

Unified Software Troubleshooting Guide

2021

The information furnished by Pragma in this material is believed to be accurate and reliable but is not warranted to be true in all cases.



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Trace Guide

Case 1. RTP Packet analysis – 1 (Select RTP packet (UDP packet length: 172 if it is G.711))

The screenshot shows the Wireshark interface with a packet list table and a packet details pane. The packet list table contains the following data:

No.	Time	Source	Destination	Protocol	Length	Info
1...	131.468587	172.16.69.2	172.16.69.33	UDP	214	6002 → 8002 Len=172
1...	131.468591	172.16.69.2	62.239.32.244	UDP	214	9002 → 37086 Len=172
1...	131.468594	172.16.69.2	62.239.32.244	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x356A8126, Seq=19200, Time=3533552933
1...	131.468596	62.239.32.244	172.16.69.2	UDP	214	37086 → 9002 Len=172
1...	131.468598	172.16.69.16	172.16.69.2	T.38	214	UDP: UDPTLPacket Seq=32768 t30ind: <unknown>[UNKNOWN PER: 10.9.3.8.1][Malformed Packet]
1...	131.468599	172.16.69.33	172.16.69.2	UDP	214	8002 → 6002 Len=172
1...	131.468601	172.16.69.1	239.20.69.1	UDP	214	8034 → 8348 Len=172
1...	131.473588	172.16.69.20	172.16.69.2	UDP	214	8002 → 6006 Len=172
1...	131.473592	62.239.32.244	172.16.69.2	UDP	214	38280 → 9004 Len=172
1...	131.473594	172.16.69.2	62.239.32.244	UDP	214	9004 → 38280 Len=172
1...	131.473596	172.16.69.2	172.16.69.16	T.38	214	UDP: UDPTLPacket Seq=32768 t30ind: v17-9600-short-training hdlc-fcs-OK-sig-end [Malformed?][Packet size
1...	131.473598	62.239.32.244	172.16.69.2	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x100F1000, Seq=11220, Time=1303617360
1...	131.476092	172.16.69.200	172.16.3.51	TCP	228	65404 → 49718 [PSH, ACK] Seq=180289 Ack=850477 Win=63756 Len=174
1...	131.476155	62.239.32.244	172.16.69.2	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x12E89446, Seq=13583, Time=1303617360
1...	131.476157	62.239.32.244	172.16.69.2	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x1106D400, Seq=13699, Time=1303617280
1...	131.476158	172.16.69.18	172.16.69.2	UDP	214	8002 → 6000 Len=172
1...	131.476159	172.16.69.2	172.16.69.20	UDP	214	6006 → 8002 Len=172
1...	131.476160	62.239.32.244	172.16.69.2	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0xB0A3F38, Seq=44192, Time=186747059

The packet details pane for the selected packet (No. 159590) shows the following structure:

- Frame 159590: 214 bytes on wire (1712 bits), 214 bytes captured (1712 bits) on interface 0
- Ethernet II, Src: Ericsson_01:df:1b (b0:61:c7:01:df:1b), Dst: IPv4mcast_14:45:01 (01:00:5e:14:45:01)
- Internet Protocol Version 4, Src: 172.16.69.1, Dst: 239.20.69.1
- User Datagram Protocol, Src Port: 8034 (8034), Dst Port: 8348 (8348)
- Data (172 bytes)

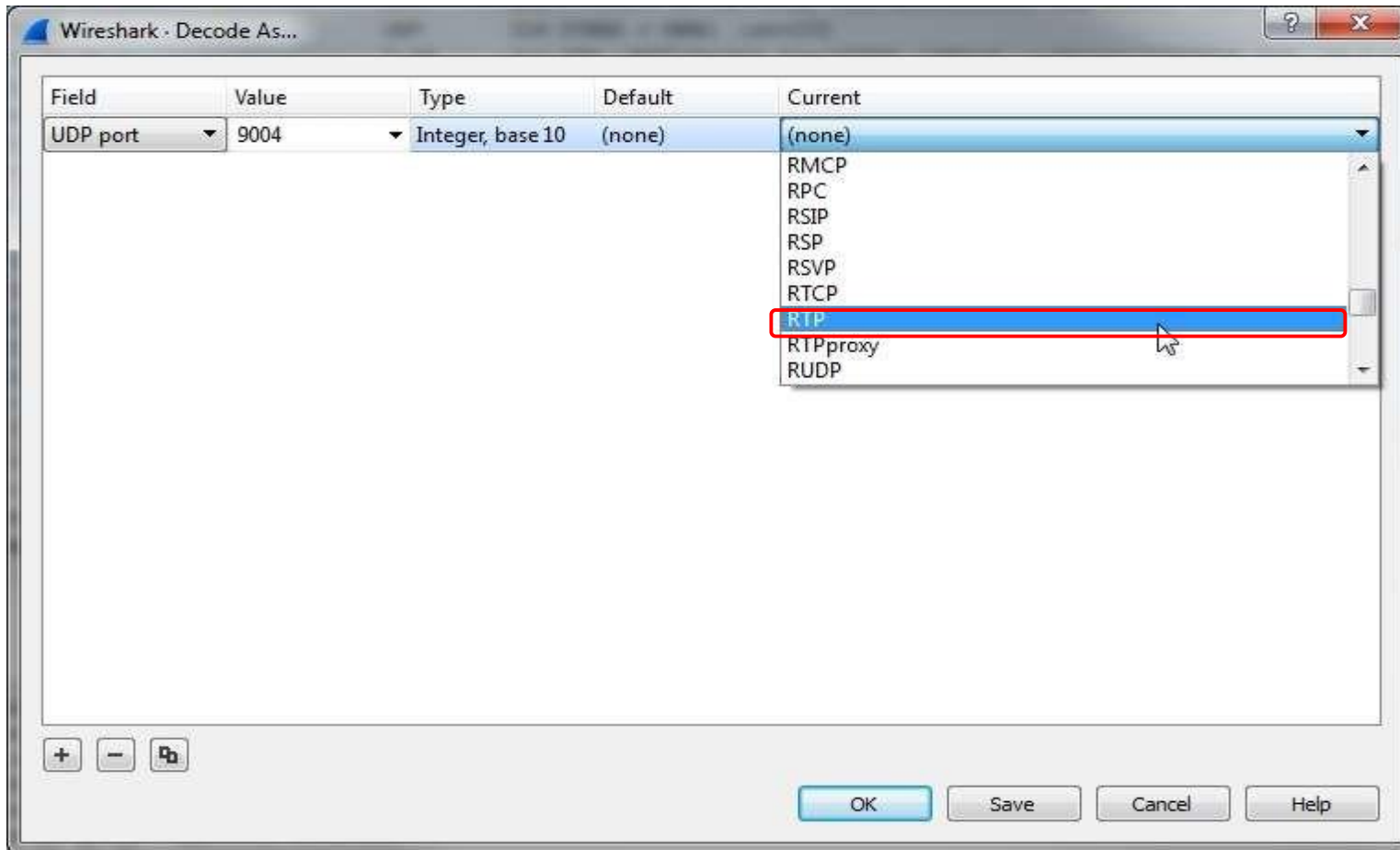
The raw data section shows the following hex and ASCII representation:

```
0000 01 00 5e 14 45 01 b0 61 c7 01 df 1b 08 00 45 10 ..^..E..a .....E.
0010 00 c8 00 00 40 00 01 11 53 ee ac 10 45 01 ef 14 ...@... S...E...
0020 45 01 1f 62 20 9c 00 b4 48 fd 80 00 d9 83 01 78 E..b ... H.....x
0030 2c a0 ff ff 00 01 ab a8 a5 a2 a1 a1 a2 a4 a9 ad .....
0040 b4 be ce fa 4e 41 3a 34 2f 2d 2b 2a 29 27 27 28 .....NA:4 /-+*)'!(
0050 28 28 2a 2d 2f 36 40 52 7a cd bc b3 ad a9 a5 a3 ((*-/6@R z.....
0060 a0 9f a0 a1 a4 a8 ae b3 ba c6 de 57 41 37 2f 2a .....WA7/*
0070 27 24 22 22 24 24 24 25 27 2a 2e 34 3b 4b df c4 '$**$$$*;.4;K..
0080 b8 ae aa a7 a4 a1 a0 a0 a0 a1 a5 a8 ac b2 ba c5 .....

```

Trace Guide

Case 1. RTP Packet analysis – 2 (Debug it to RTP)



Trace Guide

Case 1. RTP Packet analysis – 3 (Stream analysis)

The screenshot displays the Wireshark network protocol analyzer interface. The main window shows a list of captured packets. The selected packet (No. 159624) is highlighted in red. The 'RTP' menu is open, and 'Stream Analysis' is selected. The packet details pane shows the following layers:

- Frame 159624: 214 bytes on wire (1712 bits), 214 bytes captured (1712 bits) on interface 0
- Ethernet II, Src: Draytek_5d:82:a0 (00:1d:aa:5d:82:a0), Dst: Ericsson_07:1b:07 (b0:61:c7:07:1b:07)
- Internet Protocol Version 4, Src: 62.239.32.244, Dst: 172.16.69.2
- User Datagram Protocol, Src Port: 43236 (43236), Dst Port: 9010 (9010)
- Real-Time Transport Protocol

The packet bytes pane shows the raw data in hexadecimal and ASCII:

```
0000 b0 61 c7 07 1b 07 00 1d aa 5d 82 a0 08 00 45 00 .a.....]....E.
0010 00 c8 18 73 40 00 f4 11 1c bc 3e ef 20 f4 ac 10 ...s@...>...
0020 45 02 a8 e4 23 32 00 b4 b3 ed 80 08 35 84 4d b3 E...#2!...S.M.
0030 9f a0 11 06 d4 00 d5 d5 d5 d5 d5 54 d5 d4 d5 .....T...
0040 55 55 d5 d5 55 55 d5 55 d5 d5 55 d5 d4 d5 d4 UU.UU.U...U...
0050 d5 54 54 d5 d4 54 54 54 d5 54 55 d5 d5 d5 54 54 .TT.TTT.TU...TT
0060 d5 d5 d5 d5 54 54 d5 55 55 d5 55 54 d5 55 55 d5 ...TT.U.UU.UU.
0070 54 d5 d5 d5 d4 d5 d5 55 d5 54 54 54 54 d5 d5 T.....U...TTTT..
0080 55 54 55 d5 54 55 55 54 d5 d4 d5 54 d5 d5 54 d5 UTU.TUUT...T..T.
```


Trouble Shooting

Case 1. RTP Packet analysis – 4 (Check jitter / status)

Wireshark · RTP Stream Analysis · BDR2_00193_20170922140848

62.239.32.244:43236 ↔
172.16.69.2:9010

Forward Reverse Graph

Packet	Sequence	Delta (ms)	Jitter (ms)	Skew	Bandwidth	Marker	Status
7458	7441	0.00	0.00	0.00	1.60		✓
7485	7442	19.99	0.00	0.01	3.20		✓
7506	7443	19.69	0.02	0.33	4.80		✓
7531	7444	20.03	0.02	0.30	6.40		✓
7555	7445	20.25	0.04	0.05	8.00		✓
7577	7446	19.52	0.06	0.53	9.60		✓
7600	7447	20.07	0.06	0.46	11.20		✓
7624	7448	20.03	0.06	0.43	12.80		✓
7649	7449	20.03	0.06	0.41	14.40		✓
7676	7450	20.32	0.08	0.09	16.00		✓
7700	7451	19.72	0.09	0.37	17.60		✓
7724	7452	20.02	0.08	0.35	19.20		✓
7758	7453	19.96	0.08	0.39	20.80		✓
7788	7454	20.33	0.10	0.06	22.40		✓
7812	7455	19.58	0.12	0.48	24.00		✓
7840	7456	20.02	0.11	0.46	25.60		✓
7864	7457	20.02	0.11	0.43	27.20		✓
7890	7458	20.38	0.12	0.06	28.80		✓
7912	7459	19.68	0.14	0.38	30.40		✓
7937	7460	19.99	0.13	0.39	32.00		✓
7960	7461	20.06	0.12	0.33	33.60		✓
7984	7462	19.95	0.12	0.37	35.20		✓
8011	7463	20.13	0.12	0.25	36.80		✓
8034	7464	19.68	0.13	0.57	38.40		✓
8058	7465	20.03	0.13	0.54	40.00		✓
8084	7466	20.28	0.14	0.25	41.60		✓
8106	7467	19.85	0.14	0.41	43.20		✓
8130	7468	20.03	0.13	0.38	44.80		✓

Forward

SSRC 0x1106d400
Max Delta 37.02 ms @ 131418
Max Jitter 2.89 ms
Mean Jitter 0.35 ms
Max Skew -18.54 ms
RTP Packets 7530
Expected 7530
Lost 0 (0.00 %)
Seq Errs 0
Duration 150.58 s
Clock Drift -4 ms
Freq Drift 8000 Hz (-0.00 %)

