



Plan
Operate
Optimize
Monetize

Презентация решения VistaNEO

Orchestrating Network Performance

What is VistaNEO?

VistaNEO is a

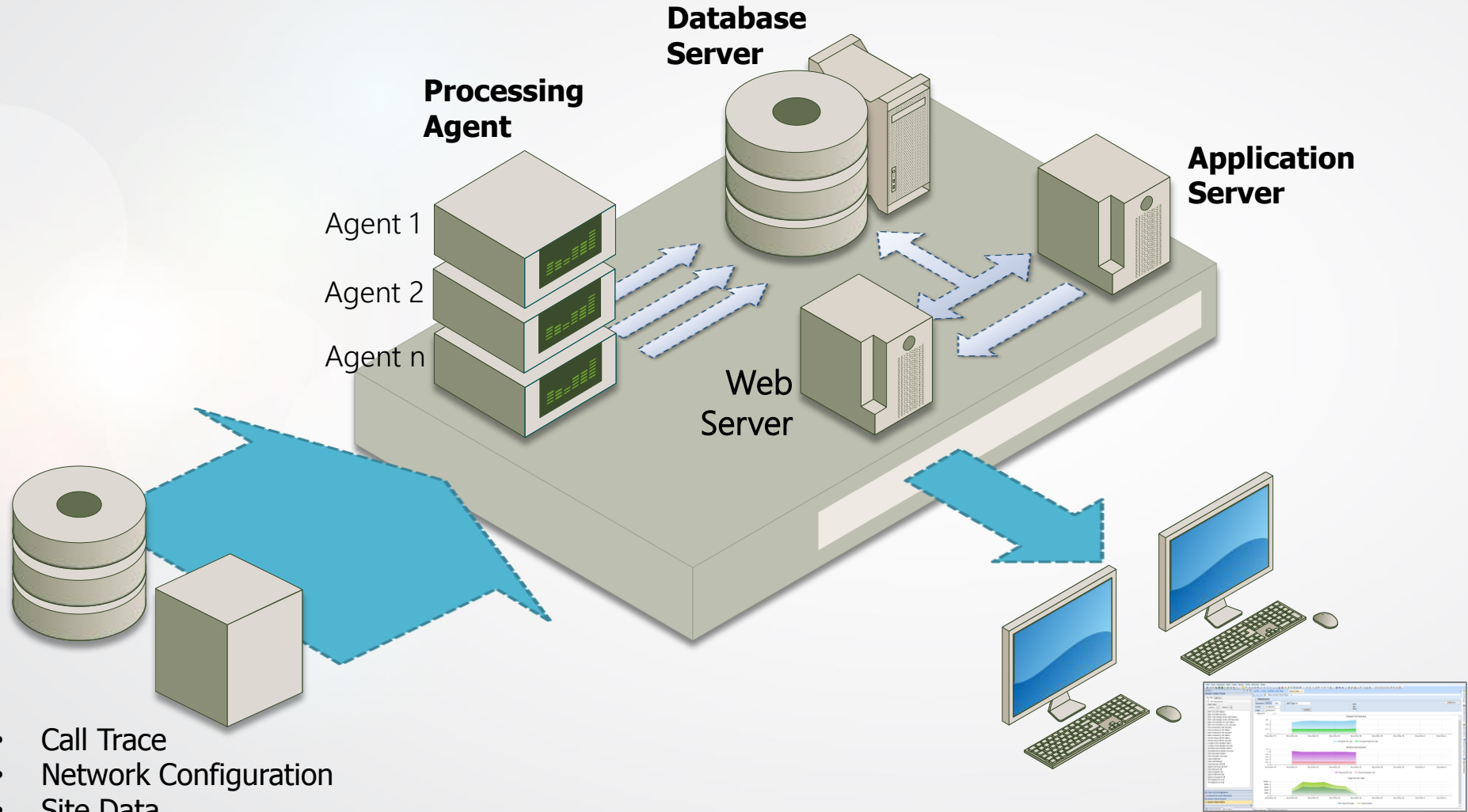
What? **root cause** analytics mobile **network optimization platform**,

Who? for teams managing network quality and/or high value subscribers

Why? to combat churn by pro-actively managing **network** quality and **subscriber quality**

