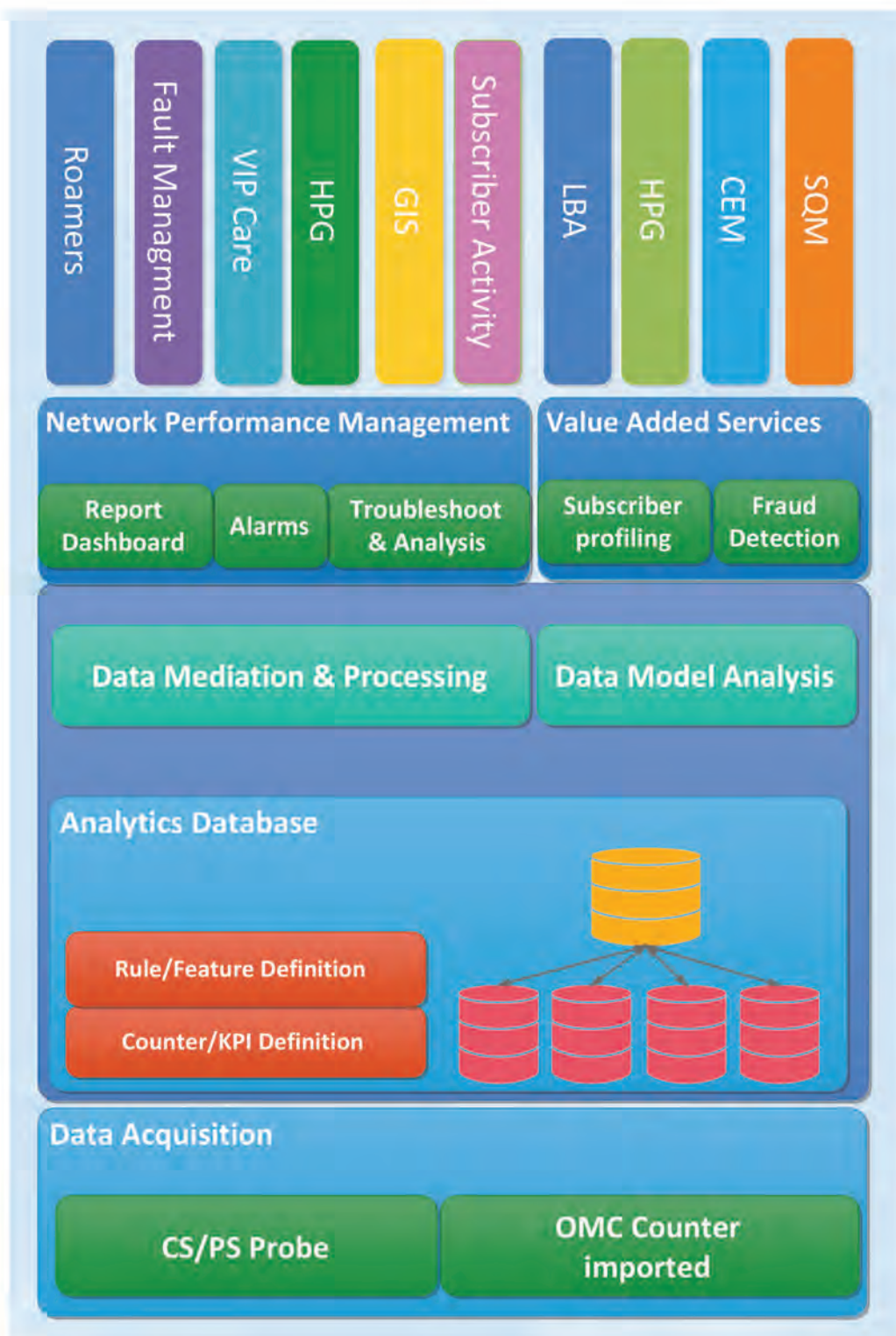




**Scientific
Green Co.Ltd**

**WWW.CANKASH.IR
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CANKASH is a set of powerful and honorable solutions for mobile networks which supports 2G/3G/4G technologies in both CS and PS domain appropriated to missions of Telecom network analysis. Using smart reporting and strong monitoring tools, telecom operators can perform troubleshooting and analyzing easily and using subscriber analytics services such as data consumption, will reduce the costs of customer care, and simultaneously increase customer satisfaction.





+ **Dashboard**

This services used to find the specified Network Element report or top worst/best and show the result as any chart like line/Column/pie...



+ **Builder Tool**

The end user is able to define own Counter/KPI formula from xDR and make dashboard for visualization



+ **Subscriber Activity**

Subscriber Activity use for top down troubleshooting from statistics to protocol details



+ **Call Flow**

This services used to show insight of protocol details of each user activity



+ **GIS**

This service is used to show any result reports on GIS-Map by legends color

Top-Down Scenario



⊕ About SGI and Cankash solution

SGI, the leadership of IT security and Telecom in Iran since 1992 introduces the Cankash solution in MWCS. A network performance monitoring system for mobile networks which supports 2G/3G/4G technologies in both CS and PS domain. CS/PS probes are also an innovation product of SGI which collect CDR/xDR from network interfaces to generate KPIs. Dashboard charts and GIS service provides a comprehensive report from network status.

⊕ Portfolio

This solution is implemented for the largest mobile operator in Iran with more than 40 million subscribers. Big data analytic tools integrated in this solution to offering smart VAS based on subscriber behaviors.

