

XCAP

Log Analysis & Reporting

Powerful Analysis & Reporting

XCAP is a powerful and highly configurable analysis platform that allows you to mine, analyse and report data gathered in XCAL. Available as both a stand-alone platform and an enterprise-grade client-server solution, it supports all wireless standards and major third party data formats.

XCAP minimises OPEX by automating the whole network post-processing and troubleshooting workflow. Because it's designed by engineers for engineers, it comes loaded with a comprehensive list of standard-specific KPIs, is easy to use, configure and maintain and is continually evolved to capture user feedback and major feature upgrades.

Use XCAP to

- Quick troubleshooting and conduct root-cause analysis of wireless networks – including massive volumes of drive test data
- Provide detailed reports on service-specific and overall network performance
- Benchmark radio and application level metrics
- Build and present KPI reports across the enterprise
- Analyse trends and perform complex statistical analysis
- Visualise service and network-level performance geospatially

Benefits

- Scalable, stable platform – either stand-alone or client-server configuration
- Robust data management system for managing and mining massive volumes of data quickly and easily
- Technology independent and first to market for new technologies
- Supports every major new wireless technology: GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA, HSPA+, DC-HSDPA, CDMA2000, EVDO Rev.0, Rev.A, Rev.B, TD-SCDMA, WiMAX, LTE, LTE-A, LTE-3CA, LTE-U and **5G-NR (Sub-6GHz/mmWave, SA/NSA) and DSS**
- Minimise OPEX through process automation
- Easy to use, install and configure and low cost maintenance
- Highly customisable, stable and robust
- User modifications (eg. new features/functions) are encouraged and custom delivered
- Pre-defined Customized Report
- Compatible with various chipset logs
 - Qualcomm
 - Samsung, LGE, GCT
 - Intel, MediaTek
 - Altair, Sequans

Root-cause analysis and reporting



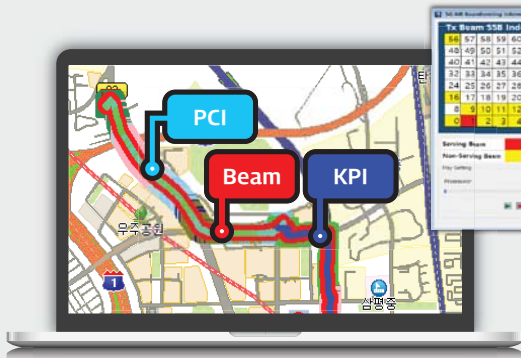
Together with XCAL, XCAP offers unparalleled sophistication and simplicity in improving your network performance.

Key Features

Multi-window synchronization analysis	Synchronizing with other window/table/map/graph for particular call and data's detail analysis
Coverage Analysis	Able to check real coverage of optimization sector or cell planning by RF data
Data Filtering Analysis	Filtering data by Bad Coverage, Good Coverage, Idle, Traffic stats or user defined condition and display result in table/graph/map/window
In-building Analysis	Support In-building condition analysis by inputting map
Packet Analysis	Support to analyze only packet information for packet data service
Application Analysis	APP analysis function and statistical items are added for Application such as Ping/VOD/HTTP and so on in Auto call
Statistics Analysis	Support statistical information for each call and able to analysis with particular parameter by synchronize with specific call
VoLTE Analysis	Able to analyze RTP (WB-AMR/EVS) packet and voice recovery
Voice QoS Analysis	Provide specialized function by combining general Time Domain analysis with Frequency Domain function
Shell Command based Interfacing compatibility	Support XCAP operation by Shell (Dos Prompt) Command Possible to link task to 3rd party tool
Scheduling Processing	Automated Task Processing in scheduling in unattended mode
Root Cause Analysis	Provides Root Cause Analysis for log analysis of drop and fail call to voice and data call
3GPP/ETSI KPI and Statistics	Provides FTP, HTTP, Email, Voice(VoLTE/UMTS) Statistics and LTE/NB-IoT/UMTS/GSM KPI
5G-NR Chipset/Scanner	Chipset : Qualcomm, Samsung, Hisilicon Scanner : R&S TSMx6, PCTel HB/IBFlex, Anritsu
5G-NR Analysis Feature	Best Server PCI & Beam Switch, NR-PCI Pollution Analysis, Dominant Beam Holding Information, NAS Coverage Delta Analysis, Interference Factor Analysis, NR-PCI MOD 3/4/12/30 RS Analysis, Overlapped Beams Analysis, Estimated Missing Neighbor Detection, NR SCG Mobility Statistics etc
5G-NR Report	5G-NR Coverage Analysis Report, 5G-NR RF Comparison Report, 5G-NR Site Report, 5G-NR KPI Statistics Report etc

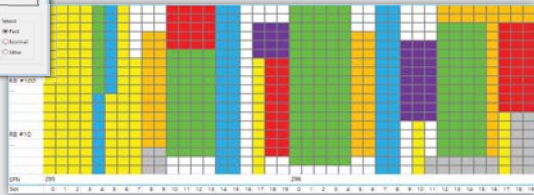
XCAP

Log Analysis & Reporting



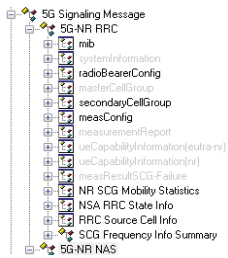
Beamforming Info

5G Beam Scheduling										
54	57	58	59	60	61	62	63			
48	49	50	51	52	53	54	55			
40	41	42	43	44	45	46	47			
32	33	34	35	36	37	38	39			
24	25	26	27	28	29	30	31			
16	17	18	19	20	21	22	23			
8	9	10	11	12	13	14	15			
0	0	0	0	0	0	0	0			