How? by utilizing 24/7 **geo-located** call trace data

VistaNEO Architecture



- Call Trace
- Network Configuration
- Site Data

VistaNEO Client

VistaNEO Benefits

Analytics

- Advanced diagnostics of call faults, network KPIs & network analysis via Smart Client

Geo-Location

- Accurate positioning for Calls, Long and Short Data Sessions & RF Coverage Plots

Scalability

- On-demand server & database upgrade to meet the required network size

Performance

- Powerful parallel processing on multi-core machines for maximum unparalleled performance

Automation

- Automatic imports, correlate, diagnoses and reports issues from the whole network

VistaNEO Features

Subscriber Insight

Subscriber Trend

Worse Subscriber Analysis

Network Insight

KPI Analysis

Worse Cell / Domain Analysis

Cell / Domain Trend Analysis

QoS Insight

Block / Drop Trend

Block / Drop Analysis

Network Optimization

Pollution Analysis

Missing Neighbour Analysis

Overshooting Analysis

RF Coverage Analysis

Cell Relation Analysis

Live GeoAnalysis

Coverage Plot

User Positioning

Call Event Positioning

Use Cases

What is VistaNEO for?

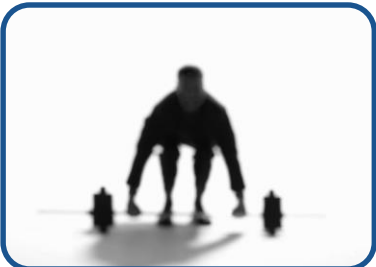
Use Case 1 - Pro-Active Subscriber Management



Persona

- Quality Team
- Optimization Team
- VIP Care

Relevance



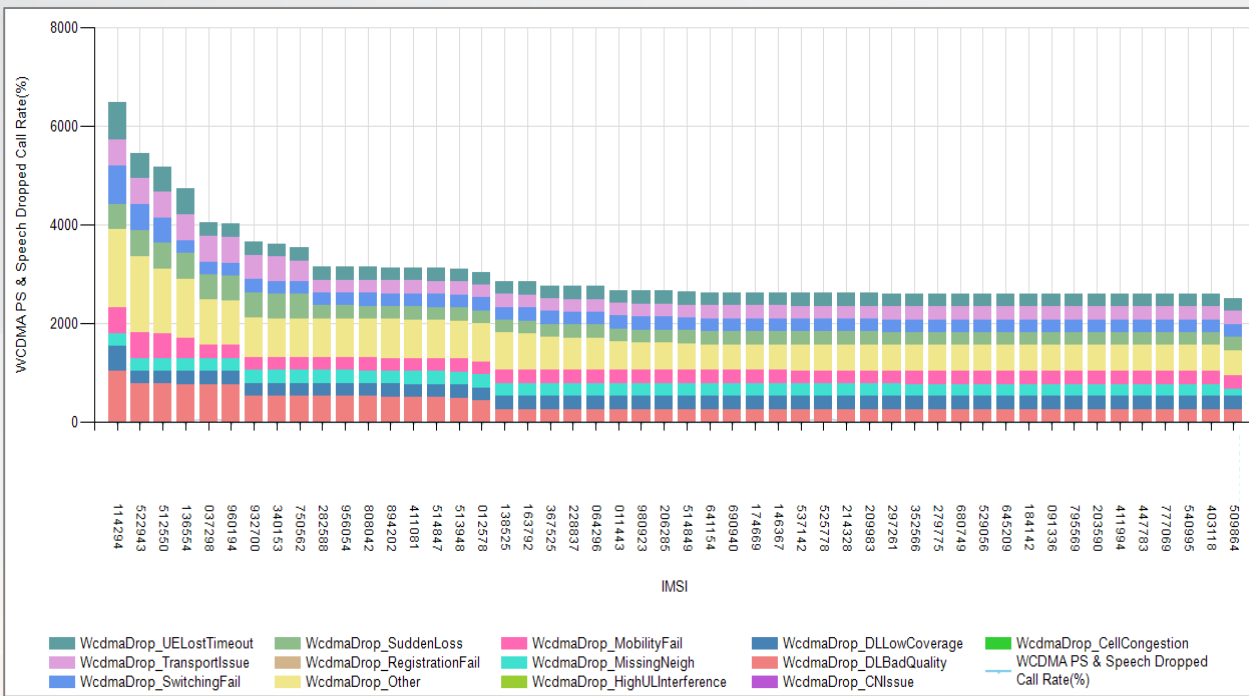
Challenges

- Insufficient data to fully comprehend the subscriber experience in a 24x7 live network environment
- The need to correlate large amount of call trace data to troubleshoot specific key subscribers



