Exam Code: 642-425
IP Telephony Troubleshooting

Demo Version

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QUESTION 1:

AN outsourcing IT firm has come in to review operations for all SQL server machines in an organization.
They request, and are allowed to change all usernames and passwords for security purposes. After they
leave, replication fails.
What is the most likely problem?
A.CCMAcctusername mismatch
B.CCMSvcpassword mismatch
C.SQLSvcpassword mismatch
D.SQLRplusername mismatch

Answer: C

Explanation: TheSQLSvcaccount is the core account used for server-to-server interaction within a Cisco
CallManager system. This account must be the same on every machine in the cluster for database replication to
work properly.If theSQLsvcpassword has been changed on the publisher from the installed default, replication
of the publisher database will fail when a new subscriber isadded.Ifreplication has failed, change the new
subscriber'sSQLsvcservice password to match theSQLsvcpassword on the publisher, and replication should
succeed.

QUESTION 2:

Which CTI device allows queuing of calls to an unlimited depth?
A.hunt group
B.route point
C.peer
D.port

Answer: B

QUESTION 3:

You have recently installed a new Catalyst 3524-PWR switch in an IDF to increase the number of IP
phones for a department. The IP phone for an office receives power but cannot communicate with the
CallManager. The department uses VLAN 16 for data and VLAN 160 for voice. From the given show
running-configuration command there are multiple problems. How can the communication problem with
the CallManager be resolved?
Dept16SW2#show running.-configuration
!!
outputomitted
!
interfaceFastEthernet0/6
switchporttrunk encapsulation dot1q
switchporttrunk nativevlan16
switchportmode trunk

switchportvoicevlan169
spanning-treeuplinkfast
switchportpriority extend none
!
end
A.Change the voice VLAN to 160.
B.Change theswitchporttrunk encapsulation type to ISL.
C.Configure the port as an uplink to another switch configured foruplinkfast.
D.Changethe incorrectswitchportpriority extend nonecommand toswitchportpriority extend trustto extend the trust boundary to the IP phone.

Answer: A

QUESTION 4:

You have a centralized IP Telephony system with branch offices in eight major cities. The manager of your company help desk recently published local access numbers for external customers to reduce the cost associated with your company's toll-free 800service. When customers call the new local numbers they hear a reordertone instead of your centralized IP-IVR.
What is the best solution to this issue?
A.Deploytranscodersat the central location.
B.Deploytranscodersat each remote location.
C.Modify Region configuration to allow G.711 across the WAN.
D.Deploy IP-IVRsto each remote location.

Answer: A

QUESTION 5:

The operation of an existing network is severely degraded,
Assign the appropriate severity level as defined by the TAC Case Severity Definition.
A.S2 upgraded to S1
B.S4 upgraded to S1
C.S1 downgraded to S2
D.S3 downgraded to S4
E.S3 upgraded to S2

Answer: E
Cisco IP Solution Center Documentation Guide, 3.2TAC Case Priority Definitions
To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.
Priority 1 (P1)-Your network is "down" or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.
Priority 2 (P2)-Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of

Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)-Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)-You require information or assistance

http://www.cisco.com/en/US/partner/products/sw/netmgtsw/ps4748/products_documentation_roadmap09186a0 0

QUESTION 6:

Drag the Cisco recommended troubleshooting model step to its appropriate location.

Gather all relevant facts.
Define the problem clearly and understandably.
Create an action plan
Observe the reults or the Implemented action.
Consider the likely possibilities.
Implement the action plan.
If unsuccessful, undo changes, try another action plan.
If the problem stops, document the solution.

Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Step 7
Step 8

Answer:

Define the problem clearly and understandably.
Gather all relevant facts.
Consider the likely possibilities
Create an action plan
Implement the action plan.
Observe the results of the implemented action.
If unsuccessful, undo changes, try another action plan.
If the problem stops, document the solution.

QUESTION 7:

Echo is always present to some extent in all voice networks.
For echo to be a problem, which three conditions must exist? (Choose three)
A.An analog 2-wire to 4-wire hybrid operating belowa 600ohm impedance.
B.Analog leakage between analogTxand Rx paths.
C.Sufficient delay in echo return for echo to be perceived as annoying.
D.Sufficient echo amplitude to be perceived as annoying.
E.Sufficient power from the talker's side to cause listener echo.

