
Testing Emergency Call Services: 911, Enhanced 911 (E-911) and NG-911



818 West Diamond Avenue - Third Floor, Gaithersburg, MD 20878
Phone: (301) 670-4784 Fax: (301) 670-9187 Email: info@gl.com
Website: <https://www.gl.com>

Background

- Rapid emergency services are essential
- FCC mandate - locate callers < 50 meters / 80 percent of time - 2021
- A Landline phone has a fixed location
- A VoIP phone can be relocated
- A Mobile phone is mobile, but locatable
- TTY, TDD, or Relay for Deaf
- Text-to-911 is becoming available
- Almost all mobile phones have GPS
- Smartphones have accurate location info and can provide it directly to PSAPs

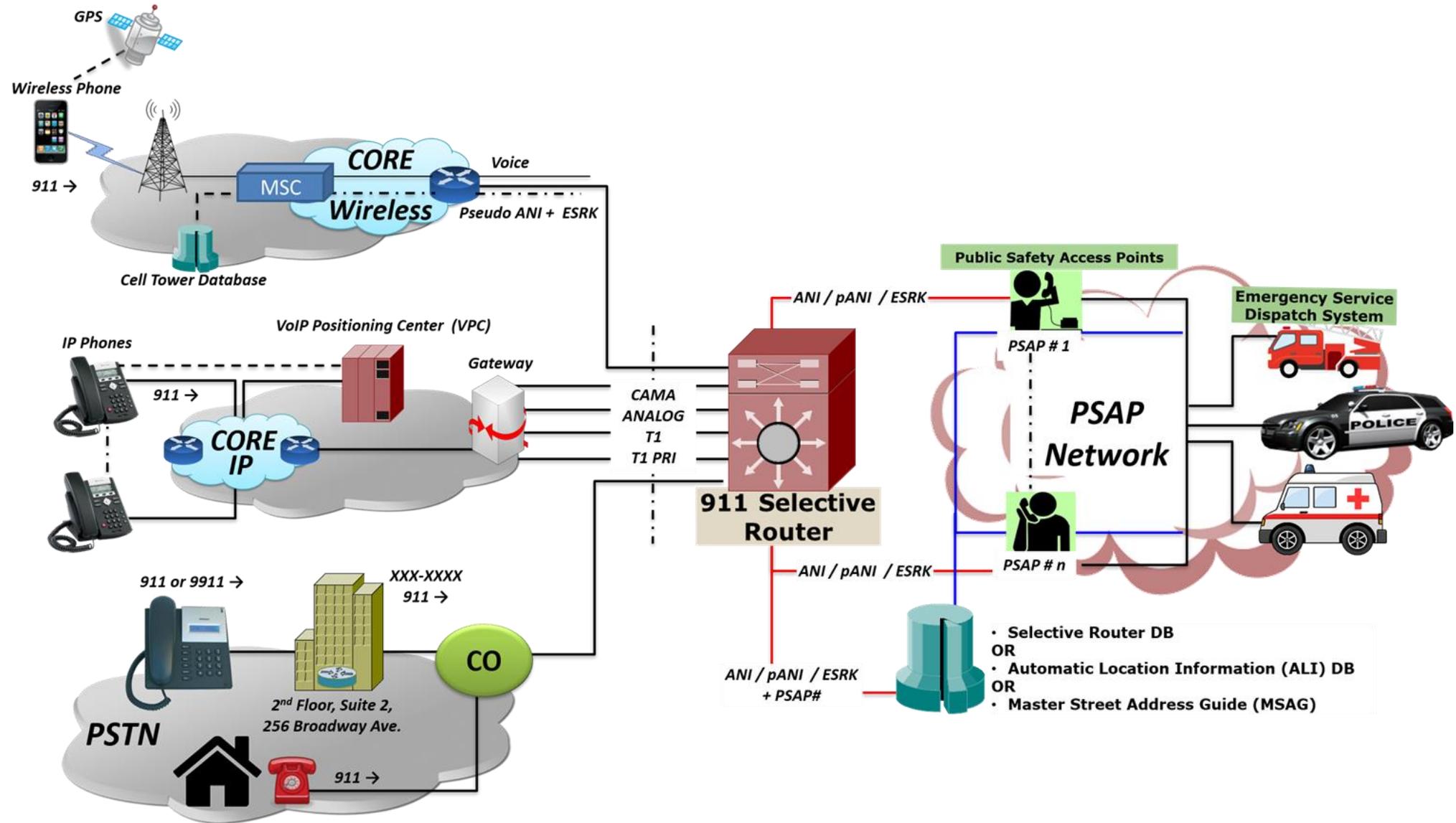
Over the Top (OTT Apps for 911)

- Apple announced - iPhone users who call 9-1-1 to automatically and securely share their location data with PSAPs
- The announcement could refocus wireless 9-1-1 location to device-based solutions from network-based technologies
- Smartphone based location is better than network-based because smartphones are providing better accuracy, emergency call routing, and emergency caller tracking

911 Landscape – Past, Present, Future

- Why test CAMA trunks? - After all, they are 2-wire legacy circuits
- **Carriers** – rapidly transitioning to IP and Wireless infrastructure from Legacy
- **PSAPs** will be last to convert from Legacy to NG, price sensitive, tax payer funded
- Evolution – 911, E-911, NG-911, OTT
- Gateways to interface to Legacy PSAPs

911 and E-911 Emergency Services



Introduction

- **Centralized Automatic Message Accounting (CAMA) Trunk** - 2 wire analog trunk
- **Selective Router (SR)** - routes the call to the proper PSAP
- **Public Safety Access Point** - attendant and dispatch centers for emergency vehicles
- **ANI** - Automatic Number Identification (ANI) i.e., the calling number of the distressed person
- **Database Lookup** - calling # to street address

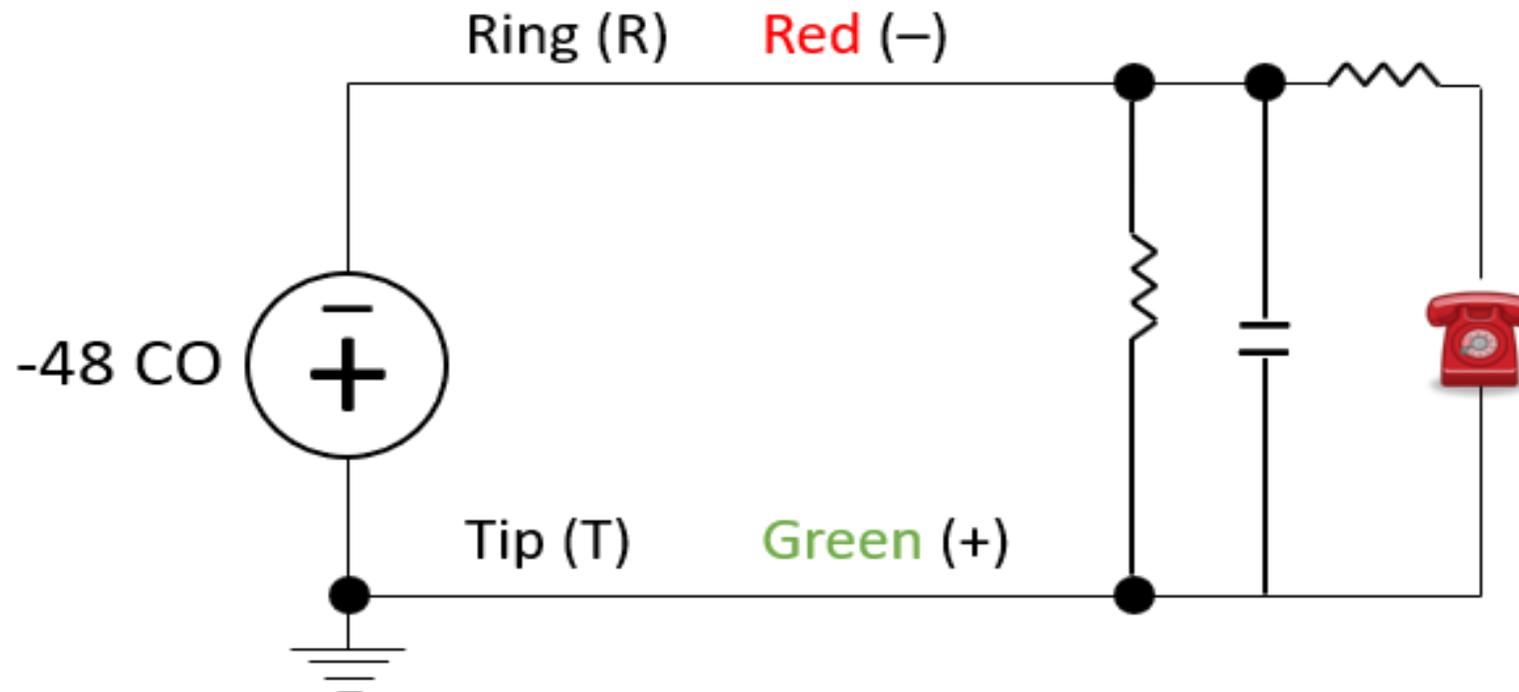
CAMA 2-wire Trunks vs. 2wire LoopStart Subscriber Lines

CAMA Trunk

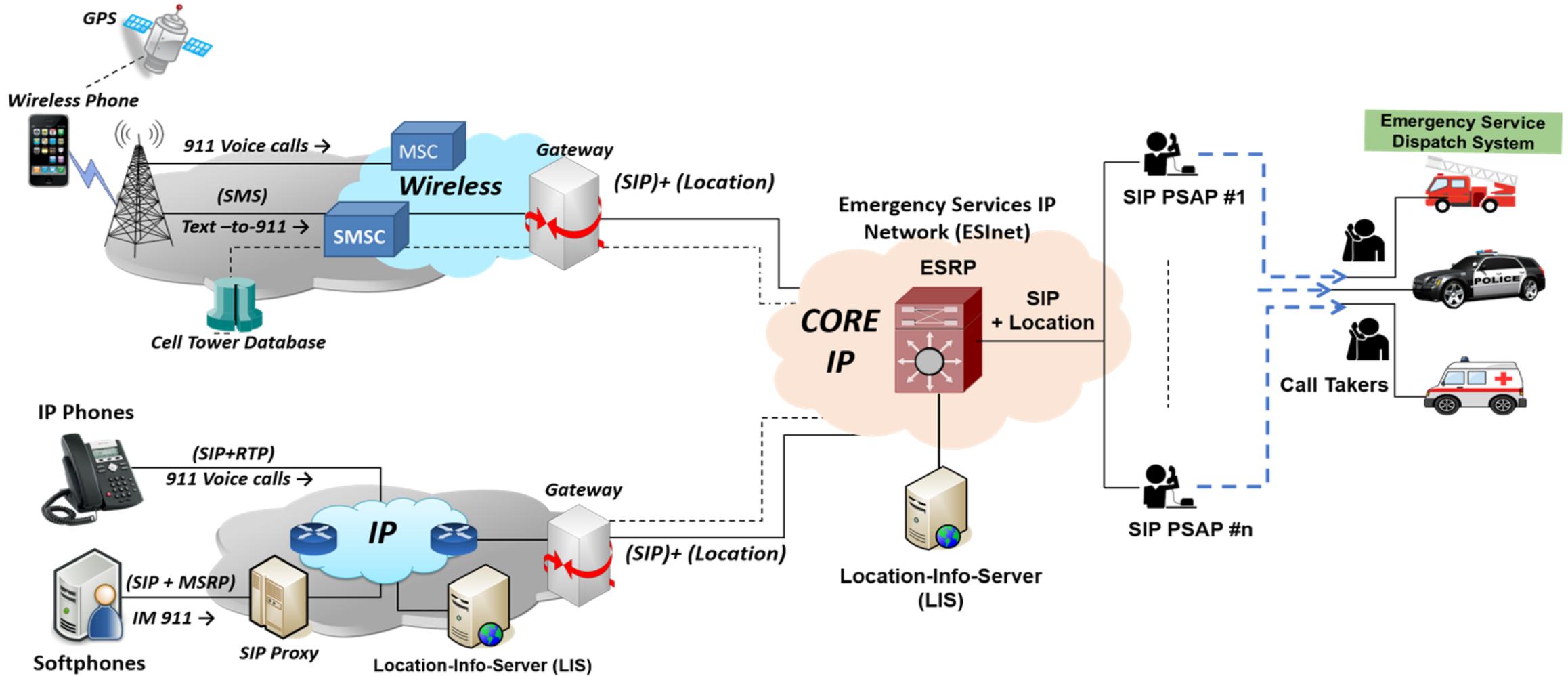
- No Dial Tone in response to Off Hook
- ANI
- Answer Supervision
- Wink