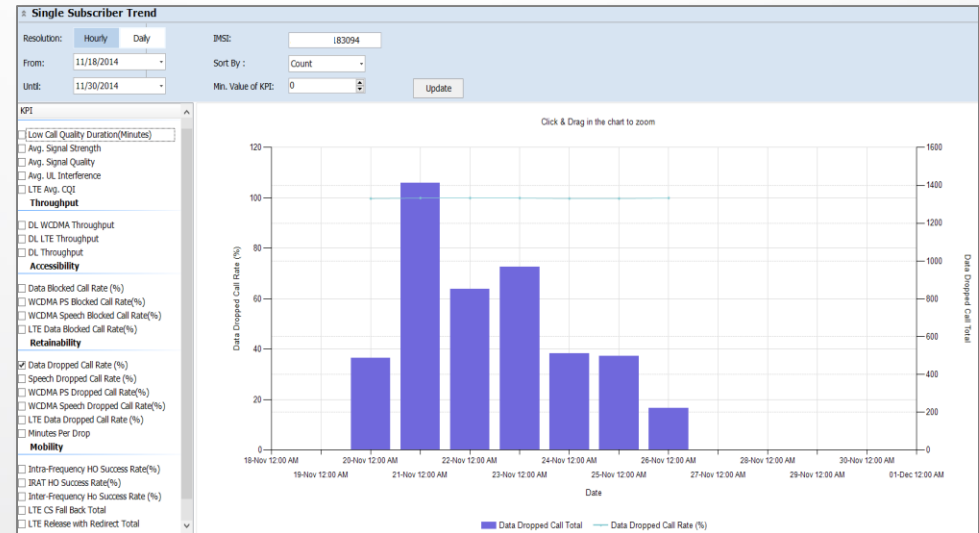
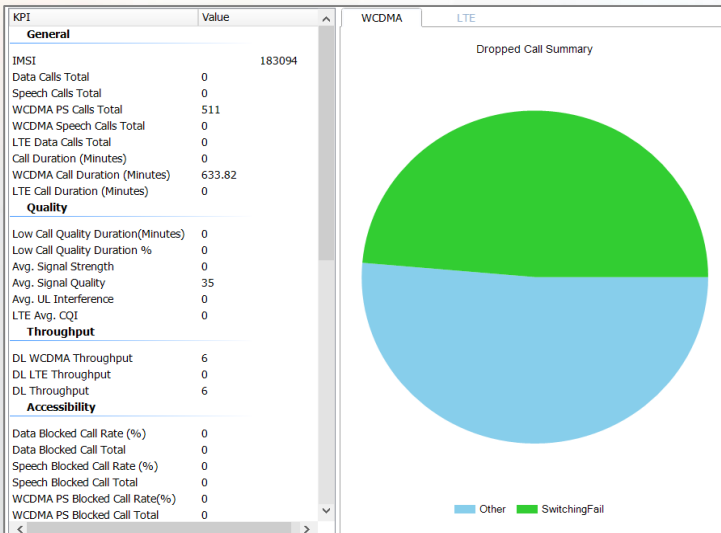
VistaNEO Benefits

- 24x7 Call Trace Aggregation which provides high granularity and clearer understanding of subscriber experience
- Easy and flexible to search for key subscribers and provide quick diagnostics and analysis experience by the subscriber
- Specific Subscriber-centric KPIs which provides informative insight



Subscriber Insight

- Subscriber Trending
- Worse Subscriber in the Network



Use Case 2 – Addressing Problematic Areas



Persona

- Quality Team
- Optimization Team
- VIP Care

Relevance



Challenges

- More time spent on locating problem areas and understanding the actual network environment than actually solving the issue
- Rapidly evolving networks complicate the tasks of root cause analysis of problems