Answer: B, C, D
Troubleshooting Echo Problems between IP Phones and IOS GatewaysDocument
ID: 19640
Echo is perceived as annoying when all of the following conditions are true:
* Signal leakage between analog Tx and Rx paths
* Sufficient delay in echo return
* Sufficient echo amplitude
http://www.cisco.com/en/US/partner/tech/ CK6 52/ CK6 98/technologies_tech_note09186a0080149a1f.shtml

QUESTION 8:

The outbound access code from the CallManager is not being stripped. The following configurations are
set:
Route Pattern / Hunt Pilot Configuration
Discard   Digits   =PreDot
Route   /   Hunt   List   Detail
Discard Digits toNoDigits
What is the most likely solution?
A.Set Called Party Transformations under Route / Hunt List Detail toPreDot.
B.Set Calling Party Transformations under Route / Hunt List Detail to <NONE>.
C.Set Called Party Transformations under Route Pattern toNoDigitsChange.

D.Set Calling Party Transformation under Route Pattern to <NONE>.

Answer: A

QUESTION 9:

IP Phone A can make calls to some but not all phones. Phone A cannot call Phone B. The following is the extended ping output from the router interface on the CallManager subnet to the Phone B subnet.
ping172.16.1.45
Type escapesequence to abort.
Sending 5, 100-byte ICMPEchosto 172.16.1.45, timeout is 2 seconds:.!.!
Success rate is 40 percent (2/5)
What does this output indicate? A.CallManager
has a good IP path to Phone B.
B.The IP path from CallManager to Phone B has a 20% packet loss problem.
C.The IP phone is turned off, but the switch port it connects toisaccessible via IP.
D.Multiple equal cost paths exist from CallManager to Phone B, and one is currently unusable.

Answer: D
From thePINGresult ,we could deduce that there are multiple paths to phone B and one of them are not down.
This is also the reason why Phone A can't ring phone B.If the PING result is 100%, then the answer is A.

QUESTION 10:

What task should be completed before enabling CCM trace files in a CallManager cluster?
A.Configure NTP on allCallManagers.
B.Configure XML Formatted Output for Trace Analysis.
C.Install the Trace Collection ToolPlugin.
D.Configure a share drive on the publisher to store the trace files.

Answer: A

QUESTION 11:

You have received a trouble ticket for a recently installed MGCP gateway. It appears that under testing the gateway, it is not switching to the secondary call agent when the primary call agent is unreachable.
Use the following configuration output to resolve the problem:
!
mgcp
mgcpcall-agent 10.1.44.4 2427 service-typemgcpversion 1.0
mgcpdtmf-relay voip codec all mode out-of-band
mgcprtpunreachable timeout 1000 action notify
mgcpmodempassthroughvoice modecisco
mgcpsdpsimplemgcppackage-capabilityrtp-package
mgcppackage-capabilitysst-packatenomgcptimer receive-rtcp
nomgcpexplicithookstate

!
ccm-managermgcp
ccm-managerconfig server 10.1.44.7
ccm-managerconfig
!
What command needs to be added to this configuration to allow the MGCP gateway to use a different call agent if the primary fails?
A.ccm-manager fallback-mgcp
B.ccm-manager switchback
C.ccm-manager switchover-to-backup
D.ccm-manager redundant-host

Answer: D

QUESTION 12:

Following is a partial configuration of an access layer switch:
mlsqosmap cos-dscp 0 8 12 16 28 32 40 46
mls qos
!
spanning-tree mode pvst
spanning-treeextend system-id
!
interfaceFastEthernet0/1
switchporttrunk encapsulation dot1q
switchportmode trunk
noip address
wrr-queuecos-map 1 6 7
wrr-queuecos-map 2 5
wrr-queuecos-map 3 2 3 4
wrr-queuecos-map 4 0 1
spanning-treeportfast
!
interfaceFastEthernet0/2
switchportaccessvlan20
switchporttrunk encapsulation dot1q
switchportmode dynamic desirable
switchportvoicevlan20
noip address
mlsqostrust devicecisco-phone
mlsqostrust cos
wrr-queuecos-map 1 6 7
wrr-queuecos-map 2 5
wrr-queuecos-map 3 2 3 4
wrr-queuecos-map 4 0 1
spanning-treeportfast