2-wire LoopStart

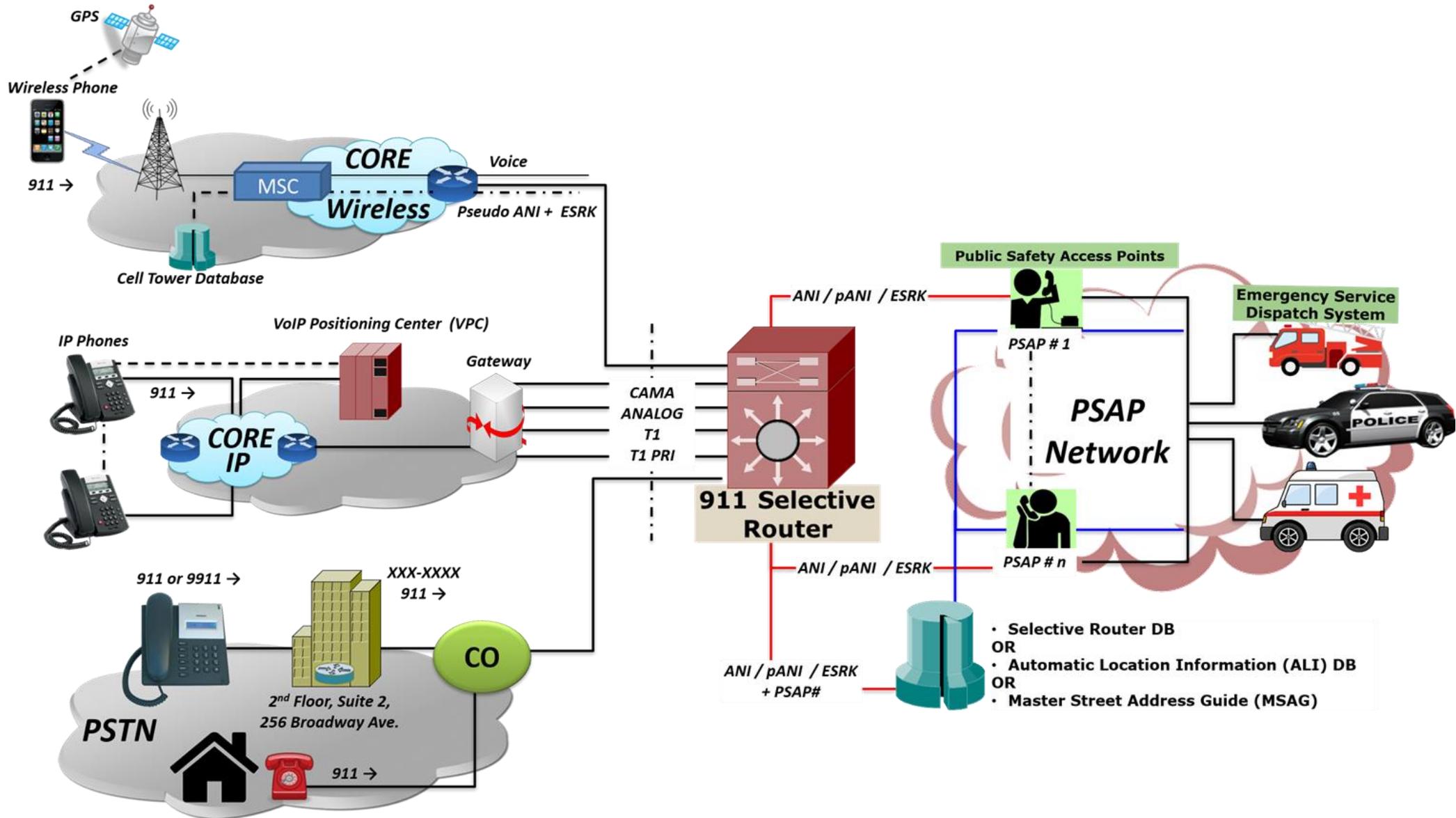
- Dial Tone in response to Off Hook
- No ANI
- No Answer Supervision
- No Wink



Next Generation 911 (NG-911) Emergency Services



Test 911 and E-911 Emergency Services



911 Requirements and Solution

- **Requirement:** One of the major PSAP vendor wished to emulate and analyze legacy 911 Emergency calls to test their 911 elements (PSAP, 911 Selective Router)
 - Emulate T1 CAMA trunks with CAMA signaling for the purpose of testing 911 Selective Router and/or the PSAP side
 - Emulate an analog PSAP trunk – again either 911 Selective Router side and/or the PSAP side
 - Analyze analog CAMA trunk – with CDR, signaling analysis, digit analysis, and more
 - Easy set up via GUI, but also programmability to satisfy slight variations

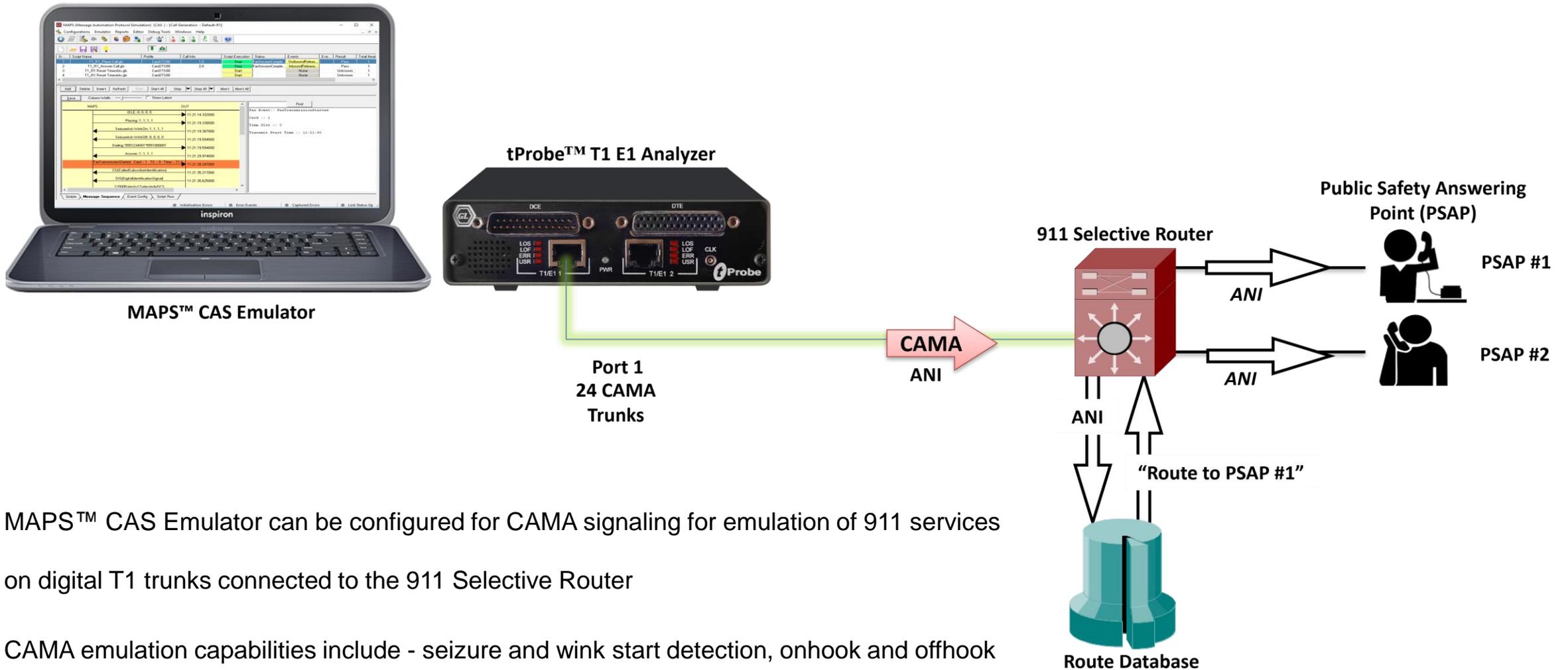
911 Requirements and Solution (Contd.)

- **Solution:** GL's versatile tProbe™ or any of our T1 E1 rack mount solution can perform all the requirement functionalities
 - Generate/Receive 911 Emergency CAMA calls over T1 – in bulk, and continue indefinitely
 - Be the 911 Selective Router or the PSAP end – or both simultaneously
 - Generate 911 Emergency CAMA calls over analog FXO or FXS, and continue indefinitely
 - Follow the CAMA protocol precisely - MF signaling for “calling #”
 - Reverse Battery
 - Analyze/monitor T1 CAMA trunks for 911 calls, generate CDRs, get precise protocol exchange