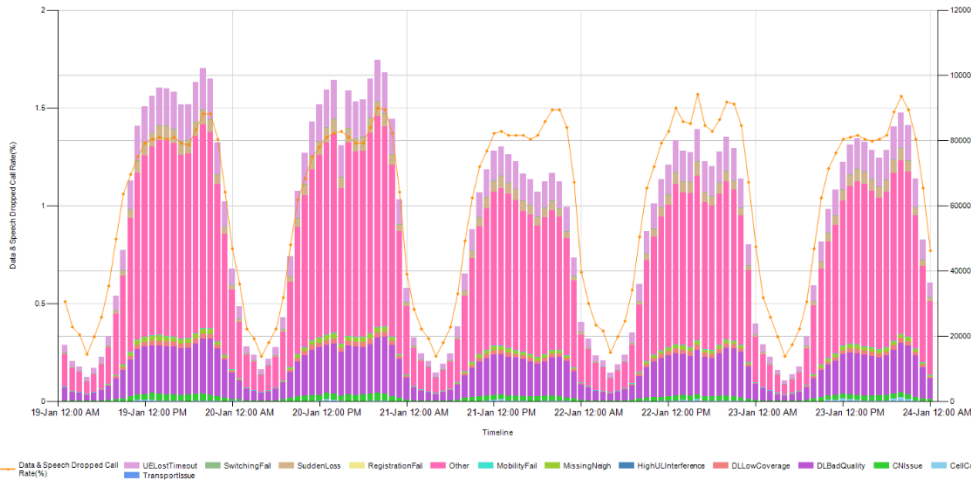
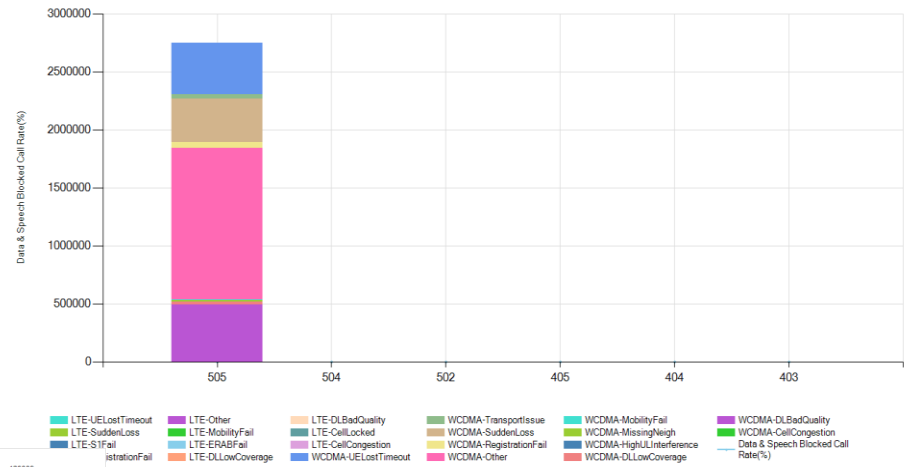
VistaNEO Benefits

- Provides smooth drill down analysis from high level to detail troubleshooting which helps to reduce OPEX with lesser amount of time by providing the right diagnostics
- Highlight abnormalities in the cells/domains which information can be use by various department for fault analysis
- Ability of geo-locating problematic areas and events in the network

Network Insight

➤ Worse Cell/RNC Analysis

- KPI**
- Avg. Signal Strength
 - Avg. Signal Quality
 - DL Interference Limited (%)
 - Low Signal Strength (%)
 - Low Signal Quality (%)
 - Avg. UI Interference
 - Avg. CQI
 - Overshooting Calls
- Accessibility**
- Data Blocked Call Rate (%)
 - Speech Blocked Call Rate (%)
 - Data & Speech Blocked Call Rate(%)
 - Registration Failure
- Retainability**
- Data Dropped Call Rate (%)
 - Speech Dropped Call Rate (%)
 - Data & Speech Dropped Call Rate(%)
- Mobility**
- LTE CS Fall Back Total
 - LTE Release with Redirect Total