!
Voice bearer traffic is mapped to which queue in FastEthernet0/2?
A.Queue 1
B.Queue 2
C.Queue 3
D.Queue 4

Answer: B
wrr-queue cos-map
Use the wrr-queue cos-map global configuration command to assign class of service (CoS) values to the
CoS priority queues. Use the no form of this command to return to the default settings.
wrr-queue cos-map quid cos1...cosn
no wrr-queue cos-map [queue-id [cos1 ... cosn]]
Command Modes Global configuration
Usage Guidelines CoS assigned at the ingress port is used to select a CoS priority at the egress port.
Examples This example shows how to map CoS values 0, 1, and 2 to CoS priority queue 1, value 3 to CoS
priority
queue 2, values 4 and 5 to CoS priority 3, and values 6 and 7 to CoS priority queue 4:
Switch(config)# wrr-queue cos-map 1 0 1 2
Switch(config)# wrr-queue cos-map 2 3
Switch(config)# wrr-queue cos-map 3 4 5
Switch(config)# wrr-queue cos-map 4 6 7
This example shows how to map CoS values 0, 1, 2, and 3 to CoS priority queue 2:
Switch(config)# wrr-queue cos-map 2 0 1 2 3
quid The queue id of the CoS priority queue. The range is 1 to 4 where 1 is the lowest CoS priority queue.
cos1...cosn The CoS values that are mapped to the queue id.
CoS Value CoS Priority Queues
0, 1 1
2, 3 2
4, 5 3
6, 7 4
Release Modification
12.0(5.2)WC(1) This command was introduced.
12.1(12c)EA1 CoS values were added to the no form of this command.
http://www.cisco.com/application/pdf/en/us/guest/products/ps628/c2001/ccmigration_09186a00804760c6.pdf

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QUESTION 13:

You recently added a Cisco Unity voice mail server to your Cisco CallManager IP telephony solution.
Your users are receiving voice mails, but the MWI light does not go off after they have listened to all of
their new voice mail messages.
What must be verified and possibly modified to resolve this issue?
A.Use the Port Usage tool to verify that the ports dedicated to MWI on/off are not over-utilized.
Add another dedicated port if the current port is over-utilized.
A.Verify that the MWI "off directory number" has been configured on both the Cisco Unity server and the
Cisco CallManager cluster.

If it has not been configured, configure it on both the Cisco Unity server and Cisco CallManager cluster.
A.Verify the number of ports licensed for the Cisco Unity server as equal to the number of configured ports.
B.Verify that the calls are being sent to the correct ports on the Cisco Unity server.
If the configured ports are incorrect on the CallManager cluster, change the values on the cluster to be correct.

Answer: B
Cisco Unity Troubleshooting Guide, Release 3.1(3)
Message Waiting Indicators
http://www.cisco.com/en/US/partner/products/sw/voicesw/ps2237/prod_troubleshooting_guide_chapter09186a
0

QUESTION 14:

A new Cisco Unity voice mail system is being tested. The calls are being forwarded to voice mail from the
Automated Attendant console, but the callers are receiving the wrong greeting.
What could be the problem?
A.The call routing rules are not working properly.
B.The mailbox under test is full.
C.The Unity ports for sending and receiving voice mails are not configured properly.
D.The Microsoft Exchange server has rejected the call due to a corrupted database.

Answer: A
Note:Uncertainty
There a quite a few references to A being true too, so hard to tell what Cisco actually believes the answer for
the test is....

QUESTION 15:

What are the two most common causes of echo? (Choose two)
A.Acoustic feedback from speaker phones.
B.Impedance mismatch at the 2-wire to 4-wire hybrid.
C.Misconfiguredtail circuits.
D.Signal reflection.
E.IP phone software loads.