Required GL Hardware, Software, and Accessories

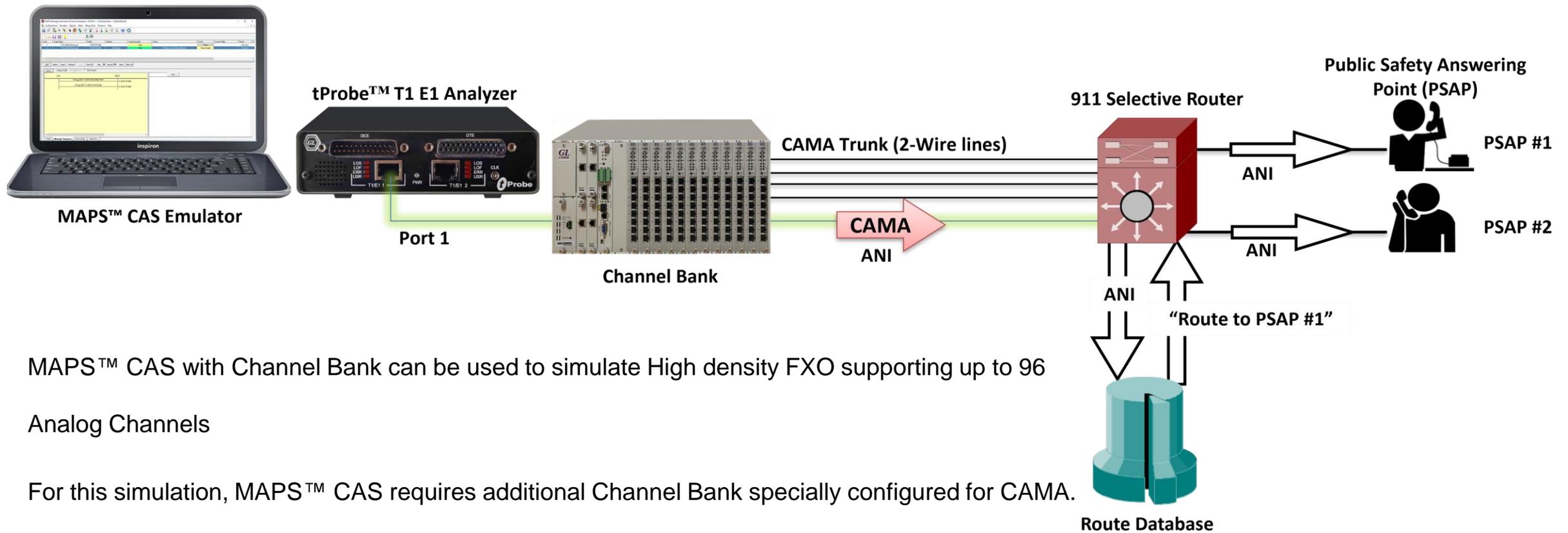
- High End Notebook PC (SA005d)
- tProbe™ T1 (PTE001) with FXO/FXS Card (PTE015)
- Software - MAPS™ FXO/FXS (PTA624), MAPS™ CAS Emulation (PTA651), CLI support for both MAPS™ products (PKS170), MAPS™ SIP (PKS120), RTP Core (PKS102)

Digital CAMA Simulation



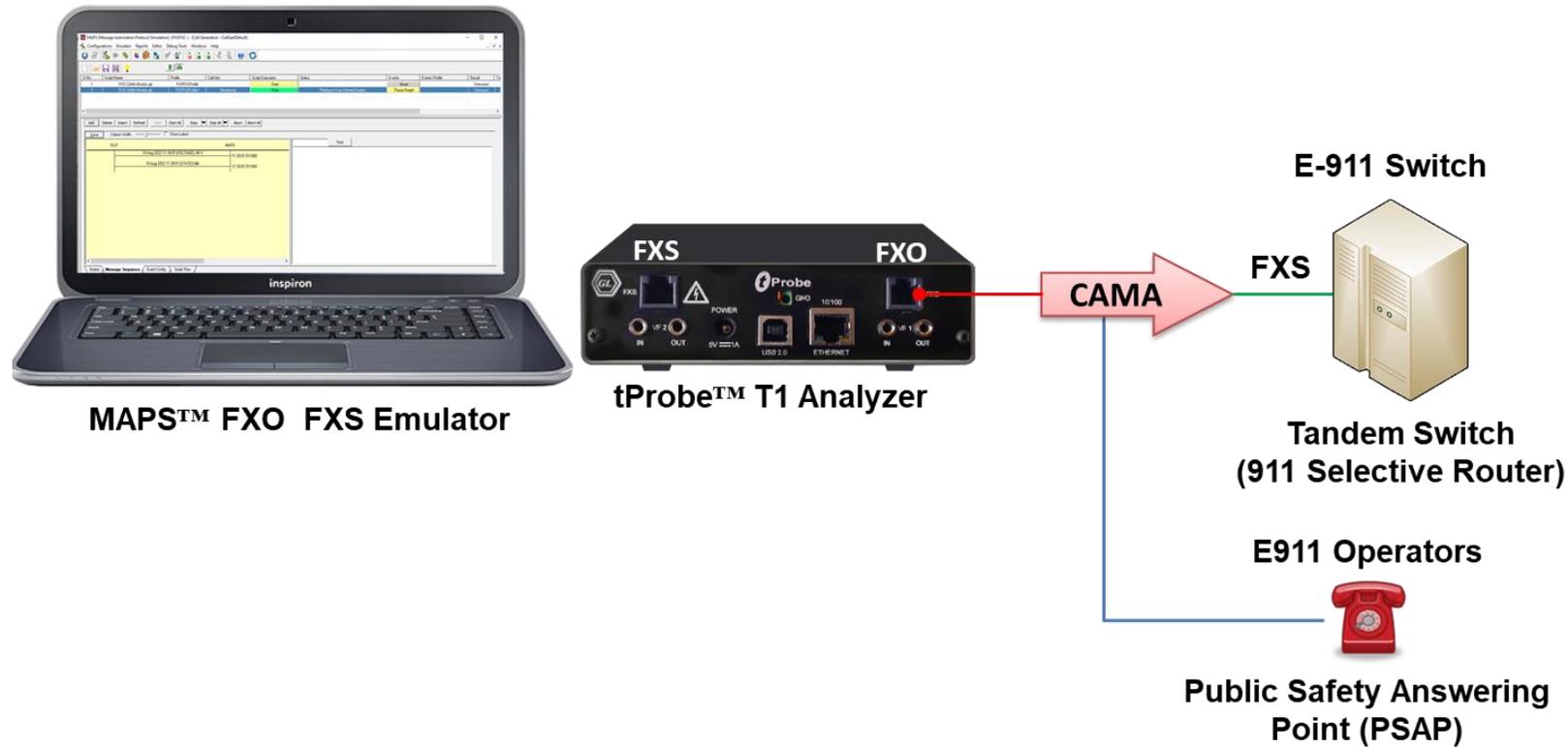
- MAPS™ CAS Emulator can be configured for CAMA signaling for emulation of 911 services on digital T1 trunks connected to the 911 Selective Router
- CAMA emulation capabilities include - seizure and wink start detection, onhook and offhook detection and MF digit (ANI) generation/detection

Analog CAMA Simulation via Channel Bank



- MAPS™ CAS with Channel Bank can be used to simulate High density FXO supporting up to 96 Analog Channels
- For this simulation, MAPS™ CAS requires additional Channel Bank specially configured for CAMA. The tProbe™ T1 line is connected to Channel Bank with FXO cards for interfacing to 2-wire equipment (911 selective router)
- Single FXO board within the channel bank can convert one digital T1 line into 8 Analog lines

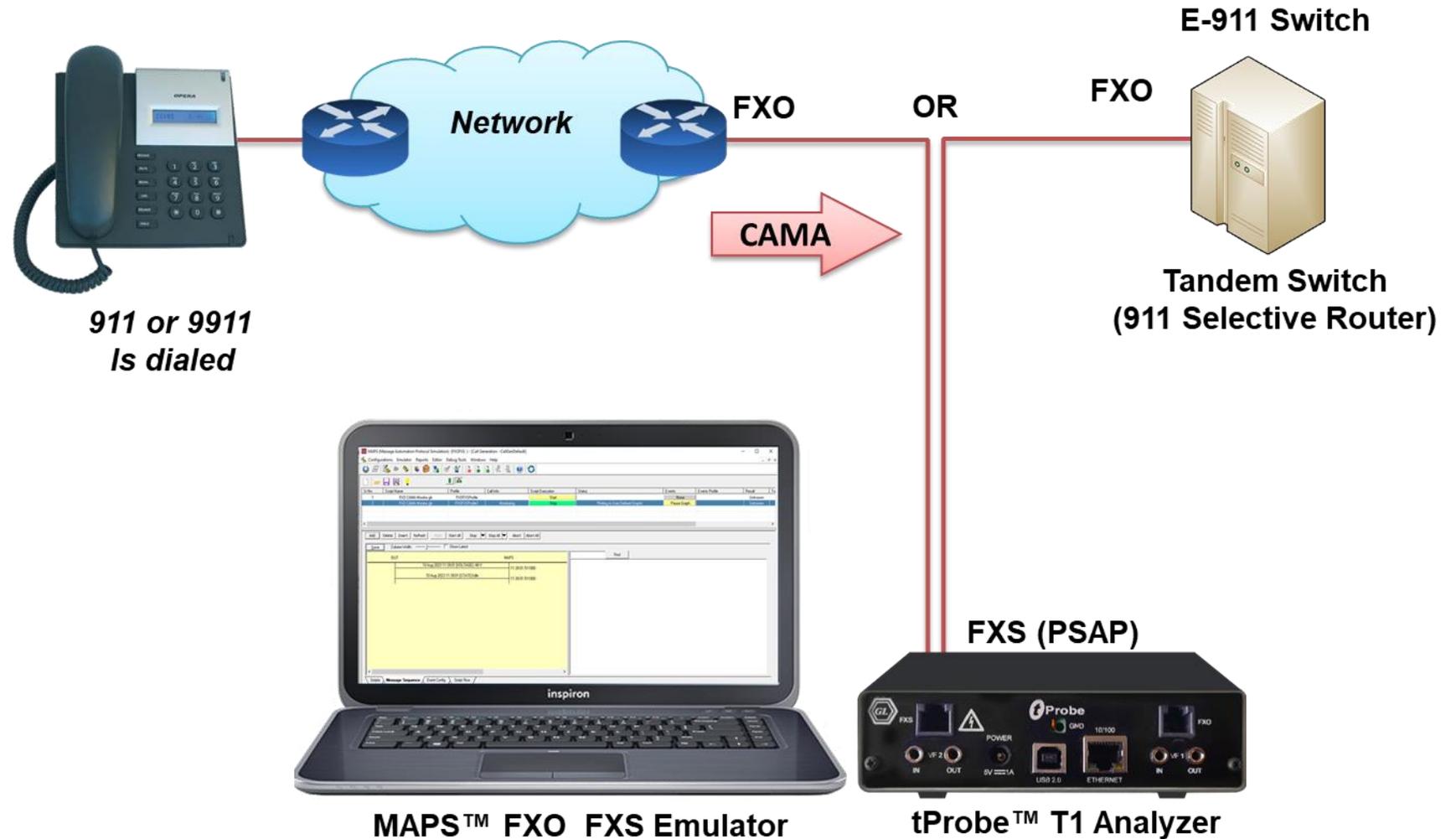
Originating CAMA Call Simulation (FXO ports)



- The tProbe™ FXO port can be directly connected to 911 selective router or PSAP on CAMA-type circuits for simulation of CAMA calls to the selective router or PSAP
- The script will seize the line, wait for wink, dial ANI and wait for call connect