➤ Cell/RNC Trend Analysis

Cell Domain

WCDMA

Selected : All RNC

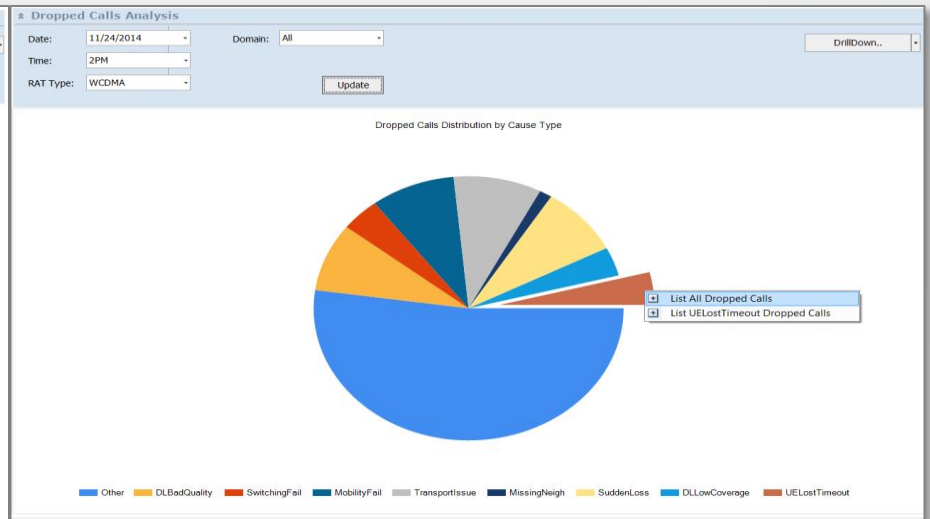
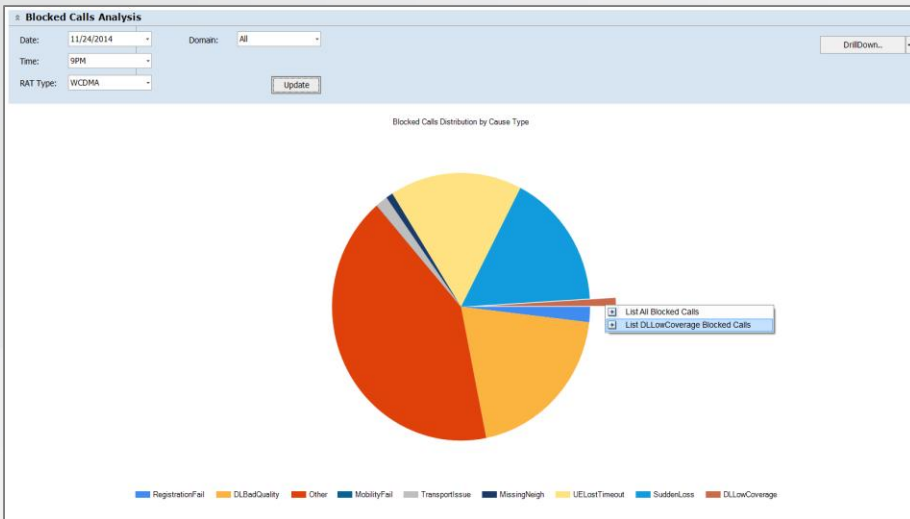
Today: 12/8/2014

Search

➤ Cell/RNC Detail KPI Analysis

Drag a column header here to group by that column.