KPI Category

PS Domain KPI list

⊕ Control plane KPI Category:

- Mobility/Handover & Causes
- Session Activation & Causes
- RAB/ERAB Assignment & Causes
- PDP Activation & Causes
- Session Traffic (per APN, Throughput, ...)
- Paging
- Roamers
- EPS Mobility Management
- EPS Connection Management
- CSFB

⊕ User plane KPI Category:

- Protocol (TCP, UDP, ...)
- Service (DNS , Email, FTP, Http , ...)
- Streaming (Aparat, Telewebion ...)
- Traffic (Upload , Download)
- Host (CDN.google.com , ...)
- Application (Instageram, ...)
- Port (4500 , 443 , 80 IPsec, ...)

CS Domain KPI List:

- Location Update inefficiently & fail cause
- Call Setup/Drop inefficiently & fail cause
- Roamer service(call/SMS/LU/HO) inefficiently & fail cause
- Paging inefficiently & Delay Duration
- SMS inefficiently & fail cause
- Handover/Relocation/RAT inefficiently
- Circuit/RAB Assignment inefficiently
- Handset Profiling

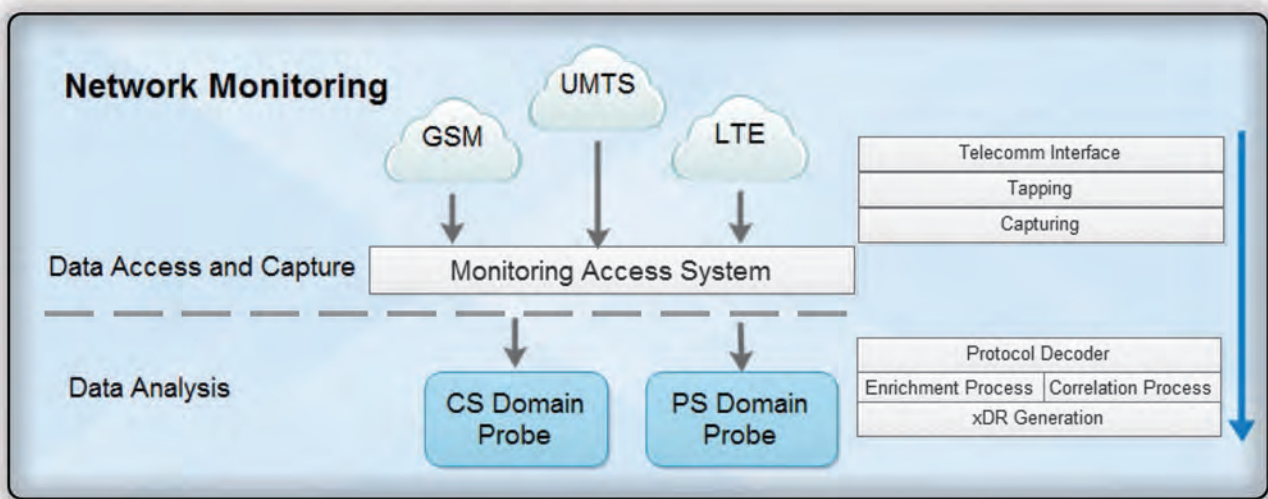


CYRU

CYRU is a powerful and honorable probe which captures massive volume of data and provides the ability to generate exhaustive and accurate CDRs from about all events in a telecom network from 2G to 4G/LTE.

Use Case:

1. Mobile Network (GSM/UMTS/LTE) Quality Assurance
2. QOS/QOE Guarantee
3. Performance Measurement and Monitoring
4. VAS Analytics (User Profiling/Fraud Management...)
5. Insight Troubleshooting / Protocol Analysis



Tapping	Electrical or Fiber Ethernet link (10/100/1000/10G) / TDM link (E1/STM1...)	
	Fully Passive	
	Fail Safe Feature in Power Fail Condition	

Capturing	Embedded PCI Capture Card	
	HW 4 NS Time Stamping and Time Sync	
	GTP and IP-in-IP Tunneling Support	
	Up to L4 Packet Filtering in Capturing Level	

Supported interfaces	GSM/GPRS	Abis/A/Gb
	UMTS	Iub/IuPS/IuCS/Gn/Gi
	LTE	S1-MME/S1-U/S11/SGi/ X2/ UU
	Core	MAP/CAP-INAP/BICC/ISUP/ S3/S4/S5/S8/S6a/ SGs

Supported Protocols	GSM/GPRS	BSSAP/BSSGP/SNDCP/GTP/RADIUS
	UMTS	RANAP/GTP

	LTE	X2AP/S1AP/GTPv2/DIAMETER/SGSAP/EMM/ESM Signaling Decryption (S1 NAS)
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xDR Engine	Real-time Packet Processing	
	Automatically Recover Signaling Link	
	HSL/NSL HDLC Signaling Link Supported	
	Less than 60 seconds xDR generation after scenario released	
	Output format: Compressed CSV file/RDBMS database / UDP-based binary coding private standard / IPFIX/Netflow	
	Local storage for call flow services	

DPI Specifications	Throughput	30Gbps
	Protocol Feature Rule	1500 rules (can be extended up to 10K)
	Online Session Number	30 million
	DPI signature Applications	Instant Message (Whatsapp, Telegram, WeChat, ...) Video (Youtube, Netflix, ...) Audio (soundcloud, shazam,...) Social media (facebook,instagram,...) Shopping (amazon, eBay,...) Web browsing (google,yahoo,bing,...) Travel (tripcolor, hotels.com,...) VOIP E-mail (POP3, IMAP,...) Game , P2P Download Protocols (FTP, DNS,https,ssh,ldap,telnet,...)
	Rule Base Updating Mode (Application)	It is not necessary to do any reboot while updating matching rules and data always will be kept safe
	IP/TCP Bearing Layer Statistics (with CDR)	IPv4/IPv6 Traffic & Fragments TCP Connection Information The statistics of TCP session such as packet number, Byte number, retransmission, packet out-of-order, and packet loss