Reverse

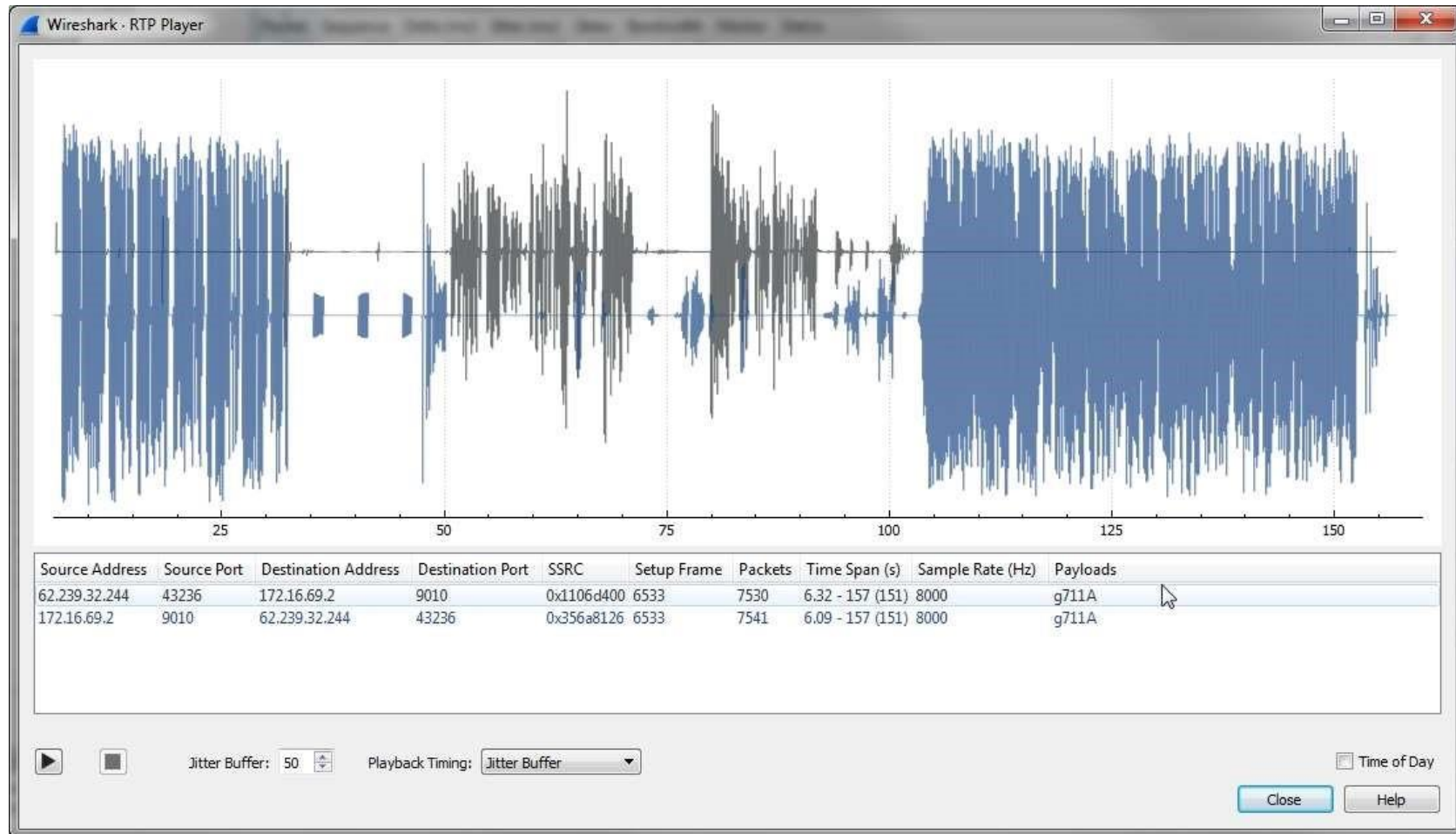
SSRC 0x1106d400
Max Delta 37.69 ms @ 134220
Max Jitter 3.08 ms
Mean Jitter 0.28 ms
Max Skew -19.71 ms
RTP Packets 7541
Expected 7541
Lost 0 (0.00 %)
Seq Errs 0
Duration 150.80 s
Clock Drift -5 ms
Freq Drift 8000 Hz (-0.00 %)

2 streams found.

Save Close **Play Streams** Help

Trouble Shooting

Case 1. RTP Packet analysis – 5 (Play stream)



Trouble Shooting

Case 2. VOIM upgrade

- There two files with suffix ‘_1.rom’ and ‘_2.rom’ in upgrade images.
e.g., GS95O60La_1.rom / GS95O60La_2.rom
- The file with suffix ‘_1.rom’ should be uploaded first. Next file with suffix ‘_2.rom’ can be uploaded after finishing of first file update.
- Upgrade Step at UCP Web.
 - 1) Maintenance > S/W Upgrade > GS95O60La_1.rom > Upgrade Process
 - 2) After Success,
 - 3) Maintenance > S/W Upgrade > GS95O60La_2.rom > Upgrade Process

Trouble Shooting

Case 3. ACL (Access Control List) - #1

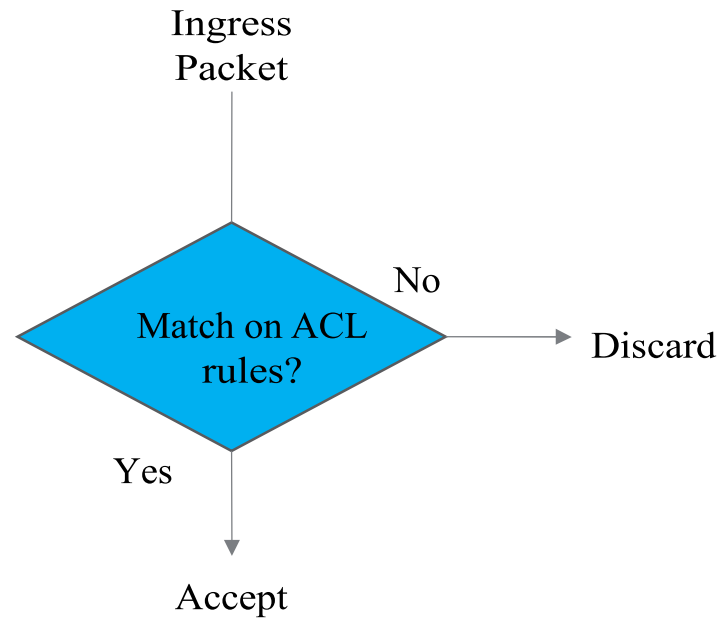
- ACL Usage: Global switch of ACL function, On/Off
- Buttons
 - Save: Save the changes to DB file.
 - Sort: Sort the ACL rules in table.
 - Apply: Apply the current ACL rules.
 - Pause: Pause the current ACL rules.
 - Clear: Clear ACL rules in table.
- ACL Rule (Index)
 - Protocol: TCP/UDP/ICMP/All
 - Port Number: Port number of TCP/UCP
 - Port Type: Source or Destination
 - Source IP Address: IP and Subnet Mask
 - examples of input expression ex1) 1.2.3.4/255.255.255.0 □ 1.2.3.0/255.255.255.0 ex2) 1.2.3.0/24 □ 1.2.3.0/255.255.255.0 □ CIDR Notation ex3) 1.2.3.4/ □ 1.2.3.4/255.255.255.255 □ Unicast Address ex4) 1.2.3.4/1.2.3.9 □ IP Range '1.2.3.4..9'

Trouble Shooting

Case 3. ACL (Access Control List) - #2

- Default ACL Action: Deny All

Discard ingress packets if the protocol/port/address are **not matched** on ACL rules.

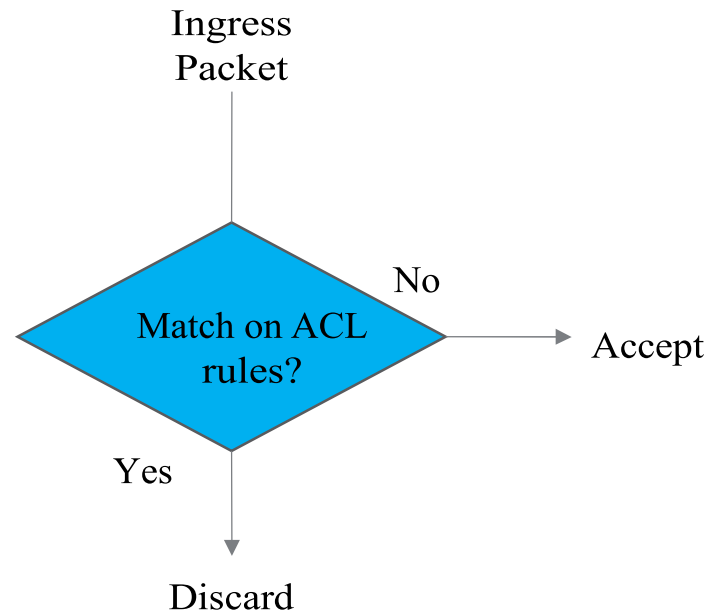


Trouble Shooting

Case 3. ACL (Access Control List) - #3

- Default ACL Action: Allow All

Discard ingress packets if the protocol/port/address are **matched** on ACL rules.



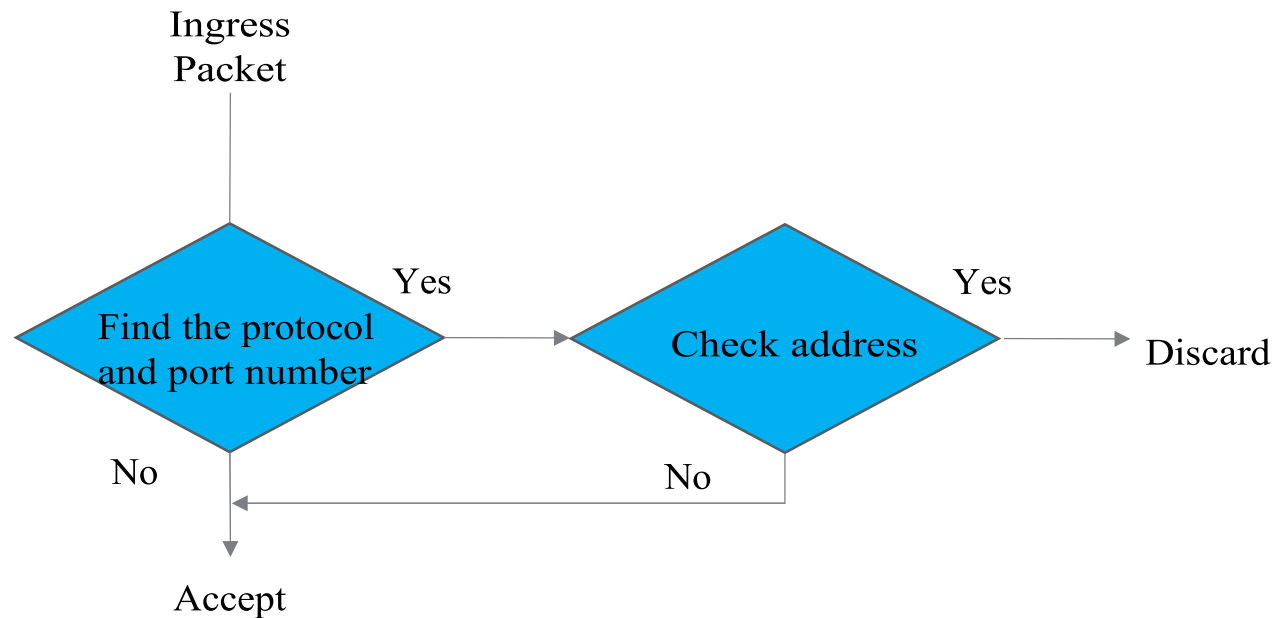
Trouble Shooting

Case 3. ACL (Access Control List) - #4

- Default ACL Action: Deny List

Accept ingress packet if the protocol and port number are **not matched** on ACL rules.

Discard if the IP address is **matched** on ACL rules.