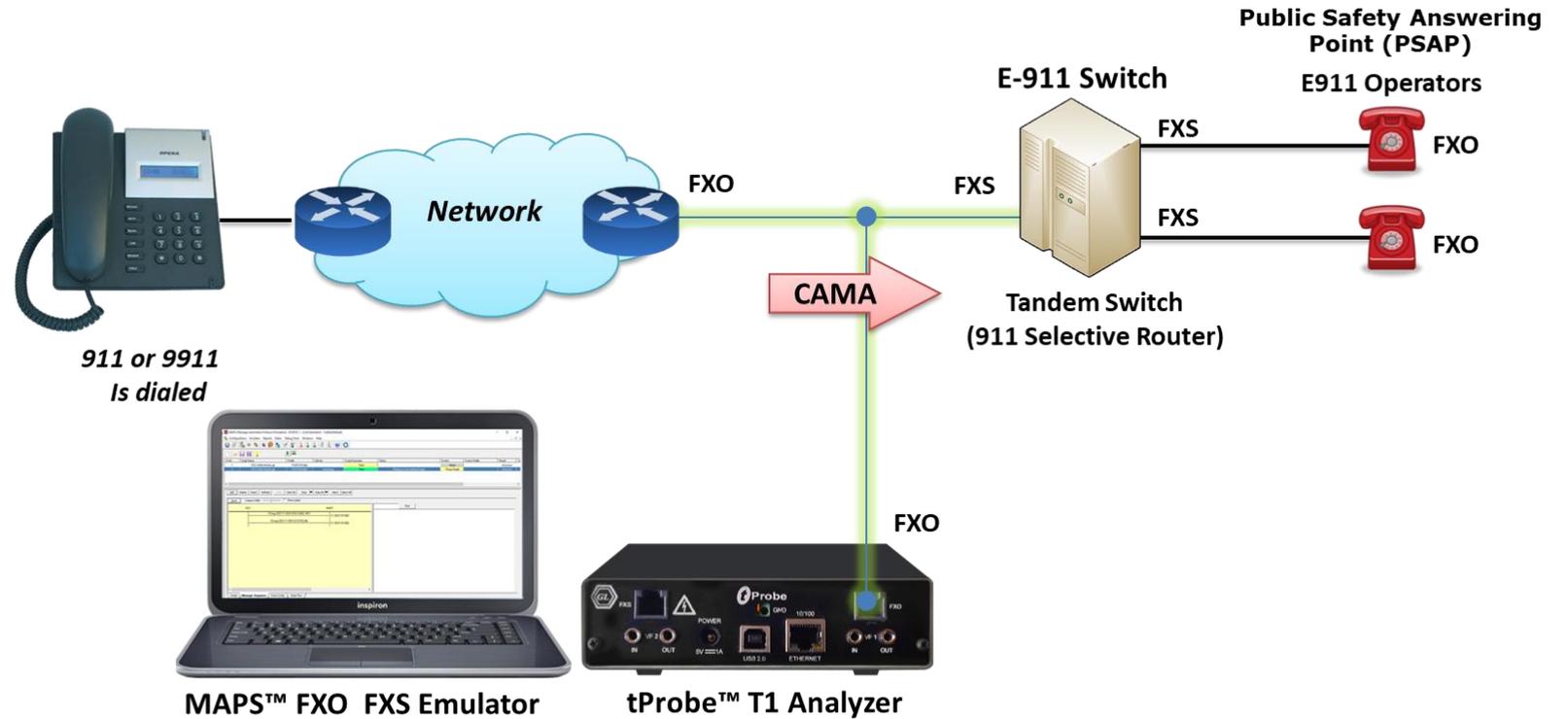
Terminating CAMA Call Simulation (FXS ports)

- tProbe™ FXS port connected to central office or selective router for terminating CAMA calls
- The script will detect seizure from far side, provide wink, wait for ANI, and connect the call



Monitoring of CAMA type trunks using MAPS™ FXO FXS

- The tProbe™ T1 FXO port can be tapped onto CAMA-type circuits for non-intrusive monitoring of 911 service
- Monitoring capabilities include seizure and wink start detection, onhook and offhook detection and MF digit (calling party ANI) detection
- A normal analog call is routed based on the destination (called party) phone number. However, 911 calls are routed based on the calling party number



Call Monitoring Process of a 10-digit ANI Transmission

The screenshot displays the MAPS (Message Automation Protocol Simulation) software interface. The title bar reads "GL MAPS (Message Automation Protocol Simulation) (FXO/FXS) - [Call Generation - CallGenDefault]". The menu bar includes "Configurations", "Emulator", "Reports", "Editor", "Windows", and "Help". The toolbar contains various icons for file operations and simulation control.

Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events
1	FXO_CAMA_Monitor.gls	FXO/FXSProfile	Monitoring	Stop	Plotting in User Defined Graphs	Pause Graph

Below the table is a control panel with buttons: "Add", "Delete", "Insert", "Refresh", "Start", "Start All", "Stop", "Stop All", "Abort", "Abort All". There is also a "Save" button and a "Column Width" slider.

The main area shows a sequence diagram between "DUT (FXS/SR)" and "MAPS (FXO)". The diagram illustrates the following steps:

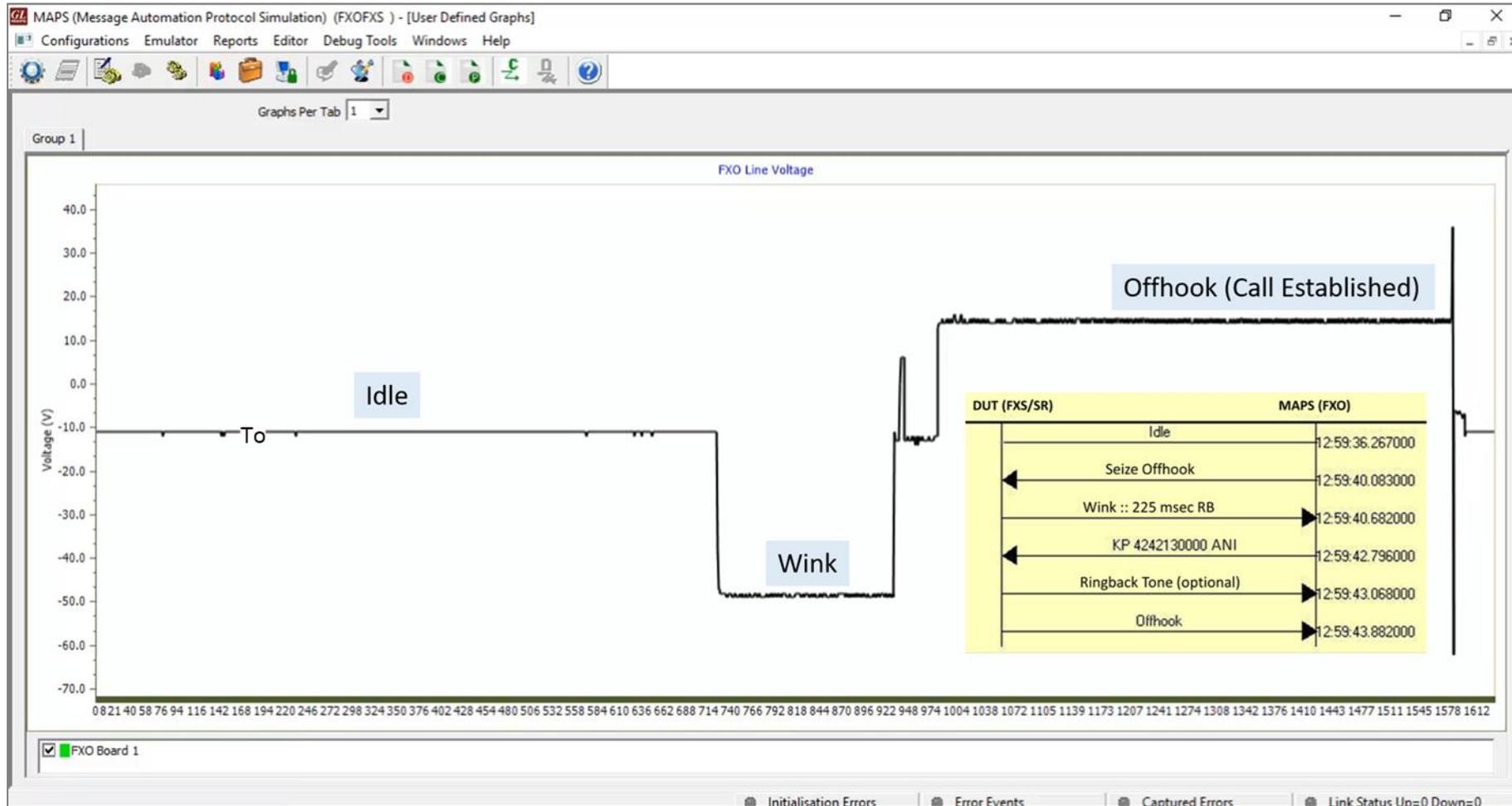
- Idle
- Seize Offhook
- Wink :: 225 msec RB
- KP 4242130000 ANI
- Ringback Tone (optional)
- Offhook

The diagram includes timestamps for each step:

- Idle: 12:59:36.267000
- Seize Offhook: 12:59:40.083000
- Wink :: 225 msec RB: 12:59:40.682000
- KP 4242130000 ANI: 12:59:42.796000
- Ringback Tone (optional): 12:59:43.068000
- Offhook: 12:59:43.882000

At the bottom, there are tabs for "Scripts", "Message Sequence", "Event Config", and "Script Flow".

2-Wire Line Volt Graph



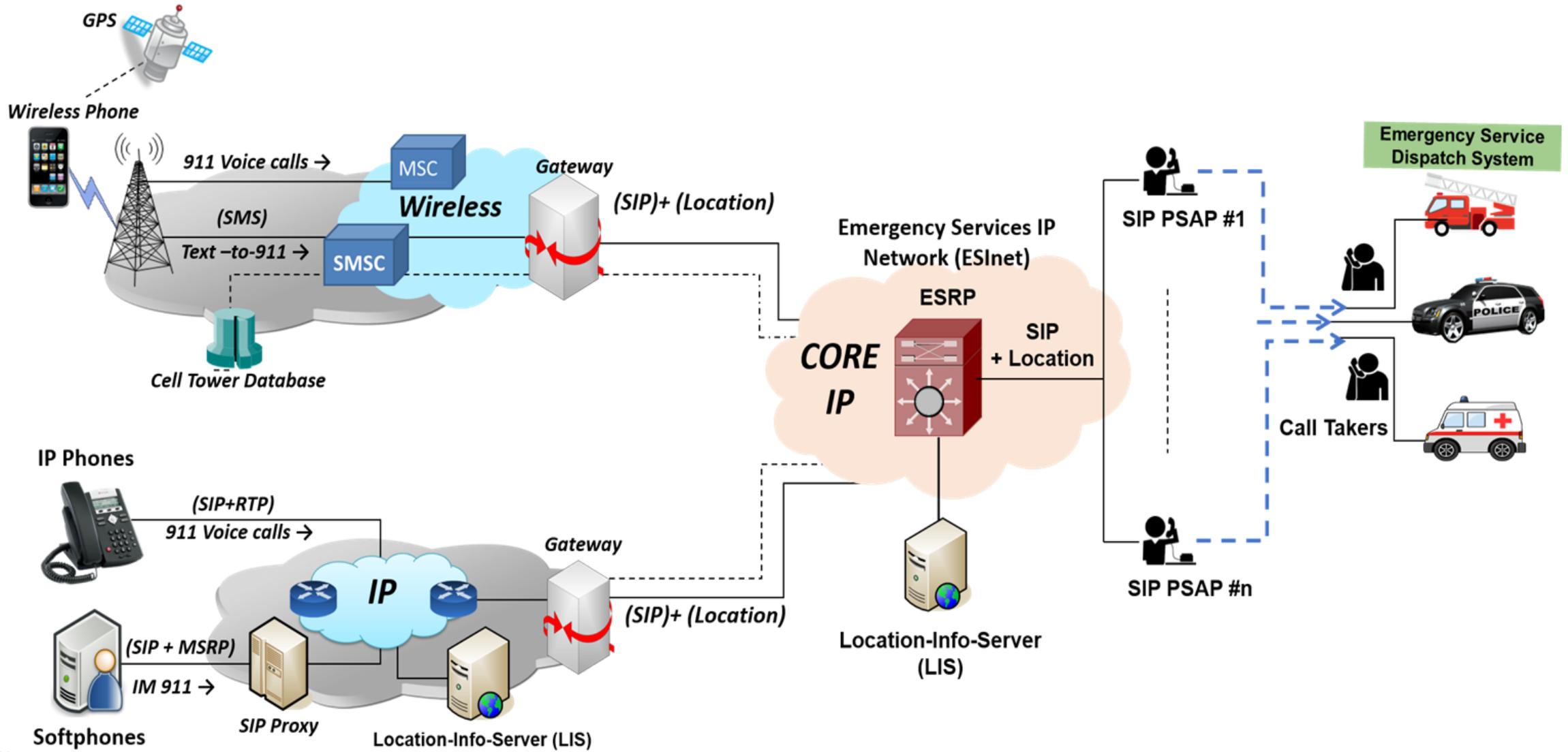
- The monitoring script is used to monitor a CAMA line between the central office and selective router, or between the selective router and PSAP. This script continuously monitor line current and voltages of FXO and FXS ports