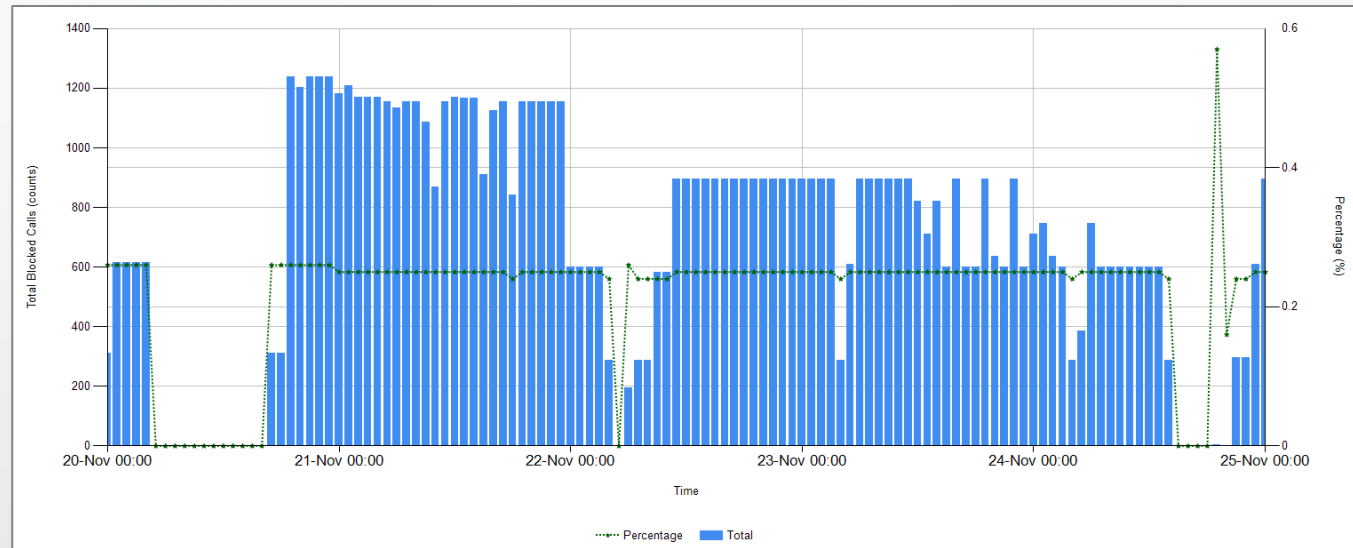
Technology	Date	Domain ID	Cell ID	Cell Name	Avg. Signal Strength	Avg. Signal Quality	Low Signal Strength %	Low Signal Strength Total	Low Signal Quality %	Low Signal Quality Total	Avg. UI Inter
Wcdma	20-Nov-2014...	403	0		17	22	49.69	732	16.77	247	0
Wcdma	20-Nov-2014...	404	0		23	22	30.48	961	38.38	1210	0
Wcdma	20-Nov-2014...	405	0		28	27	0.05	1	12.66	248	0
Wcdma	20-Nov-2014...	502	0		24	20	27.48	742	54.59	1474	0
Wcdma	20-Nov-2014...	504	0		40	22	0	0	0	0	0
Wcdma	21-Nov-2014...	403	0		17	22	49.74	2135	16.73	718	0
Wcdma	21-Nov-2014...	404	0		23	23	26.99	2358	35.29	3083	0
Wcdma	21-Nov-2014...	405	0		29	27	0	0	13.65	719	0
Wcdma	21-Nov-2014...	502	0		24	20	27.41	2154	54.59	4290	0
Wcdma	21-Nov-2014...	504	0		40	22	0	0	0	0	0
Wcdma	22-Nov-2014...	403	0		17	22	49.58	1289	16.81	437	0
Wcdma	22-Nov-2014...	404	0		23	23	26.8	1408	35.12	1845	0
Wcdma	22-Nov-2014...	405	0		29	27	0	0	13.75	437	0
Wcdma	22-Nov-2014...	502	0		24	20	27.52	1311	54.59	2600	0
Wcdma	22-Nov-2014...	504	0		40	22	0	0	0	0	0
Wcdma	23-Nov-2014...	403	0		17	22	49.61	1465	16.8	496	0
Wcdma	23-Nov-2014...	404	0		23	23	27.11	1626	35.38	2122	0
Wcdma	23-Nov-2014...	405	0		29	27	0	0	13.65	496	0
Wcdma	23-Nov-2014...	502	0		24	20	27.5	1488	54.58	2953	0