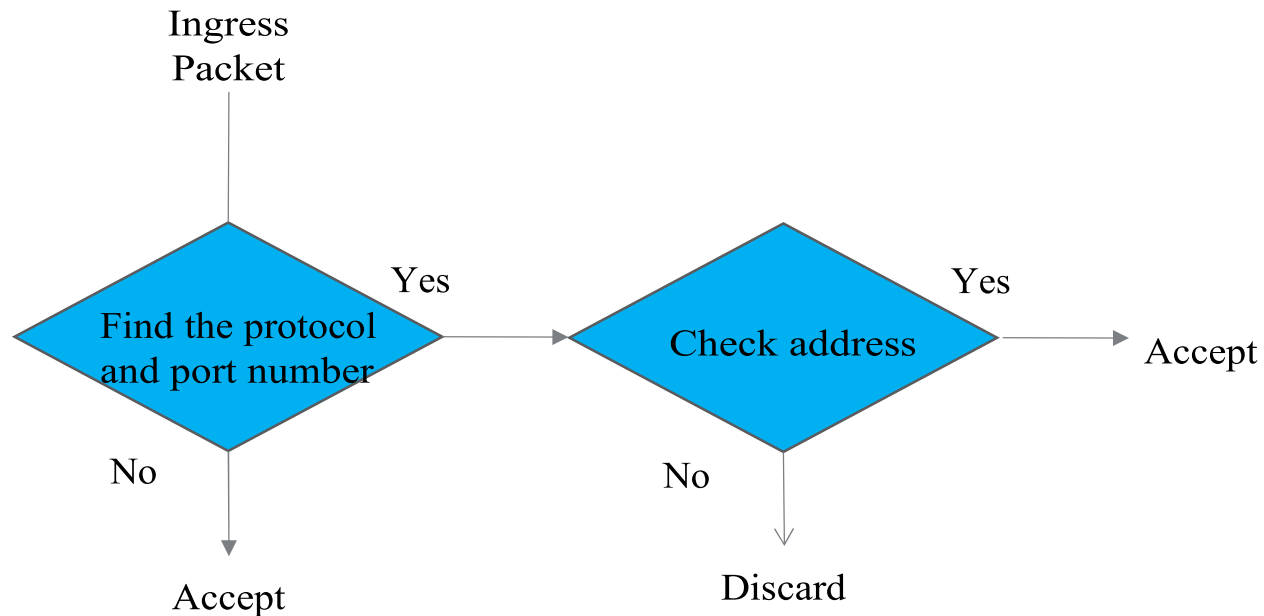
Trouble Shooting

Case 3. ACL (Access Control List) - #5

- Default ACL Action: Allow List

Accept ingress packet if the protocol and port number is **not matched** on ACL rules.

Discard if the IP address is **not matched** on ACL rules.



Trouble Shooting

Case 3. ACL (Example case - EKR in-house system) - #6

Web Access Authorization

Station Web Authorization

NTP Attributes(195)

SNMP Attribute(196)

Cabinet Attribute(197)

Hot Desk Attributes(250)

System Call Routing(251)

CO Call Rerouting(252)

VM COS Attributes(253)

Static Route Table(254)

Access Control List(255)

Misc Attributes(256)

ACL Usage : ON ▼

Default ACL Action : Allow List ▼

Index	Protocol	Port Number	Port Type	Source IP Address	Remark
1	TCP ▼	1720 - 1720	DEST ▼	129.192.201.100 / 255.255.255.255	CM
2	TCP ▼	5060 - 5060	DEST ▼	150.150.0.0 / 255.255.0.0	
3	UDP ▼	5060 - 5060	DEST ▼	150.150.0.0 / 255.255.0.0	
4	TCP ▼	443 - 443	DEST ▼	150.150.0.0 / 255.255.0.0	
5	TCP ▼	443 - 443	DEST ▼	192.168.0.0 / 255.255.0.0	
6	TCP ▼	5060 - 5060	DEST ▼	192.168.0.0 / 255.255.0.0	
7	UDP ▼	5060 - 5060	DEST ▼	192.168.0.0 / 255.255.0.0	
8	N/A ▼	-	▼	/	

- Allow H.323 (TCP 1720) for 129.192.201.100
- Allow HTTPS (TCP 443) for both 150.150.x.x and 192.168.x.x
- Allow TCP/UDP (port 5060) for both 150.150.x.x and 192.168.x.x
- It is used to block SIP/H.323 hacking from outside.

Trouble Shooting

Case 4. CID detection issue on analogue CO line of UCP system

- Issue: CID is not detected on analogue CO line of UCP system
- Solution: “ICLID Ring Timer” (PGM141) should be set according to ring cadence. (UCP only)

Example 1) ring cadence: 1 sec on / 3 sec off

“ICLID Ring Timer” should be set 4 or higher value.

Example 2) ring cadence: 1 sec on / 2 sec off

“ICLID Ring Timer” should be set 3 or higher value.

Trouble Shooting

Case 5. Analog CO line hanging or phantom call to attendant

- Issue: Analog CO line is not released by CPT tone detection (so line is hanging or recall to attendant)
- Solution: Enable “Line Drop (CPT)” (PGM141)
System will check error / busy tone to check line status.
if error / busy tone is detected then the line will be released.

Trouble Shooting

Case 6. CLI for transit call

- Issue: To send original CLI for transit call
- Solution: Set “CLI Transit” to “Original CLI” in PGM151

- Issue: To send forwarded station CLI for transit call
- Solution: Set “CLI Transit” to “CFW” in PGM151

Trouble Shooting

Case 7. To use FAX

- Issue: To use FAX using CO GWs or VOIP GW
- Solution:
 1. In case of using CO GWs (LGCM, ISDN) – Pass through mode
 - a. Set “Data Security” filed to “ON” for SLT that is connected a FAX in PGM112
 - b. Set “T38 Enable” filed to “OFF” for both CO GWs and SLTM/SLIB in PGM 132
 - In case of using VOIP GW – T.38 mode
 - a. Set “Data Security” filed to “ON” for SLT that is connected a FAX in PGM112
 - b. Set “T38 Enable” filed to “ON” for both VOIP GW and SLTM/SLIB in PGM 132

* In case of a fax problem occurring the UD trace is very helpful to check the cause.

Trouble Shooting

Case 8. Web access

- A. Issue: Cannot login to system web admin from remote network.
- Solution
- Maintenance ID should be created
-
- B. Issue: Cannot access web admin on old version system (LIK only)
- Cause: web browsers block's web access with weak cipher when the connection is HTTPS.
 - Solution:
1. change to HTTP mode using command `maint> web tls 0`.
 2. access web admin via HTTP mode
 3. upgrade last version
 4. reset the system
 5. change to HTTPS mode using command `maint> web tls 1`
 6. access web admin via HTTPS mode

Trouble Shooting

Case 9. SLT Hook flash

- Issue : Hook flash is not work for SLT
- Solution
 - Adjust “SLT Minimum Hook Flash Timer” and “SLT Maximum Hook Switch Flash Timer”

Trouble Shooting

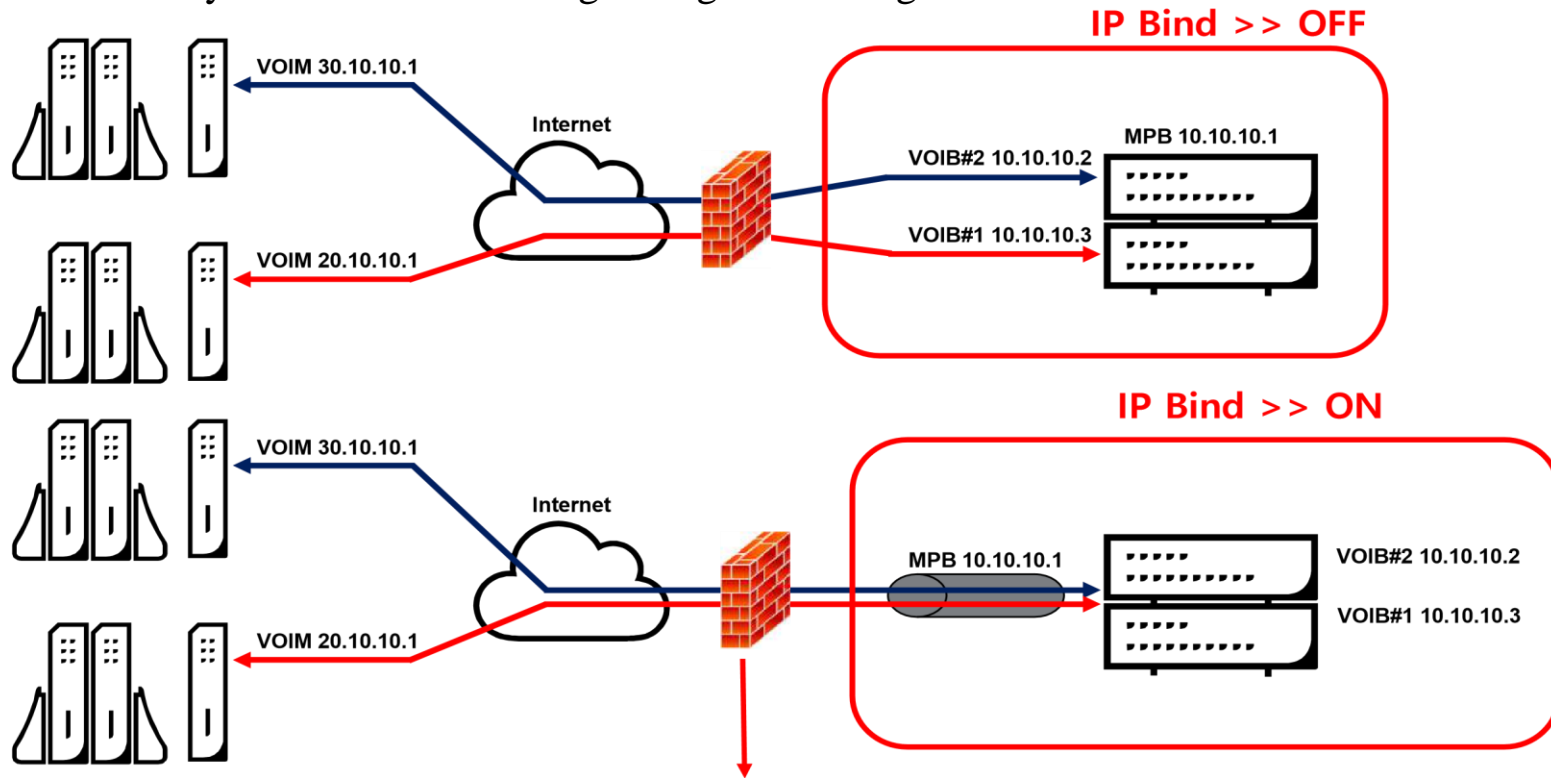
Case 10. Mobile Extension

- Issue: Dial tone is not provided when I call to my desk phone with my mobile phone.
- Solution
 - The phone number should be set in “CLI number” field of mobile extension table or turn on “Tel Num As CLI Num”

Trouble Shooting

Case 11. H.323 Networking (IP bind) - #1

- Use System IP for H.323 Signalling even though there are more than 2 VOIP modules



If there is F/W then H.323 signalling packet should be forward to system (UCP/MPB)
 And RTP/RTCP packet should be forwarded to VOIP device (VOIB/M)

Trouble Shooting

Case 11. H.323 Networking (IP bind) - #2

- IP Bind can be set for each VOIP gateway.
- In case of IP BIND USAGE ON, H.323 follows H.323 CO Group Attributes (PGM327) and H.323 Incoming route table (PGM328) (CO Group Base)
- In case of IP BIND USAGE OFF, H323 follow H.323 VoIP Attributes (PGM130). (BoardBase)
- Set IP BIND USAGE: H.323 Routing Table > H.323 Basic Attributes (PGM326)

The screenshot shows the iPECS administration interface for UCP2400 [Master]. The left sidebar contains navigation options: ISDN Line Data, SIP Data, Tables Data, Networking Data, and H.323 Routing Table. The main content area displays the configuration for 'H.323 Basic Attributes(326)'. A table lists the attributes, with 'IP BIND USAGE' highlighted in red and set to 'ON'.