Answer: A, B
There are two type of echo, electrical echo (including impedance mismatch) and
acoustical echo (including acoustical coupling from the handset.
Troubleshooting Echo Problems between IP Phones and IOS Gateways
Document ID: 19640
Introduction This document describes how to troubleshoot and eliminate echo where possible in IP Telephony
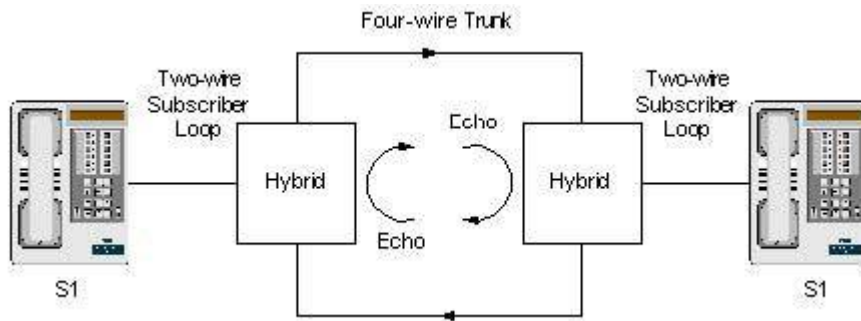networks with Cisco IOS(r) gateways.
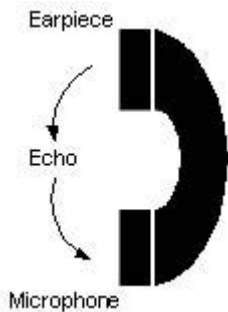There are two sources of echo:
* Hybrid echo
* Acoustic echo
Hybrid echo is caused by an impedance mismatch in the hybrid circuit, such as a two-wire to four-wire

interface. This
mismatch causes the Tx signal to appear on the Rx signal.

Acoustic echo is caused by poor acoustic isolation between the earpiece and the microphone in handsets and
hands-free devices.

http://www.cisco.com/en/US/partner/tech/ CK6 52/ CK6 98/technologies_tech_note09186a0080149a1f.shtml
Not D: Signal reflection is a consequence of impedance mismatch.

QUESTION 16:

Which unity troubleshooting tool would be used to diagnose problems with skinny and MWI?
A.trace tool
B.configuration tool
C.diagnostic tool
D.maestro tool

Answer: C
Cisco Unity Troubleshooting Guide (With Lotus Domino), Release 4.0(1)
CiscoUnity Diagnostic Tool
The CiscoUnity Diagnostic Tool allows creating and viewing of diagnostic log files to
troubleshoot problems. It replaces the diagnostic log functionality in Maestro Tools, and
allows the system administrator or TAC staff to selectively run diagnostic traces at two
levels:
1. Macro Traces-These are collections of component traces that help diagnose problems
such as message waiting indicator and system problems.
2. Micro Traces-These are the component traces. Each component has up to 32 trace
levels that can be individually selected.

The CiscoUnity Diagnostic Tool also allows the system administrator or TAC staff to perform the following tasks:

1. Create new log files on demand. This makes troubleshooting problems easier. When a problem can be reproduced reliably, the system administrator can close all existing log files and create new log files prior to reproducing the problem. This eliminates many unnecessary and unrelated items from the logs.

2. Configure log settings. The system administrator can adjust the maximum disk space allowed for all diagnostic log files. (The default setting is 400 MB.) The Logging Properties screen also allows the system administrator to disable all diagnostic output by clearing the Diagnostic Output check box.

3. Gather standard logs. This option provides the ability to quickly gather all or selected Microsoft Windows and CiscoUnity logs.

4. Disable all traces. This is a quick way to return diagnostic logs to their default settings after troubleshooting efforts are complete.

5. View the Event log. The Event log files for either the local computer or another computer can be viewed and exported.

6. Change the display language for Windows Event log messages that are generated by Cisco Unity. This is a temporary change and is only in effect while the Cisco Unity Diagnostic Tool is running.