Next Generation (NG) 911

NG-911 Introduction

- The FCC mandates that all PSTN, VoIP, and Wireless networks provide 911 services
- NG 911 networks based on NENA i3 standards - multimedia
- Text-to-911 services already becoming available

Test Solutions for Next Generation 911 (NG-911) for Public Safety



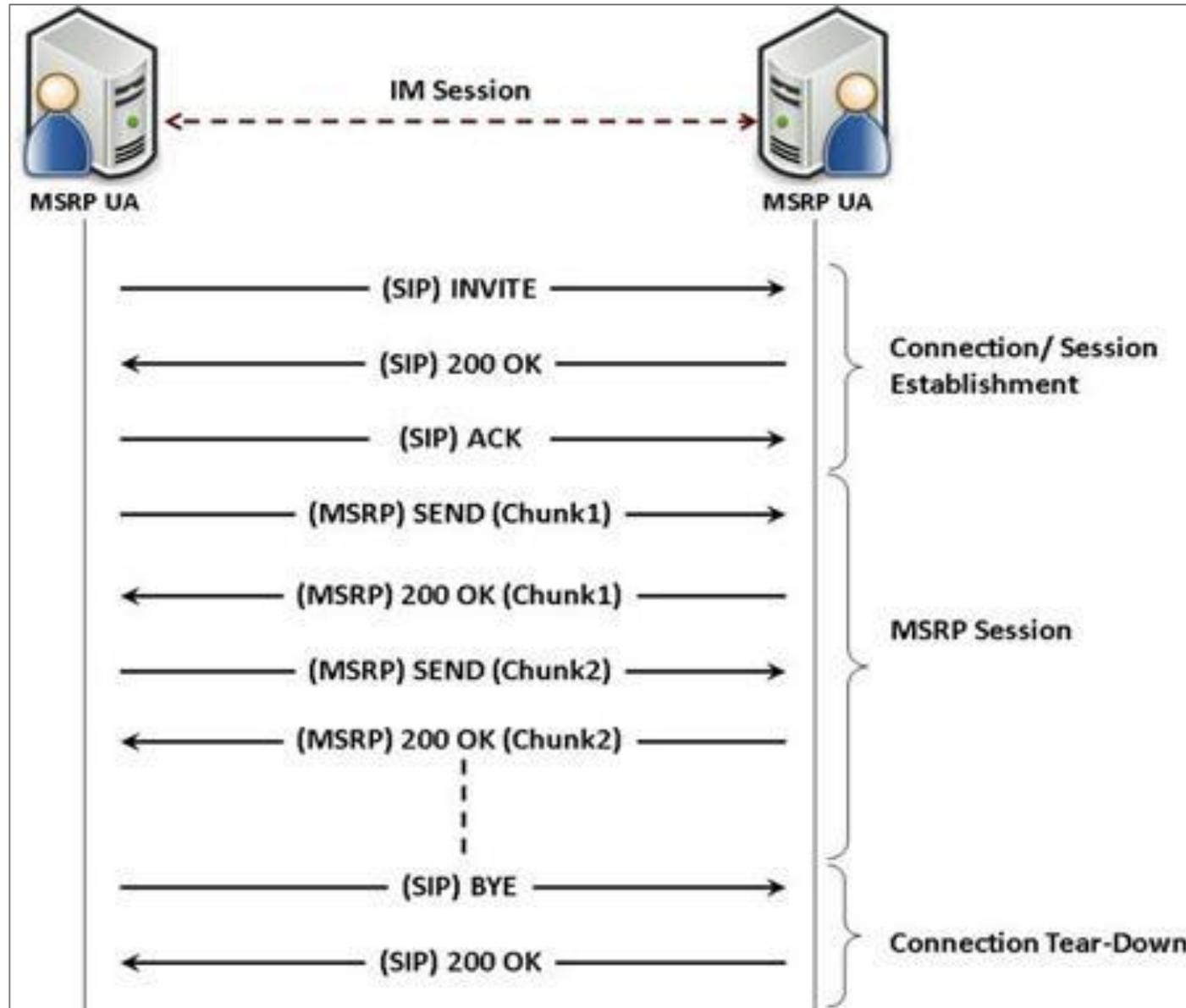
Test Requirements for NG 911

- Test NG-PSAP(s) for Voice calls, SMS and Instant Messaging
- Test solution to simulate SIP+MSRP endpoints, establish the connected sessions, and record related transport statistics on the MSRP text flows as part of the results
- Testing call performance based on different voice codec, narrowband and wideband codec
- Scripts to perform advanced tests using SIP methods like SUBSCRIBE/NOTIFY, REFER and INFO for testing NG 911 interfaces.
- API Integration for automated testing
- Test advanced voice features such as interactive voice response (IVR), conferencing
- Measurement and reporting tools to monitor overall network health, signaling performance, call volume – quality vs time, call duration, identify problem and alert management
- Speech quality measurements – Listening MOS, Conversational MOS, PESQ, POLQA, Delay, SNR, Signal Level, Packet Loss

GL's Test Solutions for NG-911

- GL offers enhanced **MAPS™ SIP** emulator for Emergency Services Internet Protocol Networks (ESInets) to enable call delivery using **Session Internet Protocol** (SIP), as well as **Instant Messaging** (IM) delivery conforming with RFC 4975/4976 - Message Session Relay Protocol (MSRP) protocol
- MAPS™ SIP allows SIP vendors, wireless carriers, NG-911 service providers, and emergency communications centers to test IP applications for satisfactory working of NG-911 services prior to deployment
- MAPS™ SIP can simulate the end-points (SIP/RTP or SIP/MSRP User Agents) in an NG-911 network and send and receive communications over ESInets

Typical IM Simulation between SIP/MSRP Endpoints



Audio and IM Call Generation

GL MAPS (Message Automation Protocol Simulation) (SIP) (MSRP) - [Call Generation - CallGenDefault]

Configurations Emulator Reports Editor Debug Tools Windows Help

Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events	Eve...	Result	Total Iterations	Completed Iterations
1	SipCallControl.gls	Profile0001	GL-MAPS_4_255764793-3591-3500@192.168.12.212	Start	PCMU Call Terminated	None		Pass	1	1
2	SipCallControl.gls	Profile0002	GL-MAPS_40_256266267-3638-3500@192.168.12.212	Stop	Send_File-Completed	SIP_TerminateCall		Pass	1	0
3	SipCallControl.gls	Profile0003	GL-MAPS_31_255937103-3628-3500@192.168.12.212	Start	PCMU Call Terminated	None		Pass	1	1

Add Delete Insert Refresh Start Start All Stop Stop All Abort Abort All

Save Column Width Show Latest

Time	Event	IP
18:43:12.308.9586	REPORT	18:43:12.317.2016
18:43:12.317.2016	200 O	18:43:12.40.4091
18:43:12.40.4091	REPORT	18:43:13.305.2956
18:43:13.305.2956	SEND	18:43:13.310.3601
18:43:13.310.3601	SEND	18:43:13.311.7781
18:43:13.311.7781	200 OK	18:43:13.312.3798
18:43:13.312.3798	REPORT	18:43:13.320.2887
18:43:13.320.2887	200 O	18:43:13.43.8557
18:43:13.43.8557	REPORT	18:43:36.292.3551
18:43:36.292.3551	File Transmitted :: VoiceFiles\Send\G711\ULAW\vijay	

Find

```
MSRP GL_MAPS_MSRP_502 SEND
To-Path: msrp://192.168.12.212:20031/GL_MAPS_42_256266313;tcp
From-Path: msrp://192.168.12.213:20031/GL_MAPS_39_256266477;tcp
Message-ID: GL_MAPS_MSRP_501
Success-Report: no
Failure-Report: yes
Byte-Range: 1-153/153
Content-Type: text/plain

The Message Session Relay Protocol (MSRP) is a protocol for transmitting a series of related instant
-----GL_MAPS_MSRP_502?
```

Scripts Message Sequence Event Config Script Flow

Initialisation Errors Error Events Captured Errors Link Status Up=0 Down=0

IM Only Call Generation

GL MAPS (Message Automation Protocol Simulation) (SIP) (MSRP) - [Call Generation - CallGenDefault]

Configurations Emulator Reports Editor Debug Tools Windows Help

Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events	Eve...	Result	Total Iterations	Completed Iterations
1	SipCallControl.gls	Profile0001	GL-MAPS_4_255764793-3591-3500@192.168.12.212	Start	PCMU Call Terminated	None		Pass	1	1
2	SipCallControl.gls	Profile0002	GL-MAPS_13_255812934-3608-3500@192.168.12.212	Start	PCMU Call Terminated	None		Pass	1	1
3	SipCallControl.gls	Profile0003	GL-MAPS_31_255937103-3628-3500@192.168.12.212	Start	PCMU Call Terminated	None		Pass	1	1

Add Delete Insert Refresh Start Start All Stop Stop All Abort Abort All

Save Column Width Show Latest

MAPS DUT

```

INVITE → 18:34:49.56.9629
100 Trying ← 18:34:49.69.8642
180 Ringing ← 18:34:49.72.8766
200 OK ← 18:34:49.114.3293
ACK → 18:34:49.124.5245
SEND → 18:34:49.147.2791
SEND ← 18:34:49.151.4463
200 OK → 18:34:49.152.68
REPORT → 18:34:49.152.1949
200 O ← 18:34:49.162.998
            
```

Find

```

MSRP GL_MAPS_MS RP_3582 SEND
To-Path: msrp://192.168.12.213:20027/GL_MAPS_7_255764997;tcp
From-Path: msrp://192.168.12.212:20027/GL_MAPS_6_255764830;tcp
Message-ID: GL_MAPS_MS RP_3581
Success-Report: no
Failure-Report: yes
Byte-Range: 1-131/131
Content-Type: text/plain

GL Communications Specializes in PC-Based & Laptop-Based Telecommunications Testing and Measurement )
-----GL_MAPS_MS RP_3582#
            
```

Scripts Message Sequence Event Config Script Flow

Initialisation Errors Error Events Captured Errors Link Status Up=0 Down=0

NetSurveyorWeb™ for Monitoring Emergency Services Network

NetSurveyorWeb™ – Main Features

- Web-based network surveillance system for air traffic monitoring
- Works with multiple PacketScan™ Probes to non-intrusively monitor at remote locations
- Scalable and Flexible Architecture
- Real-time and/or historical analysis
- Multi-user support and user-friendly interface
- Filter and Search Options. Provides quick database query methods
- Results are displayed both in tabular and graphical formats
- Provides protocol signaling, traffic, and call detail records (CDRs)
- Generates Reports and Alarms