Order ↓	Attribute	Value
1	IP BIND USAGE	ON

“IP BIND USAGE” is ON by default

Trouble Shooting

Case 11. H.323 Networking (IP bind) - #3

- H.323/Gatekeeper attributes follows H.323 CO Group Attributes (PGM327) In case of IP BIND USAGE ON. (Based on CO Group)
- H.323 Routing Table > H.323 CO Group Attributes (PGM327)

System Data

Station Group Data

ISDN Line Data

SIP Data

Tables Data

Networking Data

H.323 Routing Table ▾

H.323 Basic Attributes(326)

H.323 CO Group Attributes(327)

H.323 Incoming route table(328)

T-NET Data

Zone Data

Device Login

UCS Data

DECT Data

Enter Group Number (1 - 200) :

Group Number 1

Order ↓ ^a	Attribute	Value	Range
1	H323 Setup Mode	Fast ▾	
2	H323 Tunneling Mode	ON ▾	
3	H323 Early Media (earlyH245)	<input type="checkbox"/> Setup <input type="checkbox"/> Proceeding <input type="checkbox"/> Alerting	
4	H323 DTMF Path	IN ▾	
5	TCP Keep Alive	ON ▾	
6	TCP No Delay	OFF ▾	
7	Sending Setup Ack message	OFF ▾	
8	Firewall IP Address	<input type="text"/>	
Gatekeeper Attributes			
1	RAS Usage	OFF ▾	
2	RAS MultiCast IP Port	<input type="text" value="1718"/>	1-65535
3	RAS MultiCast IP Address	<input type="text" value="224.0.1.41"/>	
4	RAS UniCast IP Port	<input type="text" value="1719"/>	1-65535
5	RAS UniCast IP Address	<input type="text" value="82.134.80.2"/>	
6	RAS Keep Alive Time	<input type="text" value="120"/>	001-999(1sec)
7	RAS IIR Multiplier Ratio	<input type="text" value="80"/>	10-100 %

Trouble Shooting

Case 11. H.323 Networking (IP bind) - #4

- According to Calling Party IP Address, CO Group can be assigned for Incoming Call Routing.
- H.323 Routing Table > H.323 Incoming Route Table (PGM328)
- Calling IP Address 255.255.255.255 means ANY Calling IP

Index	Calling IP Address	CO Group (1 - 200)
1	255.255.255.255	0
2	172.59.1.14	1
3	0.0.0.0	0
4	0.0.0.0	0
5	0.0.0.0	0
6	0.0.0.0	0
7	0.0.0.0	0
8	0.0.0.0	0
9	0.0.0.0	0
10	0.0.0.0	0

Eg) If H.323 call comes in from 172.59.1.14 then
It will seize a channel from CO group 1

Trouble Shooting

Case 12. TNET (case 1)

- Issue: TNET is not working
 - “Register Enable” is turn on and CM IP and Mac address is assigned in PGM 331 of CCM system.

- Solution
 - TNET CM attributes should be cleared in CCM site.

Trouble Shooting

Case 12. TNET (case 2)

- Issue: voice is not connected for TNET

Description (the system is connected by TNET, but voice is not connected)

- Solution: Check zone attribute
 - “1st/2nd RTP Relay Device Slot Seq” should be assigned in PGM 439
 - “VM Device Slot Seq” should be set in PGM 439
 - Check inter zone attribute according to network circumstance.
(“RTP Relay Rule”, “RTP Relay Device Utilization”,
“Src. RTP Relay Device Slot Seq”, “Dest. RTP Relay Device Slot Seq”)

Trouble Shooting

Case 13. Geographic Redundancy

- Issue: Slave system is not work when slave UCP is activated.
- Solution:
 - Have to use different IP address for master and slave UCP module with system IP.

Example)

master UCP: 150.150.150.90, system IP: 192.168.150.0/255.255.255.0

slave UCP: 192.168.150.90

- The slave UCP module could not send packet to master UCP.
Because IP address of slave UCP module is included in system IP range.
So, slave UCP send packet to directly to master UCP without ARP and by default gateway.
But the packet is not delivered to master UCP.

Trouble Shooting

Case 14. Time slot is not assigned – mute (eMG800 only)

- Issue: Time slot is not assigned
1 PRIB, 4 SLIB24 is installed in rack 1
(time slot is not enough)
- Solution: must move a board to other rack.
- Cause:
 - One rack has 144 time slots,
 - DSIB use 12 time slot and VOIU/VOIM use 12 timer slots in the first rack
 - So, maximum 120 time slot can be used in the first rack

Trouble Shooting

Case 15. Immediate Second Call Problem Behind NAT Router - #1

Purpose:

The purpose of this document is to provide a solution for immediate second H.323 call problem behind some kind of NAT router. The second H.323 call fails when one of systems is installed behind a NAT router. The second call is successful if user tries to call after 30 seconds or longer. After examining some packet data of examples, we have come to a conclusion that the problem comes from the H.323 Application-Level Gateway function of the NAT router. The NAT router forwards the TCP session messages (SYN/ACK) for the second call to the local system and there was no further packet forwarding to the local system for some unknown reason.

Solution Concepts:

The solution is to open and use a secondary listening TCP port for H.323 calls if the installation environment has the same issue. The H.323 ALG of the NAT router will wait for the packets to forward TCP 1720 for H.323 signal so we want to redirect by using another port. The caller system sends messages to this secondary port to avoid issues caused by the ALG function.

Target Boards:

The list of target boards is as follows but old LIK and GWs (VOIM and VVMU) does not have web interface to manage this solution.

- LIK MFIM50A/B/100/300 Rev. F.1Di or later
- VOIM Rev. F.0Kb or later
- eMG80-MBU, eMG800-MBU
- UCP100/600/2400

Trouble Shooting

Case 15. Immediate Second Call Problem Behind NAT Router - #2

- Secondary listening port configuration for incoming call (PGM321: Alternate/Secondary Signal Port)
- PGM321 can be used to open or close the secondary listening signal port. The change of configuration is applied to next call.

1) Create a secondary listening port.

- Input the port number from 1024 to 65536 and click the 'save' button.
- If the web page shows error, use another value.
- Add a port forwarding rule for this port at NAT router.

2) Remove (default) a secondary listening port.

- Input the port number to zero and click the 'save' button.
- remove a port forwarding rule for this port at NAT router.

Order ↓	Attribute	Value	Range
1	Net Transfer Mode	REROUT ▼	
2	TCP Port For BLF	9500	9500-9999
3	UDP Port For BLF	9501	9500-9999
4	BLF Manager IP Address		
5	Duration of BLF State	10	01-99(100ms)
6	Multicast IP Address		
7	Net Trans RCL Timer	10	001-300(sec)
8	Net Reroute CO Group	0	0- 200
9	BLF Service Usage	ON ▼	
10	Alternate/Secondary Signal Port	5577 or 0	0, 1024-65535

Trouble Shooting

Case 15. Immediate Second Call Problem Behind NAT Router - #3

- Secondary signalling port configuration for outgoing call (PGM324: Alternate/Secondary Signal Port)

PGM324 can be used to specify the H.323 signal port of remote system (PGM321).

1) Specify the secondary signal port of remote system

- Input the port number which was configured at remote system and click the 'save' button.

2) Remove (default) a secondary signalling port.

- Input the port number to zero and click the 'save' button.

Tables Data

Networking Data

- Net Basic Attributes(320)
- Net Supplementary Attr(321)
- Net CO Line Overview
- Net CO Line Attributes(322)
- Net Numbering Plan Overview
- Net Numbering Plan Table(324)**
- Net Feature Code Table(325)

Enter Index Range (0 - 251) : ? Load

Networking Numbering Plan Table Index : 1

<input type="checkbox"/>	Index	Networking Type	Numbering Plan Max 16 Digits (include ***, #)	Net CO Group (0-24)	CPN ISDN INFO (Max 16 D)
<input type="checkbox"/>	1	NET	3***	2	

Alternate/Secondary Signal Port
(0-65535) (0)

5577 or 0

Trouble Shooting

Case 15. Immediate Second Call Problem Behind NAT Router - #4

- The field 'Firewall Routing' of PGM324 should be ON (default) if a secondary signal port is configured. The reason for this is that a H.323 ALG does not process the H.323 messages by redirecting signal.

Trouble Shooting

Case 15. Immediate Second Call Problem Behind NAT Router - #6

- The problem with two H.323 signal packets from callers were not seen at callers side.

Source IP	Source Port	Destination IP	Destination Port	Protocol	Length	Flags	Sequence	Acknowledgment	Window	Options	Application
192.168.10.217	TCP	66	1720-2308	[ACK]	Seq=1119	Ack=1381	win=9088				168 CS: releaseComplete
192.168.10.217	H.225.0/H.24	180	closeLogicalChannel	cs: facility							168.1.217 H.225.0 168 CS: releaseComplete
192.168.10.217	H.225.0/H.24	181	closeLogicalChannel	cs: facility							168.10.217 H.225.0/H.24 181 closeLogicalChannel cs: facility
192.168.10.217	H.225.0/H.24	178	endSessionCommand	cs: facility							168.10.217 H.225.0/H.24 178 endSessionCommand cs: facility
192.168.1.217	TCP	66	2308-1720	[ACK]	Seq=1483	Ack=1460	win=10128				168.1.217 TCP 66 2308-1720 [ACK] Seq=1483 Ack=1460 win=10128 Len=0 Tsval=155131194 TSecr=155131194
192.168.1.217	TCP	66	2308-1720	[FIN, ACK]	Seq=1483	Ack=1460	win=10128				168.1.217 TCP 66 2308-1720 [FIN, ACK] Seq=1483 Ack=1460 win=10128 Len=0 Tsval=155131334 TSecr=155131334
192.168.10.217	TCP	66	1720-2308	[FIN, ACK]	Seq=1460	Ack=1484	win=9088				168.10.217 TCP 66 1720-2308 [FIN, ACK] Seq=1460 Ack=1484 win=9088 Len=0 Tsval=155047278 TSecr=155047278
192.168.1.217	TCP	66	2308-1720	[ACK]	Seq=1484	Ack=1461	win=10128				168.1.217 TCP 66 2308-1720 [ACK] Seq=1484 Ack=1461 win=10128 Len=0 Tsval=155131358 TSecr=155131358
192.168.1.217	TCP	74	2309-1720	[SYN]	Seq=0	win=5840	Len=0	MSS=1460			168.1.217 TCP 74 2309-1720 [SYN] Seq=0 win=5840 Len=0 MSS=1360 SACK_PERM=1 Tsval=155131358 TSecr=155131358
192.168.10.217	TCP	74	1720-2309	[SYN, ACK]	Seq=0	Ack=1	win=5792	Len=0	MSS=1460		168.10.217 TCP 74 1720-2309 [SYN, ACK] Seq=0 Ack=1 win=5792 Len=0 MSS=1460 SACK_PERM=1 Tsval=155047278 TSecr=155047278
192.168.1.217	TCP	66	2309-1720	[ACK]	Seq=1	Ack=1	win=5840	Len=0			168.1.217 TCP 66 2309-1720 [ACK] Seq=1 Ack=1 win=5840 Len=0 Tsval=155131698 TSecr=155131698
192.168.1.217	H.225.0	613	CS: setup openLogicalChannel								168.1.217 H.225.0 613 CS: setup openLogicalChannel
192.168.10.217	TCP	66	1720-2309	[ACK]	Seq=1	Ack=548	win=6896	Len=0			168.10.217 TCP 66 1720-2309 [ACK] Seq=1 Ack=548 win=6896 Len=0 Tsval=155047636 TSecr=155047636
192.168.1.217	H.225.0/H.24	145	endSessionCommand	cs: empty							168.1.217 H.225.0/H.24 145 endSessionCommand cs: empty
192.168.1.217	H.225.0	168	CS: releaseComplete								168.1.217 H.225.0 168 CS: releaseComplete
192.168.10.217	TCP	66	[TCP Retransmission]	segment not captured	1720-2309						168.10.217 H.225.0 388 [TCP Retransmission] CS: callProceeding openLogicalChannel CS: alerting openLogicalChannel
192.168.10.217	TCP	66	1720-2309	[ACK]	Seq=323	Ack=729	win=6896	Len=0			168.10.217 H.225.0 388 [TCP Retransmission] CS: callProceeding openLogicalChannel CS: alerting openLogicalChannel
192.168.1.217	TCP	66	2309-1720	[FIN, ACK]	Seq=729	Ack=1	win=5840				168.1.217 H.225.0 222 CS: callProceeding openLogicalChannel
192.168.1.217	TCP	66	[TCP Retransmission]	segment not captured	1720-1720						168.1.217 H.225.0 232 CS: alerting openLogicalChannel
192.168.1.217	TCP	66	2309-1720	[FIN, ACK]	Seq=729	Ack=1	win=5840				168.1.217 H.225.0 145 endSessionCommand cs: empty
192.168.10.217	TCP	78	[TCP Retransmission]	segment not captured	1720-1720						66 1720-2309 [ACK] Seq=323 Ack=627 win=6896 Len=0 Tsval=155048380 TSecr=155048380
192.168.1.217	TCP	74	2310-1720	[SYN]	Seq=0	win=5840	Len=0	MSS=1460			168.1.217 H.225.0 168 CS: releaseComplete

No packet forward to caller system

Trouble Shooting

Case 16. License Issue - #1

- Debug information
 - To find a reason - `mon>qcpr`

To find detail information, send below trace with system DB and license file.

