



Open Source Telecom Signaling

PAiCore Core Network Analyzer

Reigniting telecom innovation and sustainable profitability via open source signaling solutions



Core Network Analyzer

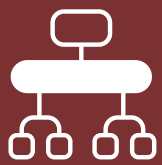
Significantly Improve Troubleshooting Efficiency

The Core Network Analyzer (CNA) **transforms raw network traffic into actionable intelligence**. By consolidating traces from multiple protocols, such as Diameter, SS7/SIGTRAN, SIP, HTTP, SMPP, GTP, and more. It provides operators with a single interface to monitor, analyze, and diagnose network events.

With a customizable rule engine and intuitive GUI, the CNA empowers both technical and non technical teams to automate responses, boost operational efficiency, **significantly reduce time spent troubleshooting** and gain deeper insights into network performance.

Developed as an **open source solution**, it offers flexibility, transparency, and full visibility of key network events and customer experience, noticeably **enhancing technical support efficiency & customer care effectiveness**.

Key Features



Call-flow diagrams to expedite troubleshooting



Unified multi-protocol analysis



High traffic throughput for near real-time analysis



Configurable alerts for proactive service management (2026)

Recent Success Stories



019Mobile uses **PAiCore's CNA** to unify traffic data and gain real-time visibility, helping maintain service stability and streamline incident analysis across the network.



Talkpool deployed **PAiCore's CNA** to enhance their network maintenance services, offering proactive back office insights as a complement to their fieldwork operations.

Core Network Analyzer (CNA)



Multiple Commercial Options

The free Basic Version, publicly available as open source, fosters continuous innovation. PAiCore also offers PT Bundles for professional services, and CT Editions available through OPEX plans with 24/7 technical support and usage rights, or CAPEX models that provide ownership of enhanced, carrier-grade CT products.



Business Rule Engine (2026)

Planned to enhance monitoring with customizable rules, CNA is envisioned to detect anomalies, trigger alerts, and automate responses in real time. This upcoming capability aims to reduce manual oversight, accelerate incident resolution, and improve overall operational efficiency, while laying the foundation for actionable business insights.



Consolidates Multiple Protocols

CNA centralizes data access by merging transactions and operations from various network nodes, enabling efficient traffic analysis and serving as a versatile monitoring tool for technical, financial, commercial, and customer care teams.



Easy-to-Use GUI

Designed to display traceable operations and traffic information in an easy to read report, the Graphical User Interface (GUI) can be used by non-technical customer support agents and strategic decision-makers.



HTTP/2 Service-Based Architecture (2026)

The addition of HTTP/2 Service-Based Architecture (SBA) APIs, aligned with 3GPP for 5GS, will enable seamless service interaction and flexible integration across next-generation networks.



Enables Strategic Decision Making

Providing a single access point to near real-time, easy-to-interpret data ensures that both technical and non-technical teams share a common understanding of events and trends, enabling faster, more informed strategic decisions to enhance performance.



Integration with 3rd Party Monitoring Systems

Integration with alarm systems enables near real-time monitoring of multi-protocol traffic trends, thus enabling the configuration of tolerance thresholds from multiple customer touch-points, into a single comprehensive view.



Optimizes Customer Care

Customer care teams can enhance their performance with access to near real-time subscriber-specific events and a consolidated multi-protocol view, enabling timely and efficient troubleshooting across various customer touch-points.



Easy Implementation

No direct integration with network platforms is needed. The CNA works with traffic information, such as CDRs and other traceable operations that it collects, processes, and translates into easy-to-read output data.



Customizable KPI Settings

Increase productivity and efficiency with a consolidated, near real-time multi-protocol traffic dashboard, while leveraging real-time usage reports from various nodes to develop accurate revenue projections.