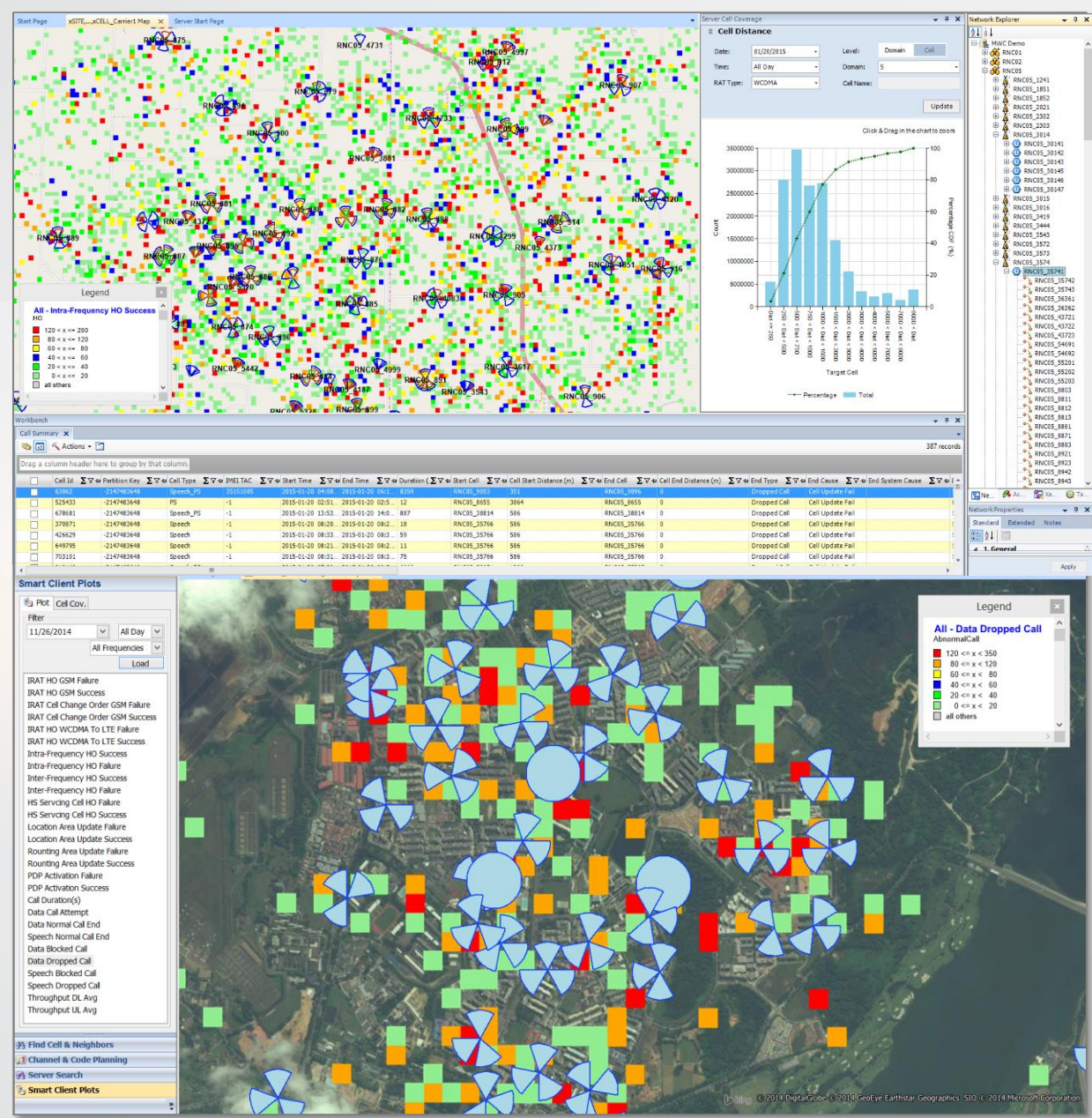


QoS Insight

➤ Block & Drop Call Detail Analysis

➤ Block & Drop Call Trend Analysis





Live GeoAnalysis

- Coverage Plot
- User Positioning
- Call Event Positioning

Use Case 3 – Interactive Optimization Capabilities



Persona

- Quality Team
- Optimization Team
- VIP Care

Relevance



Challenges

- Correlating large amount of call trace data to provide valuable insight and network optimization strategy to improve the network QoS
- The need to prioritize important optimization task