- `mon>t s call`
- `mon>x`
- `maint>q d update`
- When a software maintenance expired due to unknown reason, send additional information
- `maint>q k tlfldjf`
- License upload
 - Before uploading a license file, you should change a system data correctly.
 - A license file may not be uploaded successfully due to some patters in file name.
It is difficult to list all cases. Therefore, you'd better rename and upload it.
'system_name.dat' is recommended. ('ucp100.dat', 'emg80.dat')
 - Mismatched key or illegal license file
When you type information in license portal, do not input space at the end of phrase.
. Ex) "Ericsson-LG Enterprise" (O) "Ericsson-LG Enterprise" (X)

Trouble Shooting

Case 16. License Issue - #2

- License Order
 - When you order licenses, you should always include below licenses at first creation.
 - . SWL + MNTD in case of eMG80/800, UCP100/600/2400
 - . CS2400(SWL) + MNTD + SPLD in case of vUCP -
- When T-net is used,
- . CCM system: TNLS + required Port licenses and Feature licenses
 - . LCM system: TNLCM + VOIP channel licenses + VMU license (Only Local)
 - eMG system: VOIP channels of VOIU, VOIB, VVMU
 - UCP: VOIP switching channels
 - vUCP: Channels of vVOIM, vUVM
 - **Port and feature licenses are activated but can only be effective for 60 days without CCM connection. TNLCM will continue to operate without a CCM connection after 60 days.**
 - When Redundancy is used, Local redundancy
 - Master: No additional license.
 - Slave: No needed licenses. **The licenses of master are used but can be effective for 60 days without redundancy connection.**
 - . Geographical redundancy
 - Master: Additional GR license.
 - Slave: No needed licenses. **The licenses of master are used but can be effective for 60 days without redundancy connection.**

Trouble Shooting

Case 17. Cannot add station via virtual registration

- Issue
 - Cannot add station any more via virtual registration program

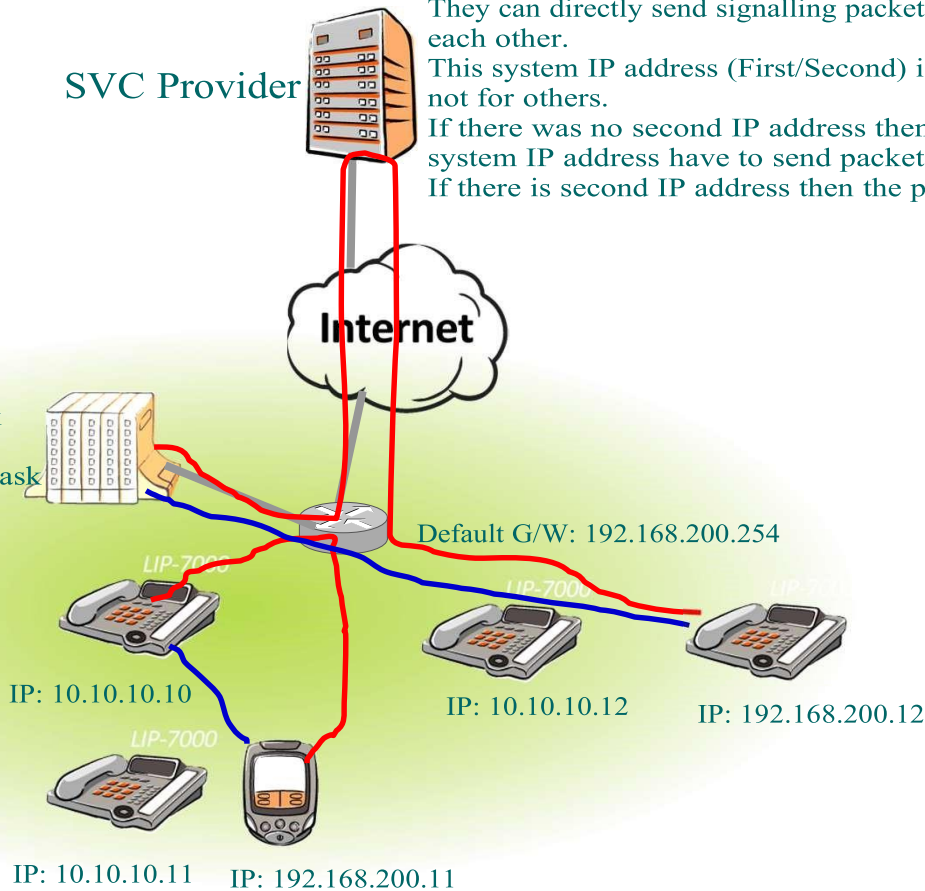
- Solution
 - Check and extend system IP address range if it not enough

Trouble Shooting

Case 18. Second system IP range

In this configuration, all device can directly send IP packet to each other. They can directly send signalling packet (UDP port: 5588) / RTP and RTCP each other. This system IP address (First/Second) is only used for IPKTS protocol, not for others. If there was no second IP address then devices those are use the second system IP address have to send packet to router as red line. If there is second IP address then the packet will be sent as blue line.

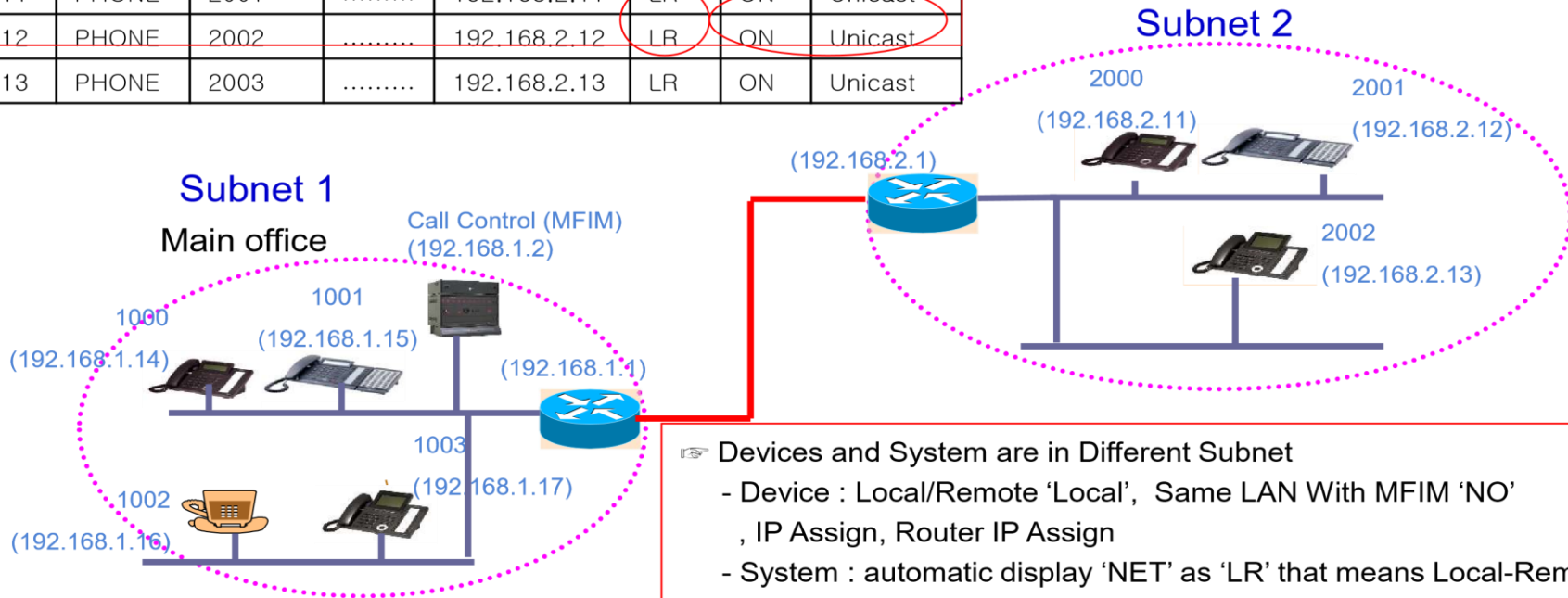
System IP: 220.210.200.30
 (This is assigned by SVC provider)
 The First System IP address / netmask
 (10.10.10.10 / 255.255.255.0)
 The Second System IP address / netmask
 (192.168.200.10 / 255.255.255.0)



Trouble Shooting

Case 19. Local-Remote mode - #1

Seq	Type	Number	MAC	IP Address	NET	ARP	Register
...	...	...	.....	192.168.1.xx	L	.	.
10	LGCM4	35 - 38	.....	192.168.2.10	LR	ON	Unicast
11	PHONE	2001	.....	192.168.2.11	LR	ON	Unicast
12	PHONE	2002	.....	192.168.2.12	LR	ON	Unicast
13	PHONE	2003	.....	192.168.2.13	LR	ON	Unicast



- ☞ Devices and System are in Different Subnet
 - Device : Local/Remote 'Local', Same LAN With MFIM 'NO', IP Assign, Router IP Assign
 - System : automatic display 'NET' as 'LR' that means Local-Remote
- ☞ MFIM IP & System IP Range : Managed & Private/Public
- ☞ IP Assignment : Not by System for Local-Remote or Remote Devices
- ☞ Communication by ARP to Router & Unicast Register
 - Automatically, ARP 'ON', Register 'Unicast'

Trouble Shooting

Case 19. Local-Remote mode - #2 Local - Device

☐ From unified 3.0.21 or later version
 There is no need to router IP address if it is the same as the system router IP address (PGM102)
 If it is different then it should be set

☐ Local – Router IP Address Assignment

Board Based Data
 Board Base Attributes(132)
 [Board Base Attributes]

Enter Sequence Number : -

Sequence Range From 4 To 9

Uncheck All	Attribute	Value	Range
<input checked="" type="checkbox"/>	Router IP Address	192.168.1.1	IP Address

☑ Router IP Assignment for Local Device
 - by System
 - not by Device Self Programming

☐ Local remote – Router IP Address

Board Based Data
 Board Base Attributes(132)
 [Board Base Attributes]

Enter Sequence Number : -

Sequence Range From 3 To 7

Uncheck All	Attribute	Value
<input type="checkbox"/>	Router IP Address	

☑ Router IP Assignment for Local Remote Device
 - not by System
 - by Device Self Programming

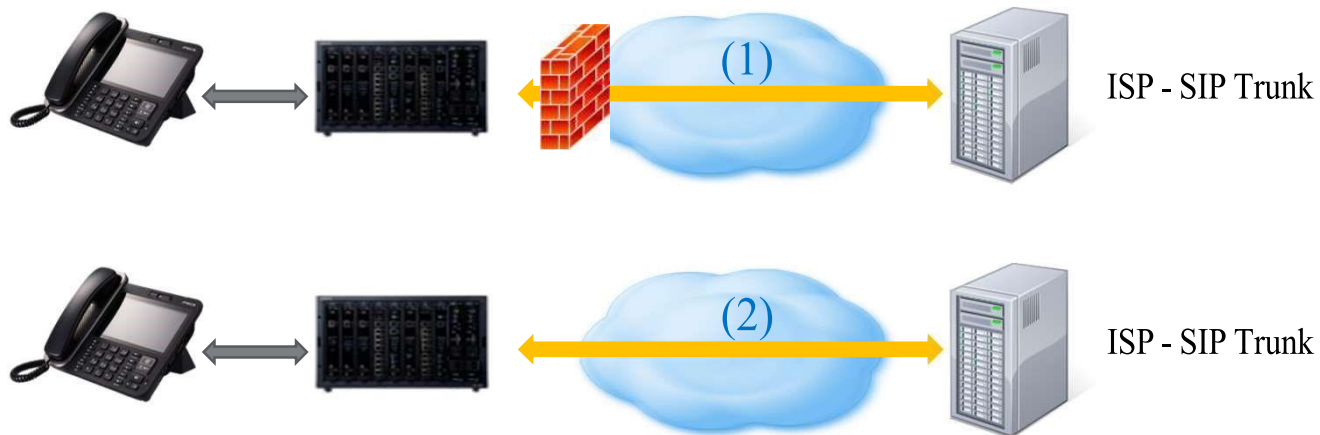
MODE(R/L)	SAME LAN WITH MFIM	MFIM IP	DHCP	ROUTER IP	NET MASK	DEVICE IP
L (Local)	YES	Input	DISABLE	N/A	N/A	N/A
			ENABLE	Input	Input	Input

MODE(R/L)	SAME LAN WITH MFIM	MFIM IP	DHCP	ROUTER IP	NET MASK	DEVICE IP
L (Local)	NO	Input	DISABLE	N/A	N/A	N/A
			ENABLE	Input	Input	Input

Trouble Shooting

Case 20. Network Configuration - #1

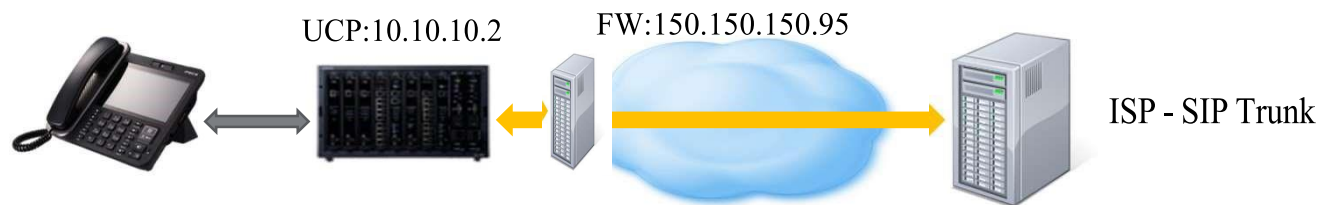
- Check if F/W device is installed and where F/W device is located.
 - (1) Server is located outside of F/W - F/W IP must be used or SIP ALG feature is needed in F/W .
 - (2) Server is located inside of F/W or connected using public IP – Local IP must be used.