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Appendix – Technical Information



Graphic User Interface

Filter by protocol

PAiCore
TECHNOLOGY

Search

Statistics

Logout

Filters

Start Date: 12/02/2024 - 07:15:00

End Date: 12/02/2024 - 07:15:00

IMSI

MSISDN

Select All

Diameter

SIP

SS7 MAP

SS7 CAP

GTP

SMPP

HTTP

HTTP - OCS

HTTP - SS7

Trace analysis

PAiCore
TECHNOLOGY

Search

Statistics

Logout

Filters

Start Date: 12/02/2024 - 07:15:00

End Date: 12/02/2024 - 07:15:00

IMSI

MSISDN

Select Protocols

Search

Integrated Diagram

Total Pages: 12

Records Per Protocol: 100

Current Page: 2

Change Page

Results

VLR1

HLR

VLR2

PGW 01

DRA

OCS

13/02/2024 10:42:44.000

map_invoke updateLocation

diameter_Credit-Control-Request

13/02/2024 10:42:44.000

map_invoke cancelLocation

diameter_Credit-Control-Request

13/02/2024 10:42:44.000

map_return ResultLast

diameter_Credit-Control-Answer

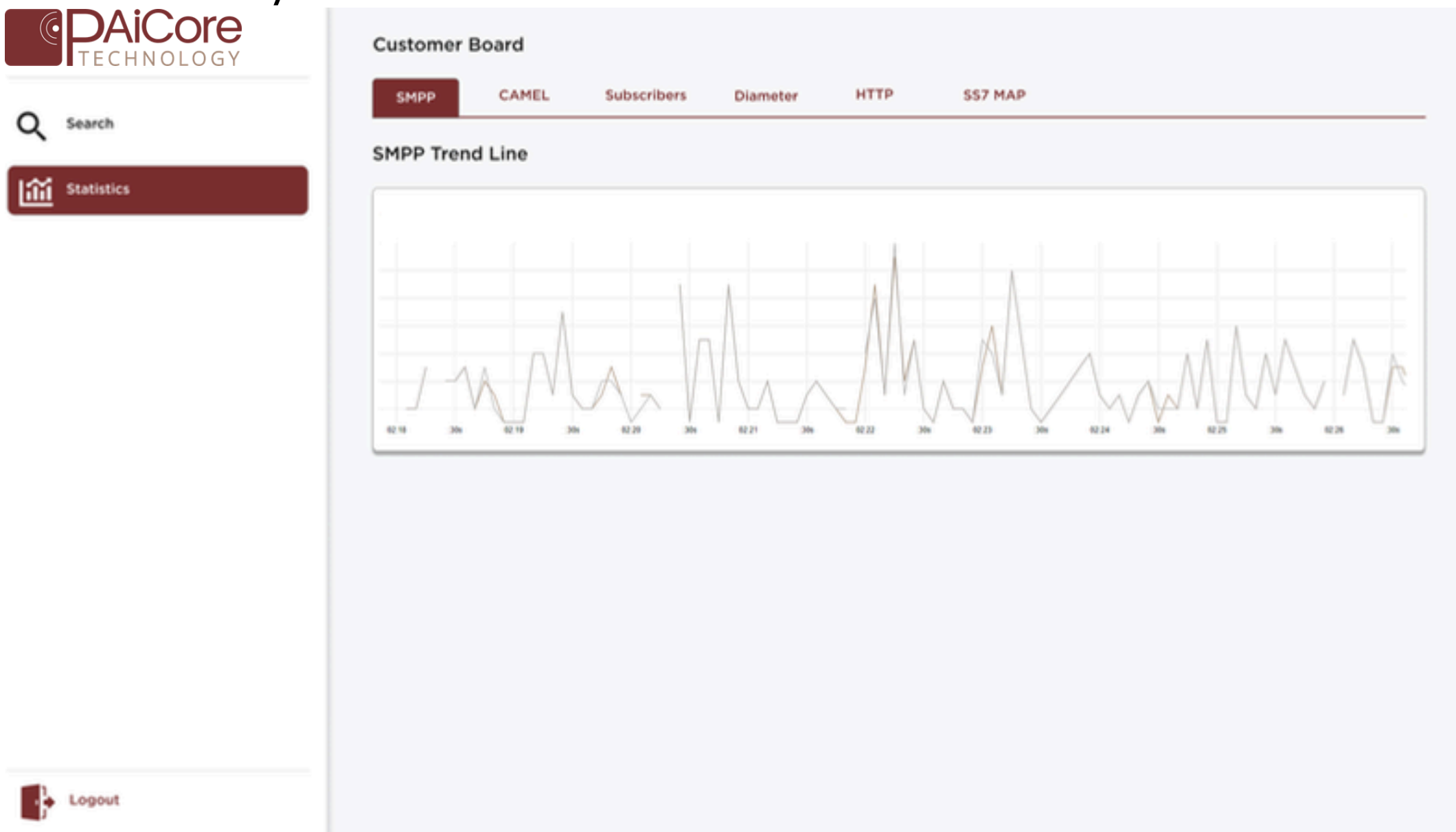
13/02/2024 10:42:44.000

map_return ResultLast

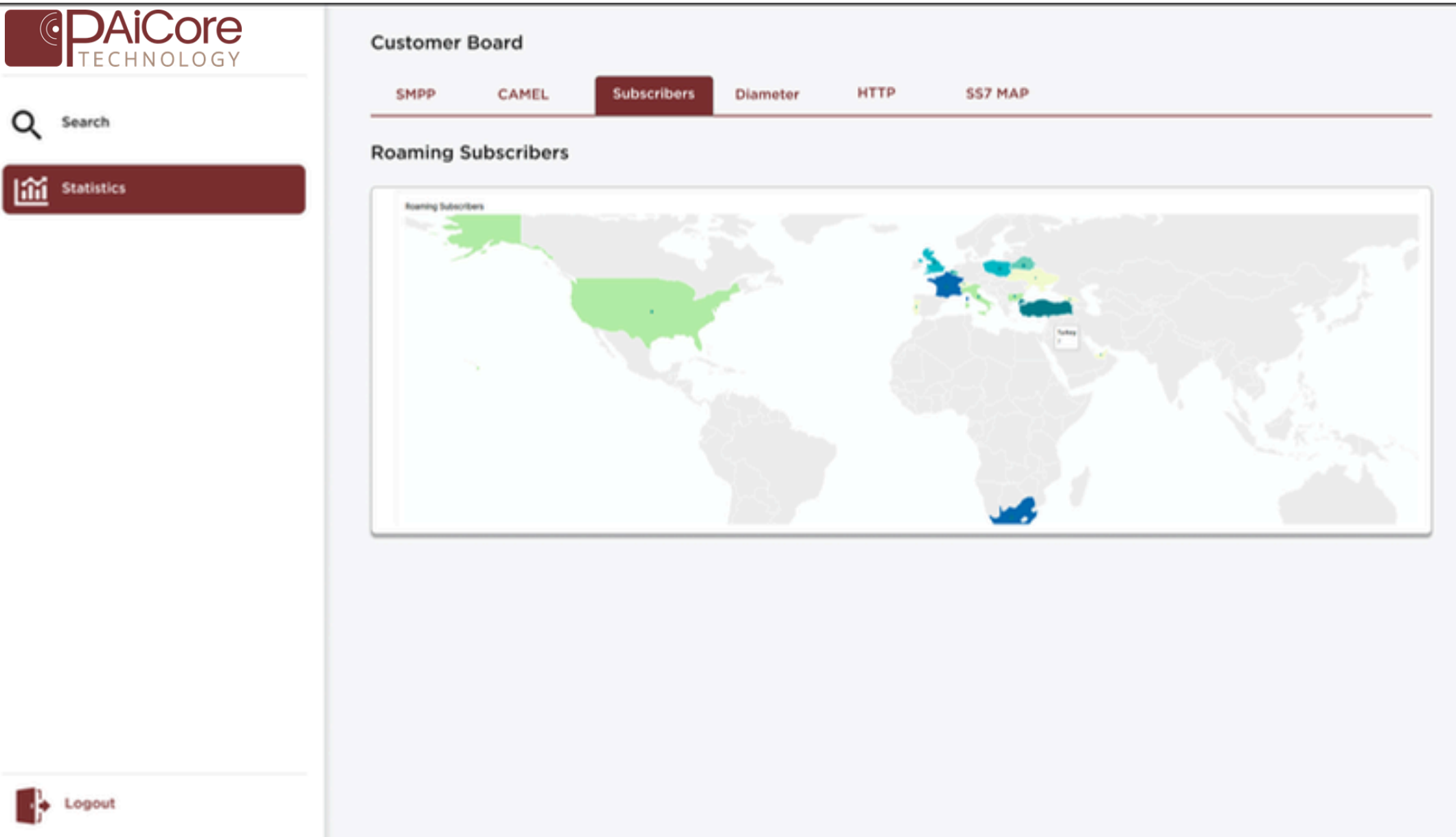
diameter_Credit-Control-Answer

Download

Trends analysis



Tracking roaming subscribers



Graphs for easier analysis



SMPP

CAMEL

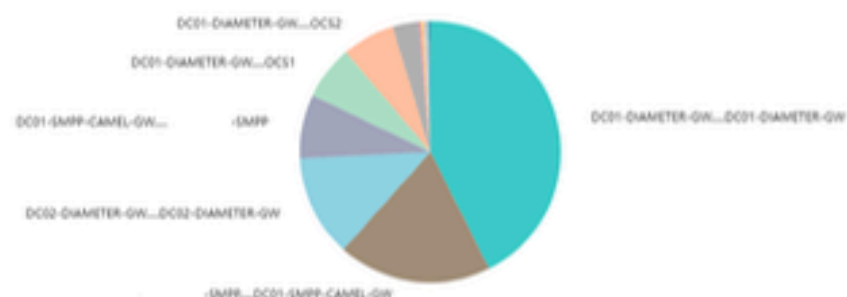
Subscribers

Diameter

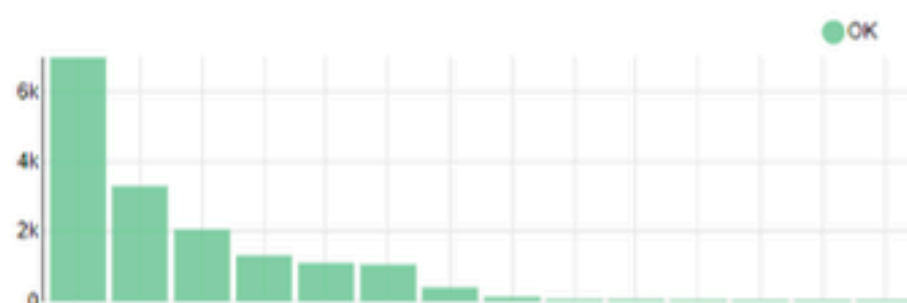
HTTP

SS7 MAP

HTTP Traffic



HTTP Responses Counter



SMPP

CAMEL

Subscribers

Diameter

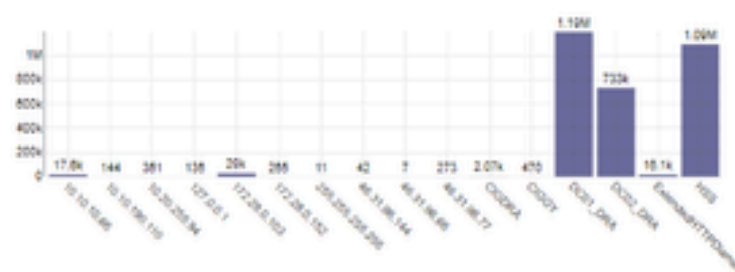
HTTP

SS7 MAP

Distribution-MessageType



Distribution-TerminationNode



Connectivity Requirements

TPS & Recommended HW

TPS Range	Name	Memory	CPU	Operative System	Storage	NFS
Up to 2,500 TPS	Backend and DB	16 GB	32 cores	Ubuntu 22.04 LTS	1 TB	5T
	Presentation	16 GB	8 cores	Ubuntu 22.04 LTS	130 GB	
	Ingestion Service	16 GB	16 cores	Ubuntu 22.04 LTS	130 GB	

Note: Our software products are fully tested and optimized for deployment in AWS EC2 instances, ensuring peak performance and reliability. While they are compatible with any Linux-based virtual environment, performance may vary depending on the underlying infrastructure and configuration

For **PCAPs** files ingestion the following resources are required:

Access to PCAP or PCAPNG files via:

- Shared network storage (e.g., NFS).
- Or direct transfer to a designated server.
- Firewall rules allowing access between our platform and the storage source.