NetSurveyorWeb™ - CDR View (CAS)

GL NetSurveyorWeb Refresh Protocol Type **CAS** My Account

GI System Status at 2018-06-20 18:43:37

Data Reports Alarms Users

Quick CDR \ All Calls

Date : 2018-06-17 2018-06-20 Time : 00:00:00 23:59:59 Ok

Today Yesterday Last 7 Days Last 30 Days All

Actions Query Execution Time : 0.09374 Seconds

Quick Search: CALL ID GO Page Size: 20 Sort Order : STARTTIME DESC

	SI No	CALL ID	PROBE NAME	CAS STD	CALLING NUMBER	CALLED NUMBER	EAST DEVNO	WEST DEVNO	TIME SLOT	RESULT	BILLING DURATION(mSec)	START TIME
<input type="checkbox"/> Call Flow	1	26	CAS	MFCR2	5550031	6660031	1	64	30	Pass	60214	2018-06-18 16:07:21.000
<input type="checkbox"/> Call Flow	2	24	CAS	MFCR2	5550032	6660032	1	64	31	Pass	60190	2018-06-18 16:07:21.000
<input type="checkbox"/> Call Flow	3	22	CAS	MFCR2	5550029	6660029	1	64	28	Pass	60202	2018-06-18 16:07:20.990
<input type="checkbox"/> Call Flow	4	20	CAS	MFCR2	5550030	6660030	1	64	29	Pass	60226	2018-06-18 16:07:20.990
<input type="checkbox"/> Call Flow	5	25	CAS	MFCR2	5550028	6660028	1	64	27	Pass	60202	2018-06-18 16:07:20.990
<input type="checkbox"/> Call Flow	6	21	CAS	MFCR2	5550027	6660027	1	64	26	Pass	60208	2018-06-18 16:07:20.980
<input type="checkbox"/> Call Flow	7	16	CAS	MFCR2	5550026	6660026	1	64	25	Pass	60220	2018-06-18 16:07:20.980
<input type="checkbox"/> Call Flow	8	15	CAS	MFCR2	5550024	6660024	1	64	23	Pass	60214	2018-06-18 16:07:20.970
<input type="checkbox"/> Call Flow	9	14	CAS	MFCR2	5550025	6660025	1	64	24	Pass	60212	2018-06-18 16:07:20.970
<input type="checkbox"/> Call Flow	10	13	CAS	MFCR2	5550023	6660023	1	64	22	Pass	60196	2018-06-18 16:07:20.970
<input type="checkbox"/> Call Flow	11	18	CAS	MFCR2	5550022	6660022	1	64	21	Pass	60202	2018-06-18 16:07:20.960
<input type="checkbox"/> Call Flow	12	10	CAS	MFCR2	5550021	6660021	1	64	20	Pass	60230	2018-06-18 16:07:20.960

NetSurveyorWeb™ - Playing Voice Files (CAS)

GL NetSurveyorWeb Refresh Protocol Type **CAS** My Account

GI System Status at 2018-06-20 18:44:37

Data Reports Alarms Users

Quick CDR \ All Calls

Date: 2018-06-17 2018-06-20 Time: 00:00:00 23:59:59 **Ok**

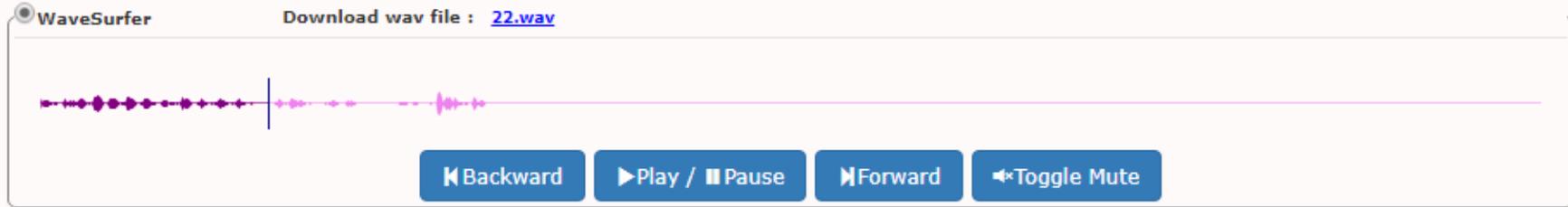
Today Yesterday Last 7 Days Last 30 Days All

Actions Query Execution Time : 0.09374 Seconds

Quick Search: CALL ID **GO** Page Size: 20 Sort Order : STARTTIME DESC

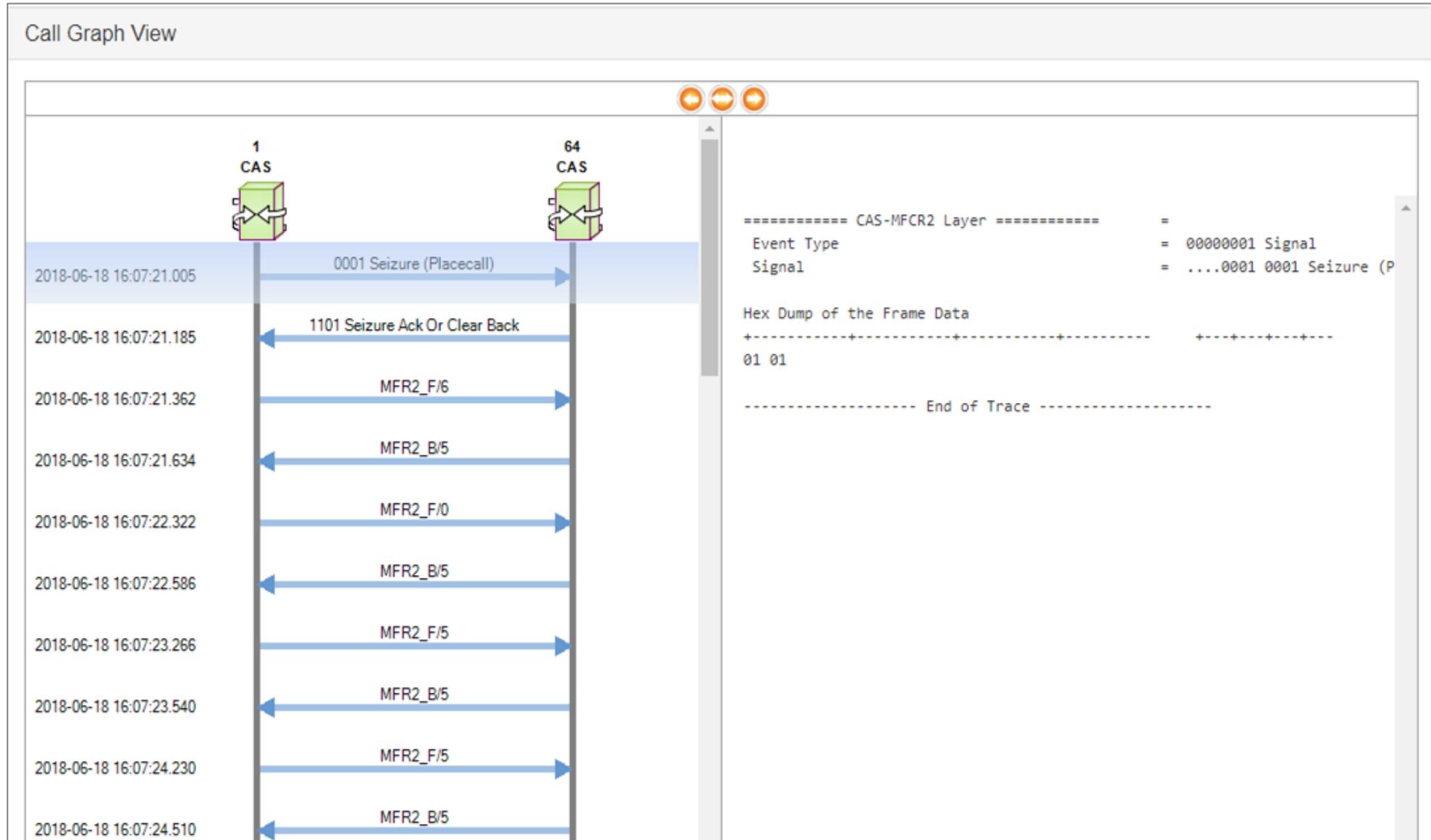
	SINo	CALL ID	PROBE NAME	CAS STD	CALLING NUMBER	CALLED NUMBER	EAST DEVNO	WEST DEVNO	TIME SLOT	RESULT	BILLING DURATION(mSec)	START TIME
<input type="checkbox"/>	1	26	CAS	MFCR2	5550031	6660031	1	64	30	Pass	60214	2018-06-18 16:07:21.00!
<input type="checkbox"/>	2	24	CAS	MFCR2	5550032	6660032	1	64	31	Pass	60190	2018-06-18 16:07:21.00!
<input type="checkbox"/>	3	22	CAS	MFCR2	5550029	6660029	1	64	28	Pass	60202	2018-06-18 16:07:20.99!
<input type="checkbox"/>	4	20	CAS	MFCR2	5550030	6660030	1	64	29	Pass	60226	2018-06-18 16:07:20.99!
<input type="checkbox"/>	5	25	CAS	MFCR2	5550028	6660028	1	64	27	Pass	60202	2018-06-18 16:07:20.99!

WaveSurfer Download wav file : [22.wav](#)



⏪ Backward ▶ Play / ⏸ Pause ⏩ Forward 🔇 Toggle Mute

NetSurveyorWeb™ - Call Graph (CAS)



NetSurveyorWeb™ – CDR View (SIP)

- Web-based network surveillance system for air traffic monitoring
- Works with multiple PacketScan™ Probes to non-intrusively monitor at remote locations
- Scalable and Flexible Architecture
- Real-time and/or historical analysis
- Multi-user support, and user-friendly interface
- Filter and Search Options. Provides quick database query methods
- Results are displayed both in tabular and graphical formats
- Provides protocol signaling, traffic, and call detail records (CDRs)
- Generates Reports and Alarms