QUESTION 17:

Following a partial configuration of an access layer switch:
mlsqosmap cos-dscp 0 8 12 16 28 32 40 46
mlsqos
!
Voice bearer traffic will be set to which per hop behavior?
A.ef
B.cs4
C.af32
D.af12
E.be
Answer: B
mls qos map
To define the multilayer switching (MLS) class of service (CoS)-to-differentiated services code point (DSCP) map or DSCP-to-CoS map, use the
mls qos map command in global configuration mode. To return to the default map, use the no form of this command.
mls qos map {cos-dscp dscp1...dscp8 | dscp-cos dscp-list to cos}
no mls qos map {cos-dscp | dscp-cos}
Syntax Description
cos-dscp dscp1...dscp8 Defines the CoS-to-DSCP map.
For dscp1...dscp8, enter eight DSCP
values that correspond to CoS values 0
to 7. Separate consecutive DSCP

values from each other with a space.
The supported DSCP values are 0, 8,
10, 16, 18, 24, 26, 32, 34, 40, 46, 48,
and 56.
dscp-cos dscp-list to cos Defines the DSCP-to-CoS map.
For dscp-list, enter up to 13 DSCP
values separated by spaces. Then enter
the to keyword. The supported DSCP
values are 0, 8, 10, 16, 18, 24, 26, 32,
34, 40, 46, 48, and 56.
For cos, enter the CoS value to which
the DSCP value or values correspond.
The CoS range is 0 to 7.
Defaults
Table 1 shows the default CoS-to-DSCP map.
Table1 Default CoS-to-DSCP Map
CoS
Value
0 1 2 3 4 5 6 7
DSCP
Value
0 8 16 26 32 46 48 56
Table 2 shows the default DSCP-to-CoS map.
Table2 Default DSCP-to-CoS Map
DSCP
Values
0 8, 10 16, 18 24, 26 32, 34 40, 46 48 56
CoS
Value
0 1 2 3 4 5 6 7
http://www.cisco.com/univercd/cc/td/doc/product/software/ios124/124cr/hlsw_r/lan_a1h.htm#wp1111205

QUESTION 18:

You have recently installed IP Phones on a centralized model. At a remote branch using a H.323 gateway, users are complaining they cannot call some internal numbers. After dialing the last digit, they get a re ordertone.
What is the most likely cause?
A.Partition/CSS configuration issue
B.Gateway dial-peer configuration issue
C.Codec mismatch
D.Call Admission Control

Answer: D
In centralized processing environment, the locations feature in Cisco CallManager lets you specify the maximum amount of audio bandwidth (for audio calls) that is available for calls to and from each location.

This limits the number of active calls and limits oversubscription of the bandwidth on the IP WAN links. If any additional calls try to exceed the bandwidthlimit, the system rejects them, the calling party receives reordertone, and a text message displays on the phone.

QUESTION 19:

The default configuration of dial peer 0 will fail to set which three of the following? (Choose three)
A.DID
B.Toolkit Command Language (TCL) applications
C.Non-default voice-network capabilities:dtmf-relay,vad, and other commands
D.ANI with answer address
E.DNIS with incoming called number

Answer: A, B, C

Explanation: If no incoming dial-peer is matched by the router or gateway, the inbound call leg is automatically routed to a default dial peer (POTS or Voice-Network). This default dial peer is referred to as dial-peer 0.Dial-peer 0 has a default configuration that cannot be changed. The default dial-peer 0 fails to negotiate non-default capabilities, services, and applications such as: (a) Non-default Voice-Network capabilities:dtmf-relay, novad, so forth, and so on. (b) Direct Inward Dial (DID) (c) TCL Applications

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QUESTION 20:

An 802.1Q trunk is configured with mismatched native VLANs.
What is the most likely symptom?
A.Communication over the link occurs in one direction only.
B.Spanning Tree Protocol is disabled for all VLANs in the trunk.
C.The switch port is shut down and displays a port status oferrDisable.
D.Layer 2CoSmarkings are not mapping correctly to layer 3 QoS markings.

Answer: D
As 802.1Q header(which containsCoSmarking information) is not added when the data is sent on the Native VLAN , the mismatch in native VLAN configuration in both end of trunk cause the loss ofCoSinformation when packets leaving trunk.
Not C:Mismatched native VLAN in 802.1q trunk configuration is not the cause of switch porterrDisable.