Trouble Shooting

Case 20. Network Configuration - #2

- Server is located outside of F/W
- Is SIP ALG feature used in F/W device?
- If SIP ALG feature malfunctions, mute problem happens.
- SIP ALG must change Ip address in SIP message – contact, via, media Ip address.
- SIP ALG must relay SIP message and RTP packets.

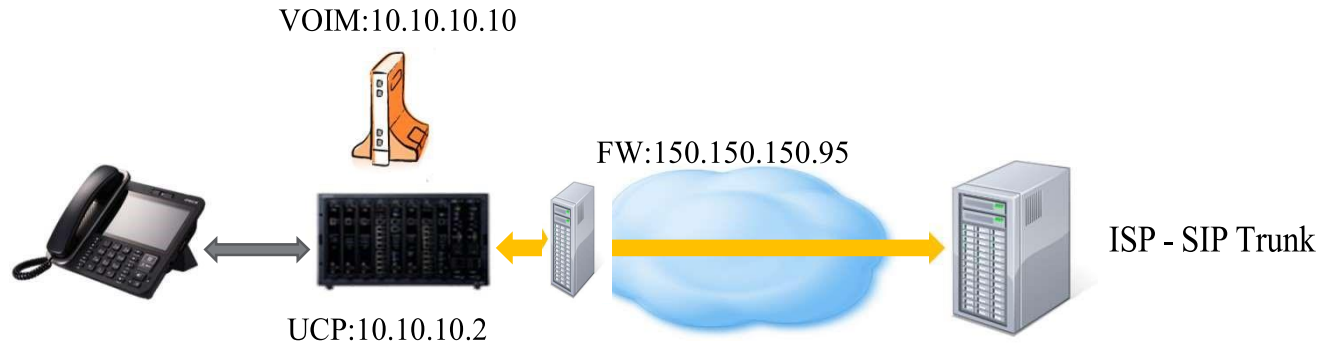


SIP ALG has own Table to forward packet and change IP address

Trouble Shooting

Case 20. Network Configuration - #3

- Server is located outside of F/W
- Is it possible to disable SIP ALG feature?
- Some F/W cannot disable SIP ALG feature.
- Is it possible to set Port Forwarding?



Local IP:port	Public IP:port
10.10.10.2:5060	150.150.150.95:5060
10.10.10.2:9000	150.150.150.95:9000
10.10.10.10:10000 ~10048	150.150.150.95:10000 ~10048

Port forwarding Table

Trouble Shooting

Case 21. SIP Registration Log - #1

- Maintenance – Trace – SIP RegUnreg Log View.
 - SENDFAIL (6): No Response from server for REGISTER message.
 - Check network problem or server side.
 - FAIL (6) – 404: “404 Not Found” from server for REGISTER message.
 - Check ID and password with server.
 - REG (5) : “200OK” from server for REGISTER message.
 - System is successfully registered.

System Information		SIP RegUnreg Log View x ↺	
SIP RegUnreg Log			
18 Sep 2017 11:22:10	IP:150.150.131.207	ID:1018@150.150.150.95	SENDFAIL(6)
18 Sep 2017 11:22:36	IP:150.150.131.207	ID:1018@150.150.150.95	SENDFAIL(6)
18 Sep 2017 11:26:14	IP:sipconnect.qsc.de	ID:1018@150.150.150.95	SENDFAIL(6)
22 Sep 2017 16:09:03	IP:150.150.131.207	ID:12345678@150.150.150.95	FAIL(6)-404
22 Sep 2017 16:14:44	IP:150.150.131.207	ID:1018@150.150.150.95	REG(5)

Trouble Shooting

Case 21. SIP Registration Log - #2

- If you see the below case, we can say that network or server is unstable in that time.
- SENDFAIL (7)
- FAIL (7)
- REG (5)
- ...

System Information		SIP RegUnreg Log View x ↻
SIP RegUnreg Log		
22 Sep 2017 16:25:27	IP:150.150.131.207 ID:1018@150.150.150.95	REG(5) Reg
22 Sep 2017 16:26:26	IP:150.150.131.207 ID:1018@150.150.150.95	SENFFAIL(7) Reg Fail
22 Sep 2017 16:26:26	IP:150.150.131.207 ID:1018@150.150.150.95	FAIL(7) Reg
22 Sep 2017 16:27:17	IP:150.150.131.207 ID:1018@150.150.150.95	REG(5) Reg
22 Sep 2017 16:28:16	IP:150.150.131.207 ID:1018@150.150.150.95	SENFFAIL(7) Reg Fail
22 Sep 2017 16:28:16	IP:150.150.131.207 ID:1018@150.150.150.95	FAIL(7) Reg
22 Sep 2017 16:29:07	IP:150.150.131.207 ID:1018@150.150.150.95	REG(5) Reg

- 1: TERMINATED
- 2: REGISTERING
- 3: REDIRECTED
- 4: UNAUTHENTICATED
- 5: REGISTERED
- 6: FAILED
- 7: SEND_FAILURE

Trouble Shooting

Case 22. SIP Authentication Log

- Maintenance – Trace – SIP Auth Log View.
- Data Time IP ID SIP_Method
- 22 Sep 2017 17:20:00 IP:66.23.129.253 ID:0709235149 INVITE - 22 Sep 2017 17:21:16 IP:103.26.173.4 ID:0734560650 INVITE
- If there are lots of logs from unknown Ip's, then consider **hacking trial**.
- For more information for security, refer security session.

SIP Auth Log	
22 Sep 2017 17:19:09 IP:150.150.131.146 ID:	INVITE
22 Sep 2017 17:20:00 IP:66.23.129.253 ID:0709235149	INVITE
22 Sep 2017 17:21:16 IP:103.26.173.4 ID:0734560650	INVITE

Trouble Shooting

Case 23. SIP call disconnection after 30 seconds - #1

- SIP stack will disconnect incoming call if final ACK is not received.
- This kind of problem is related to Contact IP address in 200OK contact header.
- Check which Ip address must be used in your configuration.

Contact Header Rule

	PGM132-USE Board IP for SIP	PGM132-Firewall IP Address (VOIM)	PGM133-Firewall IP Apply	PGM102-Firewall IP Address	Contact IP Address
Dual Broadband case	O	O	O	Don't care	VOIM Firewall IP
Normal firewall case	O	Other Cases			VOIM Local IP
	X	Do not care	O	O	UCP Firewall IP
	X	Other Cases			UCP Local IP

Trouble Shooting

Case 23. SIP call disconnection after 30 seconds - #2

- UCP IP is 10.180.240.220 and VOIM IP is 10.180.240.228.
- Customer set PGM132 – USE Board IP for SIP for VOIM (turn off USE Board IP)
- Contact IP has VOIM Local IP.

No.	Time	Source	Destination	Protocol	Length	Info
259	2017-08-18 23:16:25.176433	10.4.254.14	10.180.240.220	SIP/SDP	1347	Request: INVITE sip:8773@10.180.240.220;user=phone;transport=tcp |
265	2017-08-18 23:16:25.235577	10.180.240.220	10.4.254.14	SIP	521	Status: 100 Trying |
266	2017-08-18 23:16:25.235732	10.180.240.220	10.4.254.14	SIP	697	Status: 180 Ringing |
338	2017-08-18 23:16:35.856782	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
343	2017-08-18 23:16:36.357518	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
345	2017-08-18 23:16:37.357836	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
349	2017-08-18 23:16:39.358197	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
367	2017-08-18 23:16:43.358437	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
401	2017-08-18 23:16:47.358732	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
425	2017-08-18 23:16:51.359043	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
434	2017-08-18 23:16:55.359360	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
462	2017-08-18 23:16:59.359702	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
489	2017-08-18 23:17:03.360008	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
512	2017-08-18 23:17:07.360310	10.180.240.220	10.4.254.14	SIP/SDP	878	Status: 200 OK |
516	2017-08-18 23:17:07.857244	10.180.240.220	10.4.254.14	SIP	590	[TCP Previous segment not captured] Request: BYE sip:5731@10.4.254.14 |
518	2017-08-18 23:17:07.888729	10.4.254.14	10.180.240.220	SIP	501	Status: 200 OK |

v Session Initiation Protocol (200)
 > Status-Line: SIP/2.0 200 OK
 v Message Header
 > From: <sip:5731@lim1.MX-ONE;user=phone>;tag=9051800c
 > To: <sip:8773@10.180.240.220;user=phone>;tag=4e835dc8-dcf0b40a-13c4-65014-a9167-66e17340-a9167
 Call-ID: 4FJF46BnrfuEhnmvKuAFnTQ..
 > CSeq: 1 INVITE
 > Via: SIP/2.0/TCP 10.4.254.14:5060;rport=59771;branch=z9hG4bK-524287-1---21019d324b6d792c
 > Record-Route: <sip:10.4.254.14:5060;transport=tcp>
 > Contact: <sip:8773@10.180.240.228:5060;transport=TCP;user=phone>
 Allow: INVITE,ACK,OPTIONS,BYE,CANCEL,REGISTER,REFER,SUBSCRIBE,NOTIFY,MESSAGE,INFO,PRACK,UPDATE
 Supported: replaces,UPDATE,INFO
 User-Agent: Ericsson-LG Enterprise iPECS-UCP UCP600 2.1.42

Trouble Shooting

Case 24. SIP call has one-way mute problem

- When SIP ALG feature is set in F/W, VOIM Local IP can be used.
 - When Port Forwarding rule is used, VOIM Firewall IP must be used.
 - If user has mute problem even RTP IP is right, Wireshark trace in front of UCP and VOIM will be helpful to find error.
- There are sometimes Fire Wall device's that block RTP packet from the server side.

SDP IP rule

PGM132-Firewall IP Address (VOIM)	PGM133-Firewall IP Apply	SDP IP Address
O	O	VOIM Firewall IP
Don't care	X	VOIM Local IP

Trouble Shooting

Case 25. How to integrate 3rd party SIP VMS/UMS

- Interface Specification
- 3rd party SIP VMS/UMS is integrated as SIP extension
- INVITE to VMS/UMS includes To header (mailbox # of called device) & Reason header
 - Ex) Reason: redirection; cause=3 ;text="Forward busy"
- Message Wait Indication works with New voice message # in NOTIFY from VMS/UMS - Ex)

Voice-Message: 2/4

- Please refer to  for detail specifications

iPECS SIP Interface
Spec for VM_UMS

- Required Licenses
- XXX-3SIPEXT: 3rd party SIP extension license per channel (SIP extension)
- XXX-3SIPS: 3rd party SIP APP Server Interface license per server
- XXX-3SIPC: 3rd party SIP APP Channel Interface license per channel (SIP extension)

Ex) VMS with 10 channels: 10 XXX-3SIPEXT + 1 XXX-3SIPS + 10 XXX-3SIPC

Trouble Shooting

Case 26. How to integrate 3rd party SIP based VMS/UMS

- Configuration
- Station User Login (443) menu
 - ID / Password / Desired Number as normal SIP extension
- Station Group Assignment (190) menu
 - Group Type: Voice Mail
 - Station Number: SIP extension number for 3rd party VMS/UMS

example) if you want to use 10 channels then 10 SIP extension should be registered and assigned as member of Voice Mail group.

- Station Group Attributes (191) menu
 - Server Type: 3rd-PARTY TYPE
 - Member Type: SIP TYPE
 - “Capacity (SIP TYPE Only)” does not work, since multiple connections per 3rd party APP channel interface is not supported

Trouble Shooting

Case 27. Forgot ID/password

- It is only possible on RS232 not on TCP
- Web Admin ID/Password
 - To view current account
Maint>web id
 - To delete an account
Maint>web id del xxx (xxx is id)
 - To add an account
Maint>web id add xxx yyy (xxx is id, yyy is password)
- Keyset Admin Password
Maint>password adm
- Keyset Remote access Password
Maint>password man

Trouble Shooting

Case 28. Restore out going disable CO line

Restore out going disabled CO line

- Maint>dcog release all
- Maint>dcog release xx (xx is CO line number)

Trouble Shooting

Case 29. Change HTTP/HTTPS Change

HTTP/HTTPS

Make HTTP / default port 80 maint>

web tls 0

Web TLS value is changed to [OFF]!

Web port value is changed to [80]!

HTTP server will be restarted. Wait 10 seconds!

Make HTTPS / default port 443 maint>

web tls 1

Web TLS value is changed to [ON]!

Web port value is changed to [443]!

HTTP server will be restarted. Wait 10 seconds!

