through constructor argument with index 5 of type.

## **Resolution:**

The issue is addressed in Bug# CSCuc76436 and details are as below:

**Symptom:** TMSPE service is unable to start completely. The Java process will stop loading at about 308 MB. Errors in the TMSPE logs will show that JAXB 2.2 API is required and that JAXB 2.1 API was loaded.

**Conditions:** The Java 6 build installed is lower that update 4.

Workaround: Install Java 6 build 4 or higher.



## **TMSPE General Issue Problem Description**

- Changed provisioning mode to PE.
- Activity status displays that every 2min phonebook sync event has failed. (Error: cannot contact remote server)
- License information are missing under General Settings page.

## **Resolution:**

Reboot TMS server. License information available after the TMS is rebooted and the issue should be fixed.



# **TMSPE General Issue**

**Symptoms :**TMSPE: Unable to view provisioning Users page when imported 10000+ users from AD **Cause / Problem Description :**Unable to view provisioning Users page when imported 10000+ users from AD Conditions / Environment : TMS 13.2.2, TMSPE 1.0, Windows AD. **Resolution** 

- 1. Perform backup of the TMS SQL database[TMSNG folder].
- 2. Uninstall TMSPE and delete the TMSPE database in SQL server.
- 3. Uninstall TMS
- 4. Uninstall .NET 4 framework
- 5. Disable IIS role.
- 6. Restart the TMS server.
- 7. Download the .Net 4 framework and install the same.
- 8. Restart the TMS server.
- 9. Install TMS 13.2.2 and allow to reconfigure the IIS.

10. Install TMSPE and switch to TMSPE mode in TMS and access the provisioning > users page before continuing with configuration.



## **Troubleshooting TMS Agent (Local) Problem Description**

- Local TMS Agent diagnostics show errors

## **Resolution:**

## Manually Rebuild the Indexes for the local TMS Agent database

This process is to be used if you are running TMS version 13.1 or later and are receiving index errors while running the local TMS Agent diagnostics after you have clicked the "Fix" button.

1. RDP into the TMS

2. Go to start run and type: %OPENDS\_HOME%\bat

3. Open the file control-panel.bat and log in with the LDAP Configuration Password (Default is TANDBERG) It should look like below:

4. Click Verify Indexes





# **Opends Control Panel**

## 🛃 OpenDS Control Panel

Manage Indexes

Verify Indexes...

Rebuild Indexes...

Runtime Options

Monitoring

File View Help

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Directory Data	- Server Status	
Manage Entries	Server Status: started	Stop Restart
New Base DN	Open Connections: 7	
Import LDIF		
Export LDIF	Server Details ———	
Rachum	Host Name:	VDTMS1
backup	Administrative Users:	cn=Directory Manager
Restore	Installation Path:	C:\Program Files (x86)\TANDBERG\TMS\
Echema	Version:	OpenDS Directory Server 2.0.0
Julienna	Java Version:	1.6.0_05
Indexes	Administration Connector	Port 4444 (LDAP5)

## Connection Handlers

Address:Port	Protocol
	LDIF
8989	Replication (secure)
0.0.0:161	SNMP
0.0.0:389	LDAP
0.0.0:636	LDAPS
0.0.0:1689	3MX

## Data Sources

Base DN	Backend ID	Entries	Replication	Missing Changes	Age of Oldest Missing Change
dc=provisioning	userRoot	42	Enabled	0	Not Available

		×
Provis	ioning\OpenDS-2.0	
	State	1
	Disabled	1
	Enabled	1
	Disabled	1
	Enabled	
	Enabled	
	Disabled	

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## 5. This will bring up a screen like below:

## 6. Select all Available Indexes and click the Add > button.

Control Pa	anel - Verity Indexes		
Base DN:	dc=provisioning 💌		
	· · · · · · · · · · · · · · · · · · ·		
Action:	Verify Entry Contents are Prope	rly Indexed	
	Available Indexes:		Selected Indexe:
		Add >	SIPIdentitySIPU
			aci
		< Remove	
			deviceId
			dicolayNama
			do2id
			ds-sync-bist
			entryUUID
			findMeUri
			id2children
			id2subtree
			memberOf
	(*) Requires Rebuild		
	🦳 Varify All Inday Kay Entry ID's a	ra Clasn and Dafa	r to Evictina Entria
	Index: dn2id		
			OK

7. After this finishes, do the same thing again, but select rebuild indexes on the OpenDS control panel page.

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# If the above does not solve the issue or the TMS is on 12.X version steps below needs to be followed

- Disable TMS Agent replication under TMS > Navigator > VCS control > TMS Agent, if not disabled.
- Stop Opends services from windows services.
- Uninstall TMS application (keep the sa password handy)( skip reboot)
- Goto TMS server C:\Program Files\TANDBERG\TMS\Provisioning\OpenDS-2.0 and  $\bullet$ run uninstall.bat
- Delete the provisioning folder under C:\Program Files\TANDBERG\TMS.
- Verify windows services there should be no opends service (refresh page before) confirming)(reboot the server).
- If you see any opends service on cmd execute command "sc delete opends"
- Re- install TMS (reboot required)
- Verify under windows services there should be only one opends service.
- Verify under TMS agent diagnostics you should have all five green ticks.

# Q & A









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