GL NetSurveyorWeb

Refresh Protocol Type VOIP (SIP & H323) My Account

GI

System Status at 2018-03-21 19:16:25

Quick CDR \ All Calls

Date: 2018-02-28 2018-03-21 Time: 00:00:00 23:59:59

Today Yesterday Last 7 Days Last 30 Days All

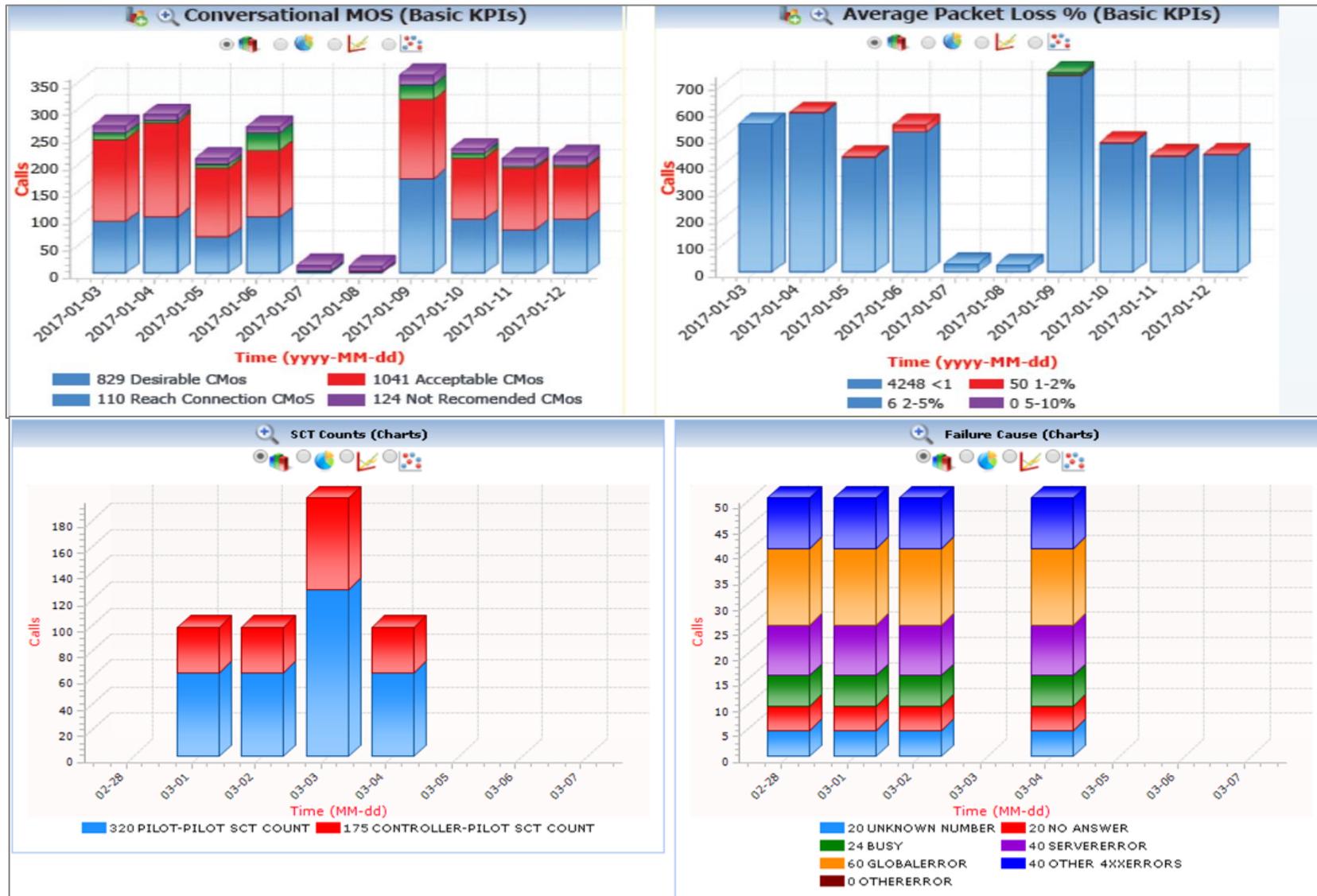
Query Execution Time : 0.54164 Seconds

Quick Search: Trafficsumid 60 Page Size: 20 Sort Order : STARTTIME DESC

SI No	Calling Number	Called Number	Starttime	Duration	Call Success	Failure Cause	Listening Mos1	Listening Mos2	Payload1
4	0001@192.168.2.96	GRS-TxRx@192.168.2.15	2018-03-06 04:19:13.069	00:00:51.228	1	0	4.20	4.20	PCMU/8000
5	0001@192.168.2.96	GRS-TxRx@192.168.2.15	2018-03-06 04:14:58.842	00:01:00.016	1	0	4.20	4.20	PCMU/8000
6	0001@192.168.2.96	GRS-TxRx@192.168.2.15	2018-03-06 04:13:16.914	00:00:06.255	1	0	4.20	4.20	PCMU/8000
7	0001@192.168.2.96	GRS-TxRx@192.168.2.15	2018-03-06 04:11:31.061	00:00:50.126	1	0	4.20	4.20	PCMU/8000
8	0001@192.168.2.96	GRS-TxRx@192.168.2.15	2018-03-06 04:02:26.638	00:00:37.118	1	0	4.20	4.20	PCMU/8000
9	CWP05@192.168.2.96	CWP15@192.168.2.15	2018-03-06 03:52:27.647	00:00:12.543	1	0	4.20	4.20	PCMA/8000
10	CWP05@192.168.2.96	CWP15@192.168.2.15	2018-03-06 03:52:27.647	00:00:12.543	1	0	4.20	4.20	PCMA/8000
11	CWP01@192.168.2.96	CWP11@192.168.2.15	2018-03-06 03:47:02.763	00:00:03.369	1	0	4.20	4.20	PCMA/8000
12	CWP01@192.168.2.96	CWP11@192.168.2.15	2018-03-06 03:43:26.042	00:00:39.677	1	0	4.20	4.20	PCMA/8000
13	CWP01@192.168.2.96	CWP11@192.168.2.15	2018-03-06 03:41:24.777	00:00:07.034	1	0	4.20	4.20	PCMA/8000

SSRC#	Payload	Total Packet Count	Missing Packet Count/(%)	Dupl. Packet Count/(%)	Re-ordered Packet Count/(%)	Packets Discarded/(%)	Conversati
3315647489	PCMU/8000	377	0/0	0/0	0/0	0/0	4.2
3303915777	PCMU/8000	312	0/0	0/0	0/0	0/0	4.2
3232358145	PCMA/8000	626	0/0	0/0	0/0	0/0	4.2
3237371649	PCMA/8000	625	0/0	0/0	0/0	0/0	4.2

NetSurveyorWeb™ – Reports and Graphs



NetSurveyorWeb™ – Notifications / Alarm Alerts

Alert Types

- Email Alerts
- Visual Alarm
- Audible Alarm
- Set Alarm Severity
- Log to File



The screenshot displays the NetSurveyorWeb interface with two alert type options: 'AUDIBLE' and 'VISUAL'. The 'AUDIBLE' option is accompanied by a speaker icon, and the 'VISUAL' option is accompanied by a red alarm bell icon. Below these options is a table with the following data:

	Serial No.	Alarm Name	Alarm Severity	Timestamp	Email_Message
View Calls	156	testfilter	Minor	2014-10-16 11:08:16	voip cdr alarm filter
View Calls	155	testkpi	Minor	2014-10-16 11:08:16	alarm kpis
View Calls	156	testfilter	Minor	2014-10-16 11:08:16	voip cdr alarm filter

- Define real-time network conditions to generate alarms
- Define different actions based on the generated alarms

NetSurveyorWeb™ – Notifications / Alarm Alerts

Alerts

EMAIL



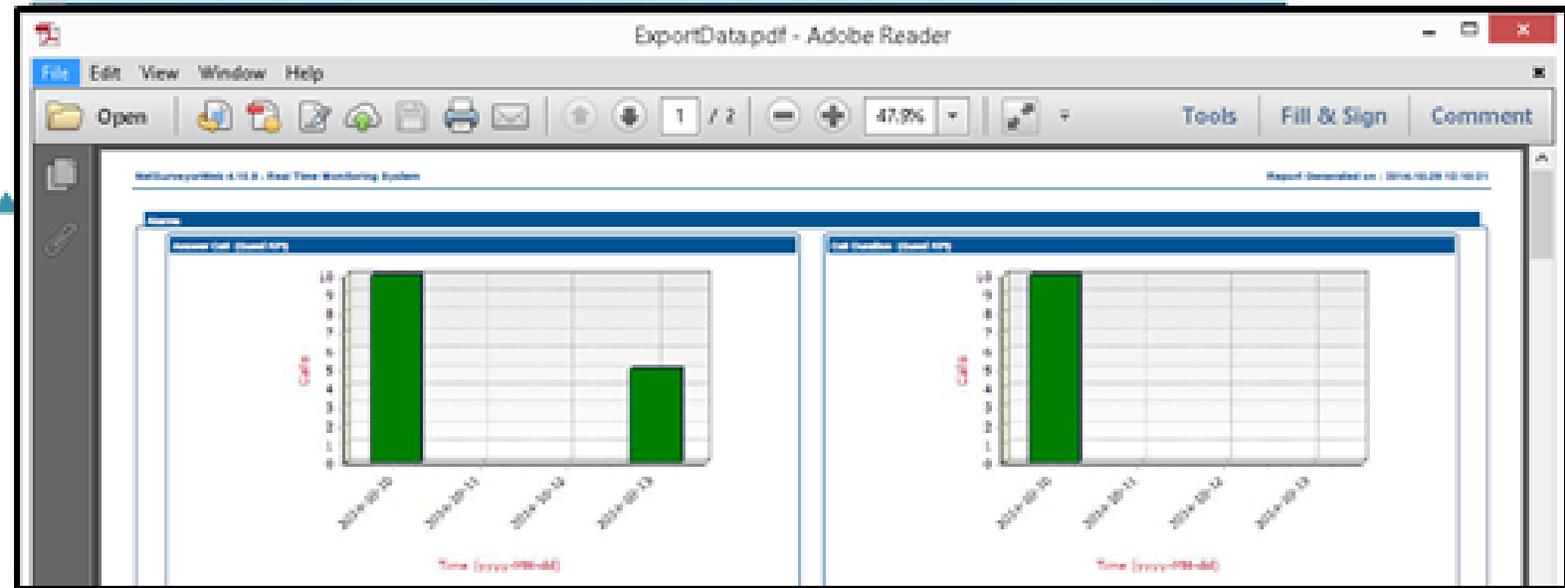
CDR View

Report View

GL Communications Inc.
Telecommunication Products and Consulting

NetSurveyorWeb 4.10.9 - Real Time Monitoring System Report Generated on : 2014-10-29 12:15:34

TRAFFICSUMID	CALLINGNUMBER	STARTTIME	DURATION	CALLID	FILENAME
15	008@192.168.1.142	2014-10-13 16:35:51.799	00:00:00.947	GLPG-10762604165937	
14	008@192.168.1.142	2014-10-13 16:20:51.799	00:00:00.947	GLPG-10762604165937	
13	008@192.168.1.142	2014-10-13 14:35:51.799	00:00:00.947	GLPG-10762604165937	
12	008@192.168.1.142	2014-10-13 14:10:51.799	00:00:00.947	GLPG-10762604165937	
11	008@192.168.1.142	2014-10-13 00:53:51.799	00:00:00.947	GLPG-10762604165937	