Case 30. Delete Call log

Delete call log

Delete all call log maint>

del cli all

ALL STA cli was deleted

Delete call log of a extension maint> del cli 1500 (example
for extension 1500)

STA MCLI MW (1500) was deleted

Case 31. Log view & clear

Log view / clear of UCP/eMG maint>

log mfim view

maint> log mfim clear

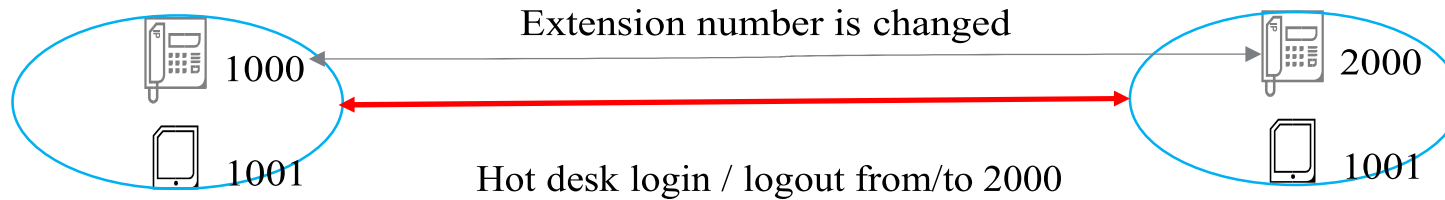
Log view / clear of GW/board of UCP/eMG maint>

log gw view

maint>log gw clear

Trouble Shooting

Case 32. Hot desk with UCS call control (Current issue)



Personal group (1000 is master number) Personal group (2000 is master number)

UCS call control is working based on extension number, but the extension number is changed when hot desk login/logout.

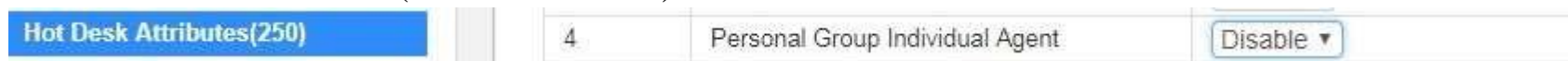
So, UCS call control is not worked with hot desk now.

Trouble Shooting

Case 33. Hot desk with personal group (New feature 1, V3.1)

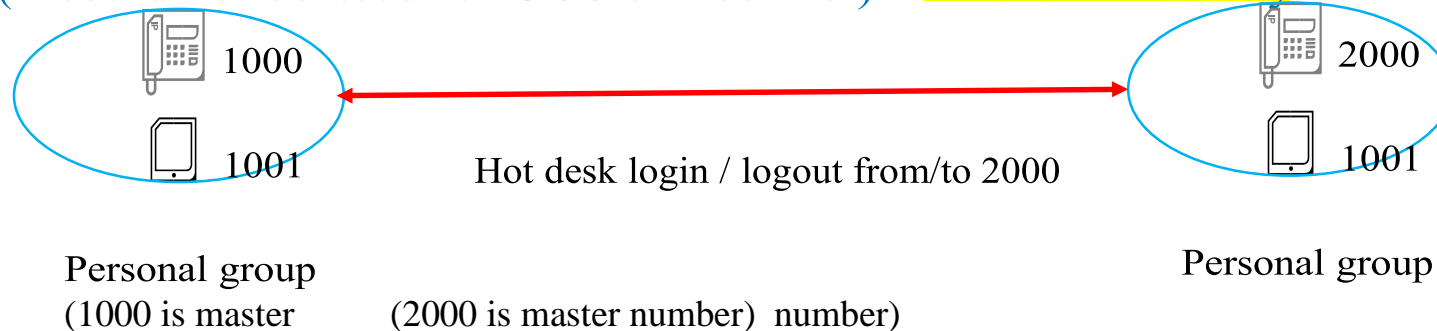
New hot desk option will be added in PGM250(Hot desk attributes) as below.

Value: Enable / Disable (Default: disable)



If it is “disable” then it is working as previous version.

(it could not be used for UCS call control) – Master – Dummy



Personal group member automatically follow the master phone if current extension is assigned as personal group and the hot desk login/logout destination is not personal group.

Example) User try hot desk login to agent 2000 on extension 1000/1001

(2000 is not personal group)

Trouble Shooting

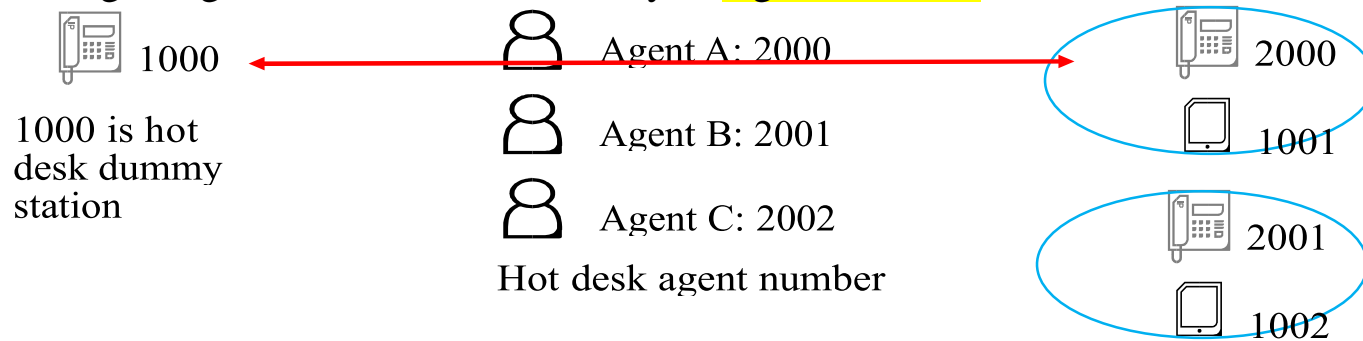
Case 34. Hot desk with UCS call control (New feature 2)

If it is “enabled” then it is working as below.



To use UCS call control, it is needed to assign personal group for each agent number (not for dummy extension) and it should be enabled.

Hot desk login/logout will work individually. – **Agent - Master**



Example) Agent A want to login to 2000,

Step 1: The user needs to login to 2000 by hot desk on dummy hot desk extension 1000.

Step 2: The user needs to login on UCS (call control to 2000).

If the user logout from 2000 then the personal group is not changed (2000 + 1001)

Trouble Shooting

Case 35. UCS

We recommend that you don't use "Preserve UCS DB when server type is changed" except offline web admin for UC DB.

The screenshot shows the configuration page for 'Common Attributes(445)'. The table below lists the attributes and their values:

Order ↓ ^a	Attribute ↓ ^a	Value	Range
1	Concurrent Clients In Login	100	System Capacity
2	Client Min. Changeable Password Length	12	0-12
3	Do Not Allow The Same Password And User ID	OFF ▾	
4	XML Port	8899	00001-65535
5	Clients Check Interval	30	30-60 sec
6	UCS Server Type	Standard ▾ <input type="checkbox"/> Preserve UCS DB when server type is changed.	

Below the main table, there is a section for 'LDAP Server Settings':

Order	Attribute	Value	Range
1	Server Display Name	LDAP Server	
2	Server IP		
3	Server Port		00001-65535
4	Require Login	ON ▾	

We recommend that you copy all to excel file that has right password. Our PGM446 just show that it's ****. And so, we cannot reuse it. And so, we recommend that you should store them to other excel file. STD -> Premium and vice versa, you should register again in PGM446 because we delete all members in PGM 443 and change reused state.

Trouble Shooting

Case 36. State of “System information” on Web admin - #1

Classification	Type	Logical Num	IP Address	Version	Connection	State	Real-time Device Monitoring
CO	VOIU	1 - 6	150.150.150.2	E3.5.33	Connected	[1:Idle][2:Idle][3:Idle][4:Idle][5:Idle][6:Idle]	
CO	ISDN-PRI GW	7 - 21	192.168.150.51	6.0lc	Disconnected	[7:N/A][8:N/A][9:N/A][10:N/A][11:N/A][12:N/A][13:N/A][14:N/A][15:N/A][16:N/A][17:N/A][18:N/A][19:N/A][20:N/A][21:N/A]	
CO	ISDN-PRI GW	22 - 51	192.168.150.97	6.0lc	Connected	[22:Idle][23:Idle][24:Idle][25:Idle][26:Idle][27:Idle][28:Idle][29:Idle][30:Idle][31:Idle][32:Idle][33:Idle][34:Idle][35:Idle][36:Idle][37:Idle][38:Idle][39:Idle][40:Idle][41:Idle][42:Idle][43:Idle][44:Idle][45:Idle][46:Idle][47:Idle][48:Idle][49:Idle][50:Idle][51:Idle]	
CO	MATM GW	52 - 67	10.10.147.215	4.2Dc	Disconnected	[52:N/A][53:N/A][54:N/A][55:N/A][56:N/A][57:N/A][58:N/A][59:N/A][60:N/A][61:N/A][62:N/A][63:N/A][64:N/A][65:N/A][66:N/A][67:N/A]	
CO	LGCM LOOP 8 GW	68 - 75	10.150.90.10	..	Disconnected	[68:N/A][69:N/A][70:N/A][71:N/A][72:N/A][73:N/A][74:N/A][75:N/A]	
CO	VOIU(SW)	76 - 99	150.150.150.2	..	Connected	[76:N/A][77:N/A][78:N/A][79:N/A][80:N/A][81:N/A][82:N/A][83:N/A][84:N/A][85:N/A][86:N/A][87:N/A][88:N/A][89:N/A][90:N/A][91:N/A][92:N/A][93:N/A][94:N/A][95:N/A][96:N/A][97:N/A][98:N/A][99:N/A]	
CO	VCIM(VOIM) GW	100 - 131	192.168.150.122	A.0Ga	Disconnected	[100:N/A][101:N/A][102:N/A][103:N/A][104:N/A][105:N/A][106:N/A][107:N/A][108:N/A][109:N/A][110:N/A][111:N/A][112:N/A][113:N/A][114:N/A][115:N/A][116:N/A][117:N/A][118:N/A][119:N/A][120:N/A][121:N/A][122:N/A][123:N/A][124:N/A][125:N/A][126:N/A][127:N/A][128:N/A][129:N/A][130:N/A][131:N/A]	
CO	LGCM LOOP 8 GW	132 - 139	10.150.90.11	..	Disconnected	[132:N/A][133:N/A][134:N/A][135:N/A][136:N/A][137:N/A][138:N/A][139:N/A]	
CO	PRIB(E1)	140 - 169	10.1.1.5	B.0Am	T.NET-CM/D	[140:N/A][141:N/A][142:N/A][143:N/A][144:N/A][145:N/A][146:N/A][147:N/A][148:N/A][149:N/A][150:N/A][151:N/A][152:N/A][153:N/A][154:N/A][155:N/A][156:N/A][157:N/A][158:N/A][159:N/A][160:N/A][161:N/A][162:N/A][163:N/A][164:N/A][165:N/A][166:N/A][167:N/A][168:N/A][169:N/A]	
CO	VOIB24	170 - 193	192.168.150.73	2.0Ha	T.NET-CM/D	[170:N/A][171:N/A][172:N/A][173:N/A][174:N/A][175:N/A][176:N/A][177:N/A][178:N/A][179:N/A][180:N/A][181:N/A][182:N/A][183:N/A][184:N/A][185:N/A][186:N/A][187:N/A][188:N/A][189:N/A][190:N/A][191:N/A][192:N/A][193:N/A]	
CO	VOIB128	194 - 225	150.150.150.3	2.0Ea	T.NET-CM/D	[194:N/A][195:N/A][196:N/A][197:N/A][198:N/A][199:N/A][200:N/A][201:N/A][202:N/A][203:N/A][204:N/A][205:N/A][206:N/A][207:N/A][208:N/A][209:N/A][210:N/A][211:N/A][212:N/A][213:N/A][214:N/A][215:N/A][216:N/A][217:N/A][218:N/A][219:N/A][220:N/A][221:N/A][222:N/A][223:N/A][224:N/A][225:N/A]	
STA	LIP-8012D	1008	192.168.150.74	1.2Ag	Disconnected	[1008:N/A]	
STA	SLTM8 GW	1011 1012 1013 1014 1015 1016 1017 1018	192.168.150.81	6.1La	Disconnected	[1011:N/A][1012:N/A][1013:N/A][1014:N/A][1015:N/A][1016:N/A][1017:N/A][1018:N/A]	
STA	LIP-8024E	1000	192.168.150.121	1.2Ab	Disconnected	[1000:N/A]	
STA	LIP-9002	1001	192.168.150.44	2.0Aa	Connected	[1001:Idle]	
STA	LIP-9020	1002	192.168.150.77	2.0Aa	Disconnected	[1002:N/A]	
STA	LIP-9030	1003	192.168.150.79	2.0Ac	Connected	[1003:Idle]	
STA	LIP-9071	1057	192.168.150.83	2.0Ab	Disconnected	[1057:N/A]	
STA	LIP-9010	1058	192.168.150.46	2.0Ac	Disconnected	[1058:N/A]	
STA	UCS-Client	1059	192.168.0.31	R6.1.12	Disconnected	[1059:N/A]	
STA	LIP-8024D	1060(H,D)	0.0.0.0	..	Disconnected	[1060:N/A]	