PRB Scheduling Map

Code	Message
Specific Message [5gNR]	_RADIO_BEARER_CONFIG
Specific Message [5gNR]	_MasterInformationBlock
Specific Message [5gNR]	_RRC_RECONFIG
Specific Message [5gNR]	_RADIO_BEARER_CONFIG
Specific Message [5gNR]	_RRC_RECONFIG_COMPLETE

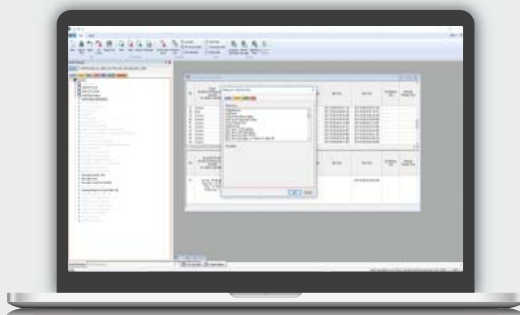


5G-NR L3

5G coverage				4G anchor coverage			5G add success rate		5G maintains performance evaluation				
Meet the number of rasters with 5G-RSCP >= 10dBm & 5G-SINR >= -5dB	Meet the number of rasters with 5G-RSCP >= 10dBm & 5G-SINR >= -5dB	Total number of valid rasters	Number of rasters satisfying RSCP >= 10dBm & SINR >= -5dB coverage	Total number of valid rasters	5G line successfully added	5G line attempted to add times	Occupancy of 5G total duration	Total test duration	5G carrier abnormal release times	5G carrier addition success times	5G line switch success times	5G line switching attempts	Switching success rate
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

- Coverage Analysis Report
- RF Comparison Report
- KPI Statistics Report Type A
- KPI Statistics Report Type B
- Single Cell Report
- Sector Swap Report

5G-NR Report



5G-NR RCA

Incomplete Call

RCA Algorithm

Analysis Result

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XCAP-Enterprise Log Analysis & Reporting & Sharing in Network

Powerful Analysis & Reporting

XCAP-Enterprise is a powerful and highly configurable analysis server-client platform to share project work with multiple teams. It allows you to mine, analyze and report data gathered in XCAL in chained work with project members. It works 100% compatible with XCAP as well and it supports all wireless standards and major third party data formats.

XCAP-Enterprise minimises OPEX by automating the whole network post-processing and troubleshooting workflow. Because it's designed by engineers for engineers, it comes loaded with a comprehensive list of standard-specific KPIs, is easy to use, configure and maintain and is continually evolved to capture user feedback and major feature upgrades.

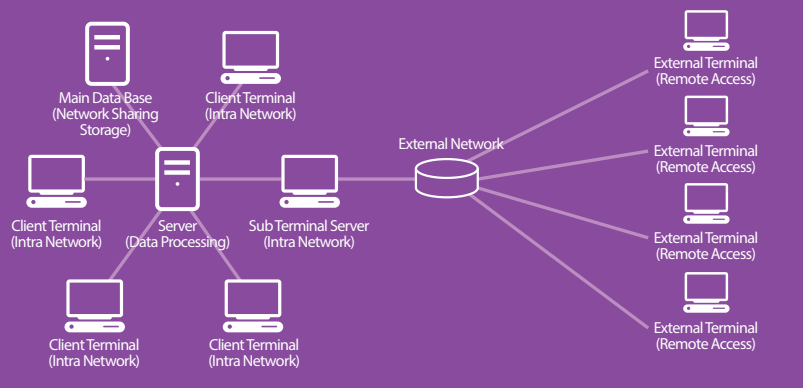
Use XCAP-Enterprise to

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Benefits

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- Minimise OPEX through process automation
- Shared work & analysis for colleagues in project to maximize an efficiency.
- Highly customisable, stable and robust
- User modifications (eg. new features/functions) are encouraged and custom delivered
- Pre-defined Customized Report
- Compatible with various chipset logs;
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In server-client network



Key Features

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Statistics Analysis	Support statistical information for each call and able to analysis with particular parameter by synchronize with specific call
VoLTE Analysis	Able to analyze RTP (WB-AMR) Packet and voice recovery
Voice QoS Analysis	Provide specialized function by combining general Time Domain analysis with Frequency Domain function
Sharing Logging Files and Models	Logging files and models of the server can be shared with other clients
Web (X-view) interworking	Analysis of event call through interworking with Web (X-view)
Model Management Function	Models can be created and managed by account or project
Server Auto Export	Automatically export logging files in a specific folder to the Favorite and Statistic set by the user
5G-NR Chipset/Scanner	Chipset: Qualcomm, Samsung Scanner: R&S TSMx6, PCTel HB/IBflex
5G-NR Analysis Feature	Best Server PCI & Beam Switch, NR-PCI Pollution Analysis, Dominant Beam Holding Information, NAS Coverage Delta Analysis, Interference Factor Analysis, etc
5G-NR Report	5G-NR Coverage Analysis Report, 5GNR RF Comparison Report, etc