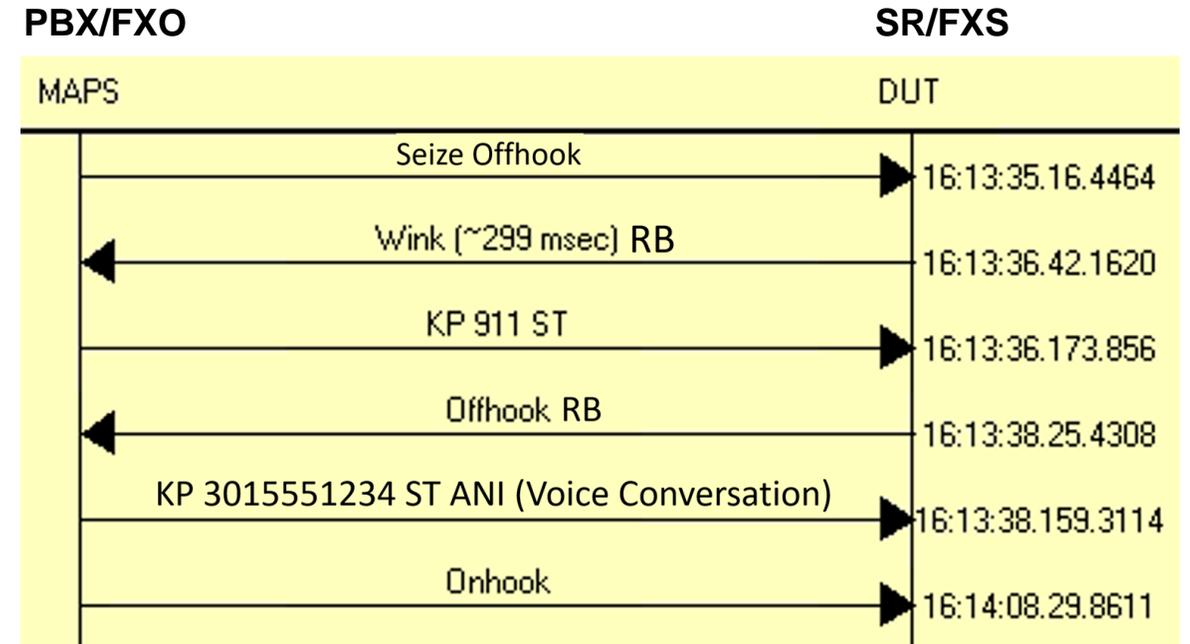
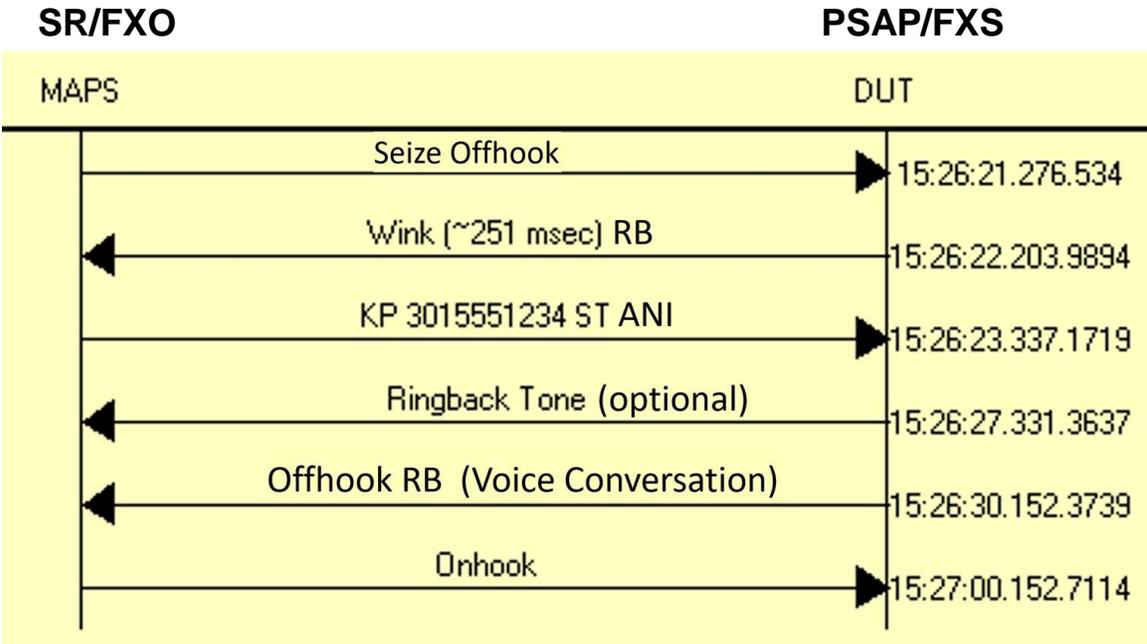


[View Calls](#) 156 testfilter Minor 2014-10-16 11:08:16 voip cdr alarm filter

Call Flow Comparison using PSAP and Selective Router

Terminating to "PSAP"

Terminating to "Selective Router (SR)"

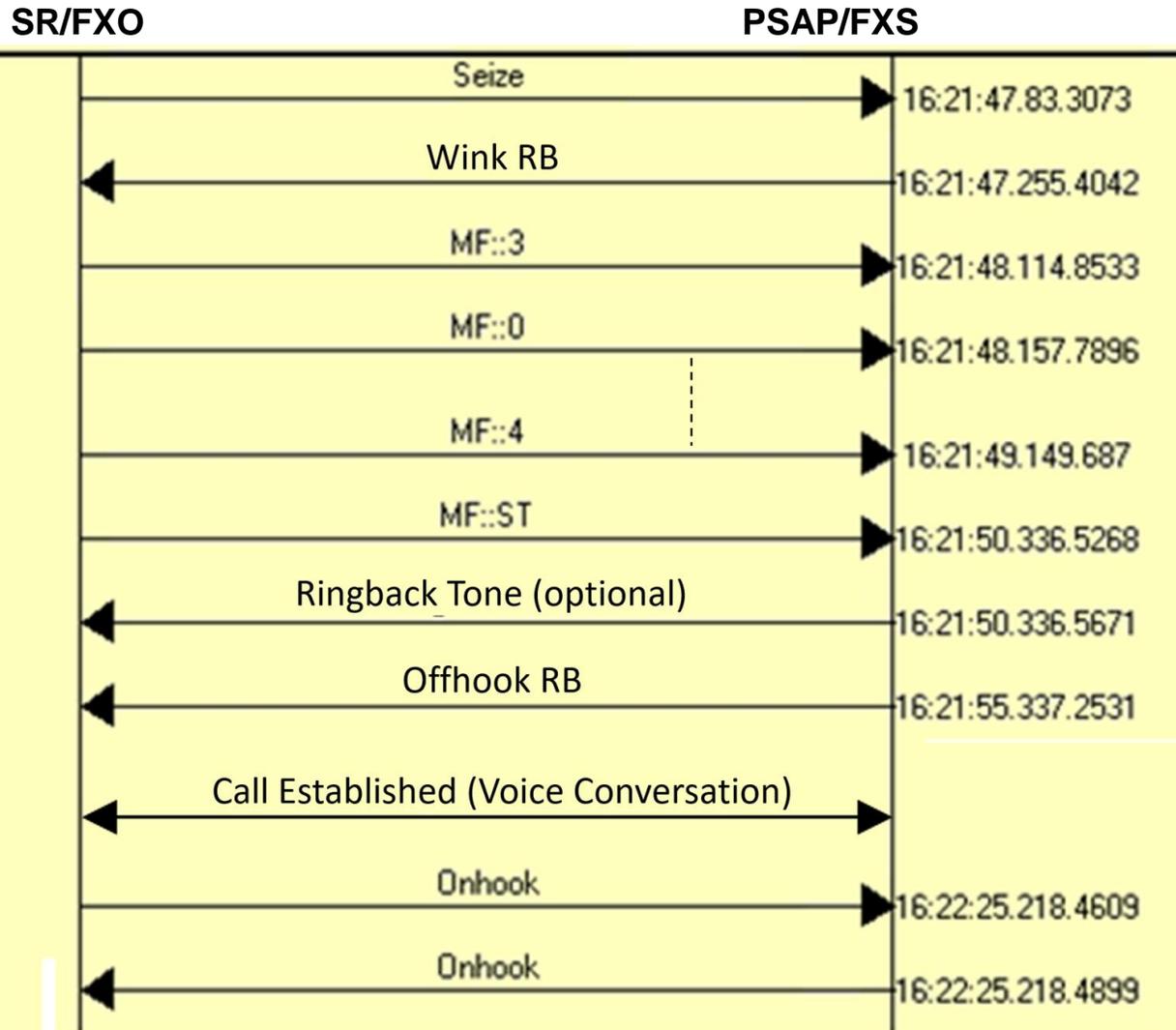


Off Hook,
Reverse Battery (RB)
Automatic Number Identification (ANI)

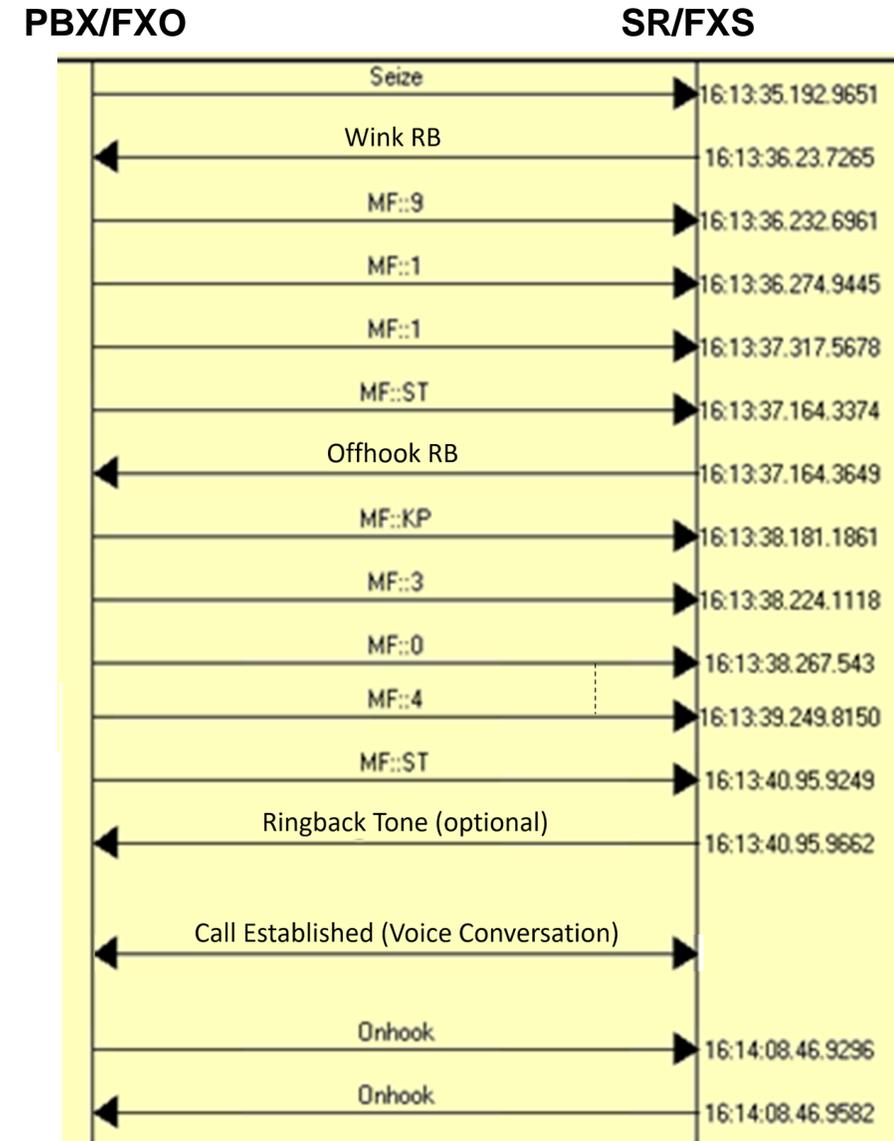
PBX acts like a landline phone and sends 911 to a CO or in this case directly to a Selective Router

Call Flow Comparison using PSAP and Selective Router (Contd.)

Termination to "PSAP"



Termination to "Selective Router"



Thank you