Trouble Shooting

Case 36. State of “System information” on Web admin - #2

State of CO:

Format: [xxx:state], xxx is CO line number

- State

- N/A: Not available
- Idle: Idle
- T.NET: It is registered to CM of TNET
- Blocked: Out going disabled
- ICO: Incoming CO offnet call forwarded Wait Idle : PRI line is disconnected
DI (Disconnect Indication) is detected
- Use : In use

State of MISU/UVMU/UVM/VMIU/VMIB/MCIM/VCIM

Format: [xxx:state], xxx is device number

- State

- N/A : Not available
- Idle : Idle
- T.NET : It is registered to CM of TNET
- Use : In use

Trouble Shooting

Case 36. State of “System information” on Web admin - #3

State of iPCR/UCS/3 party server and WTIM

- State

- Empty (nothing is displayed)

State of Station

Format: [xxx:state(presence)], xxx is station number

- State

- N/A: Not available
- Idle: Idle
- T.NET: It is registered to CM of TNET
- H.D: Hot Desk
- Use: In use

Trouble Shooting

Case 36. State of “System information” on Web admin - #4

State of Station

Format: [xxx:state(presence)], xxx is station number

- Presence

- DND: DND
- F-UN: Forward unconditional
- F-BY: Forward busy
- F-NA: Forward no answer
- F-BN L: Forward busy no answer
- PF-IU: Preset Forward Internal unconditional
- PF-IB: Preset Forward Internal Busy
- PF-IN: Preset Forward Internal no answer
- PF-ID: Preset Forward Internal DND
- PF-ID: Preset Forward Internal DND
- PF-EU: Preset Forward external unconditional
- PF-EB: Preset Forward external Busy
- PF-EN: Preset Forward external no answer
- PF-EO: Preset Forward external OOS
- PF-ED: Preset Forward external DND
- PF-DV: Preset Forward to VM mailbox
- Pre-selected MSG: Pre-selected message

Trouble Shooting

Case 37. License issue #1 (iPECS Unified S/W v1.3.9 or earlier)

If SW is v1.3.9 or earlier with valid MNT in previous license file format,

- Upgrade with the latest software first
- Then, upload the new license file **with valid MNT**

Trouble Shooting

Case 37. License issue #2 (iPECS Unified S/W v1.3.9 or earlier)

- If SW is v1.3.9 or earlier with MNT expired, follow the below process.
- 1) Order MNT and additional license & generate a license file
- 2) (Back-up DB just in case)
- 3) Upgrade with the [special kernel file](#) and then the [special application file](#)*.
System works as the limited-service mode, since upgrade is done without MNT.
- 4) Upload new license file with valid MNT to solve the limited-service mode

* [Special kernel file & special application file](#)

Special Upgrade file for pre-Unified UCP/eMG80.zip

Special Upgrade file for Unified UCP/eMG80/eMG800.zip

Provided in Pragma's Technical Support Site

Trouble Shooting

Case 37. License issue #3 (iPECS Unified S/W v1.3.9 or earlier)

If you've already uploaded new license file with valid MNT,

- System works in limited-service mode and "ILLEGAL LICENSE FILE" is shown in Software Maintenance raw & Purchased column of System Overview menu.
 - 1) Connect serial or telnet 5003 port with remote password
 - 2) Enter maintenance mode with password "jannie"
 - 3) maint> sys rm /mnt/db/license/ucp.lic □ in case of UCP maint> sys rm /mnt/db/license/emg.lic □ in case of eMG80/800
 - 4) maint> q d update
 - 5) Upgrade **the special kernel file and then the special application file.**
 - System works as the limited service mode, since upgrade is done without MNT.**
 - 6) Upload new license file **with valid MNT to solve the limited service mode**

Trouble Shooting

Case 37. License issue #4 (iPECS Unified S/W v1.3.9 or earlier)

If you've already uploaded new license file with valid MNT,

- System is rebooted repeatedly
 - 1) Recover system with later S/W than v1.3.9
System works as the limited-service mode, since upgrade is done without MNT.
 - 2) Upload new license file *with valid SWA to solve the limited-service mode*
 - 3) Upgrade to the latest S/W

Trouble Shooting

Case 37. License issue #5 (iPECS Unified S/W v1.3.9 or earlier)

1. Upgrade s/w for UVM SW 1.1Ha or earlier before uploading a license file issued from 2019.
2. Upgrade UVM S/W to 1.1Ia or higher
3. Upload a new license file.

Trouble Shooting

Case 39. vUCP Temp license

Feature is not activated when temp license is activated on vUCP vUCP temp license is only used to register and config device vUCP is in limited service mode even though temp license is activated

To make it normal (clear limited-service mode)

- License should be loaded or vUCP trial license should be loaded vUCP trial license is supported from unified 4.1 To get vUCP trial license:
- Request vUCP trial license on license portal (there is no valid date/time)
- Send it to ELG by e-mail
- ELG send vUCP trial license with valid date/time

Trouble Shooting

Case 40. network config - #1

```
maint> nr
```

```
--- Networking Resources Table ---
```

```
Local IP address: 150.150.150.4
```

```
Subnet mask: 255.255.255.0
```

```
Gateway IP address: 150.150.150.254
```

```
Client start address: 10.150.4.10
```

```
Client end address: 10.150.4.254
```

```
Subnet mask for client: 255.255.255.0
```

```
LAN2 My system IP Address: 1.2.3.4
```

```
LAN2 Associate system IP Address: 1.2.3.5
```

```
Firewall IP Address: 0.0.0.0
```

```
DNS IP Address: 0.0.0.0
```

```
LAN1 Associate system IP Address: 0.0.0.0
```

Trouble Shooting

Case 40. network config - #2

```
maint> ns hi xx.xx.xx.xx (set UCP/MPB Ip address)
```

```
maint> ns hg xx.xx.xx.xx (set Router Ip address)
```

```
maint> ns fw xx.xx.xx.xx (set firewall Ip address)
```

```
maint> ns dn xx.xx.xx.xx (set DNS Ip address)
```

Trouble Shooting

Case 41. Register VCIM and Assign channel

To register VCIM : input MAC address in PGM235

Index	MAC Address	Maximum Port	Device ID
1	b40edc281a50	0	0
2	000000000000	0	0
3	000000000000	0	0
4	000000000000	0	0

To assign channels for VCIM(VOIM) and VCIM(MCIM) of VCIM GW

- Default channel: VCIM(VOIM) : 1, VCIM(MCIM) :30 for a VCIM

(it is provided with VCIM without license)

- Assign VCIM(VOIM)/VCIM(MCIM) channels

(it is controlled by “DSP Channel Expansion for VCIM” license)

- Each VCIM(VOIM)/VCIM(MCIM) should have one or more channels

Device Port Num Change(101)	Index	MAC Address	Maximum Port	Device ID
	5	2403 69 - 118	VCIM(VOIM) GW	64 50 / 64
	3	3201 39 - 58	VCIM(MCIM) GW	128 20 / 128

Trouble Shooting

Case 42. Manage Web admin login ID/password

To show web admin login ID/Password maint> web id

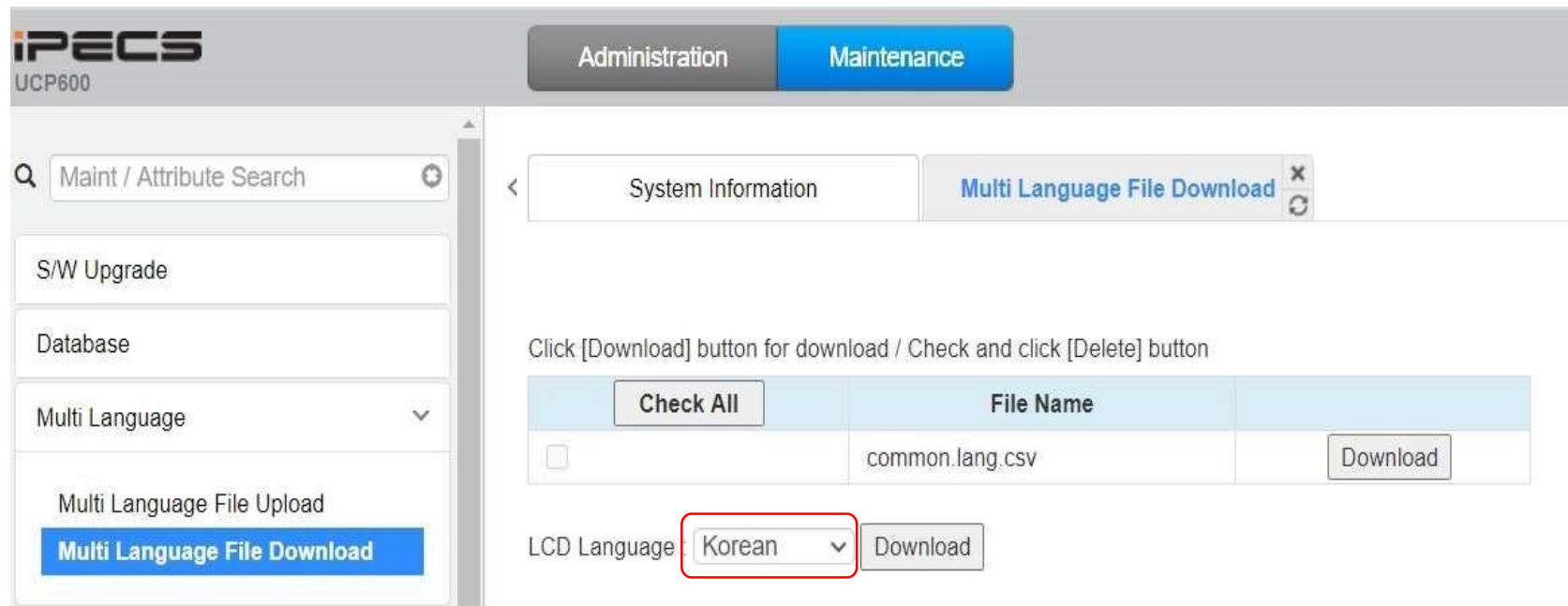
To add web admin login ID/Password maint> web id add xxx yyy (xxx is ID, yyy is password)

To delete web admin login ID/Password maint> web id del xxx (xxx is ID)

Trouble Shooting

Case 43. Translate LCD language

To download local LCD string



The screenshot shows the IPECS UCP600 Maintenance interface. The 'Multi Language File Download' section is active. It includes a table with the following content:

Check All	File Name	
<input type="checkbox"/>	common.lang.csv	Download

Below the table, the 'LCD Language' dropdown is set to 'Korean' (highlighted with a red box) and a 'Download' button is present.

Select local language
& Press Download button

Translate local language and send it to ELG

Trouble Shooting

Case 44. eMG data communication error print

```
maint> datacomm
```

```
LDP Data Comm. mode: 0
```

```
usage: datacomm [enable | disable | print | clear]
```

```
maint> datacomm print
```

```
DATE: 06/19/20 TIME: 13:26:53
```

```
=====
```

```
STN    ID Error  Flex Btn Error
```

```
-----
```

```
3000    0        0
```

```
3001    0        0
```

Trouble Shooting

Case 45. Sort/Print system speed dial

```
maint> spd // print system speed dial
```

```
### System Speed Dial ###
```

```
BIN No.   Dial No.       Name
```

```
-----
```

```
2000   1001#
```

```
maint> spd sorted sort
```

(Sort system speed dial, [It could be used when speed name is not displayed](#))

```
< Sorted System Speed List >
```

```
### System Speed Dial ###
```

```
BIN No.   Dial No.       Name
```

```
-----
```

```
1  2000 1001#
```

```
2  NOT ASSIGNED
```

Trouble Shooting

Case 46. Print license information

```
mon> qcpr
```

(It is useful information when there is license issue)

```
< User License Status >=====
< Total Used License Key >=====
DeskTop UCS STD    : 0 / 32
DeskTop UCS STDVoice : 0 / 32
DeskTop UCS PRM    : 0 / 140
DeskTop UCS PRMVoice : 0 / 140
Mobile UCS Client  : 0 / 140
SIP Phone          : 0 / 32
IP Communicator    : 0 ( 0+ 0) / 0 ( 0+ 0)
SIP CCS            : 0 / (12 copies free)
IP ATD Office      : 0 / 4
IP ATD Hotel       : 0 / 4
```