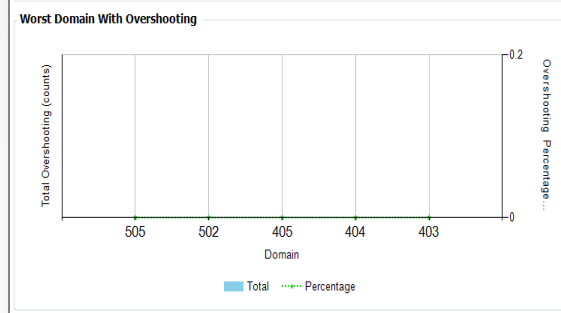
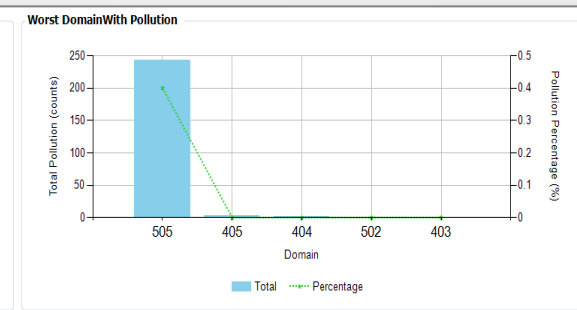
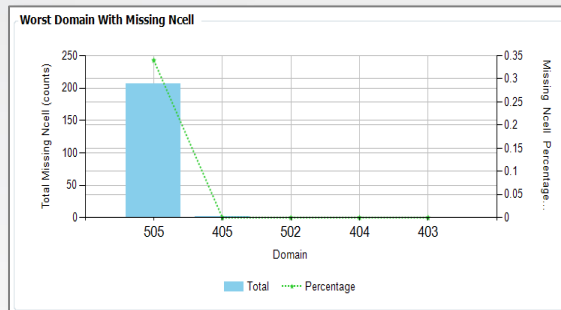


VistaNEO Benefits

- RF Optimization diagnostics which provides beneficial suggestion of solving network quality issues (e.g. *Pollution Analysis, Missing Neighbour Analysis, Overshooting Analysis and RF Coverage Analysis*)
- Integrated and interactive display of various optimization suggestion which can be view in a single dashboard

Network Optimization

- Pollution Analysis
- Missing Neighbour Analysis
- Overshooting Analysis
- RF Coverage Analysis
- Cell Relation Analysis



Coverage Summary Table

	High (SsHighThres)	Med (SsMedThres)	Low (SsLowThres)	Total
High (SqHighThres)	78.13	47.84	13.87	78.13
Med (SqMedThres)	8.96	2.64	1.68	5.29
Low (SqLowThres)	1.2	7.21	8.17	16.59
Total	16.59	57.69	25.72	100

RF Coverage Analysis

Date: 11/24/2014 | Domain: RNC | Time: All Day | Domain ID: 505 | RAT Type: WCDMA

Update

Signal Distribution

Click & Drag in the chart to zoom

Signal Strength Distribution

Range Number	Signal Strength PDF	Signal Strength CDF
SS <= -105	5.0	2.0
-105 < SS <= -100	4.0	4.0
-100 < SS <= -95	3.0	5.0
-95 < SS <= -90	2.0	6.0
-90 < SS <= -85	1.0	7.0
-85 < SS <= -80	1.0	8.0
-80 < SS <= -75	10.0	10.0
-75 < SS <= -65	15.0	12.0
-65 < SS	15.0	12.0

Signal Quality Distribution

Range Number	Signal Quality PDF	Signal Quality CDF
SQ <= -14	0.0	0.0
-14 < SQ <= -12	1.0	1.0
-12 < SQ <= -10	2.0	3.0
-10 < SQ <= -8	4.0	7.0
-8 < SQ <= -5	10.0	17.0
-5 < SQ	3.0	20.0

Use Case 4 – Troubleshooting Subscriber & Network With Both Call Trace & Network Performance (R2.0)

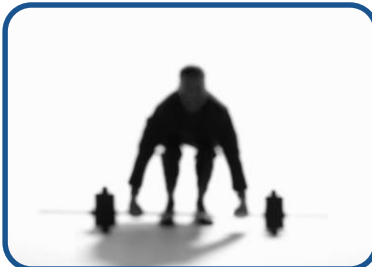


Persona

- Quality Team
- Optimization Team
- VIP Care

Relevance

- 100%
- 100%
- 75%



Challenges

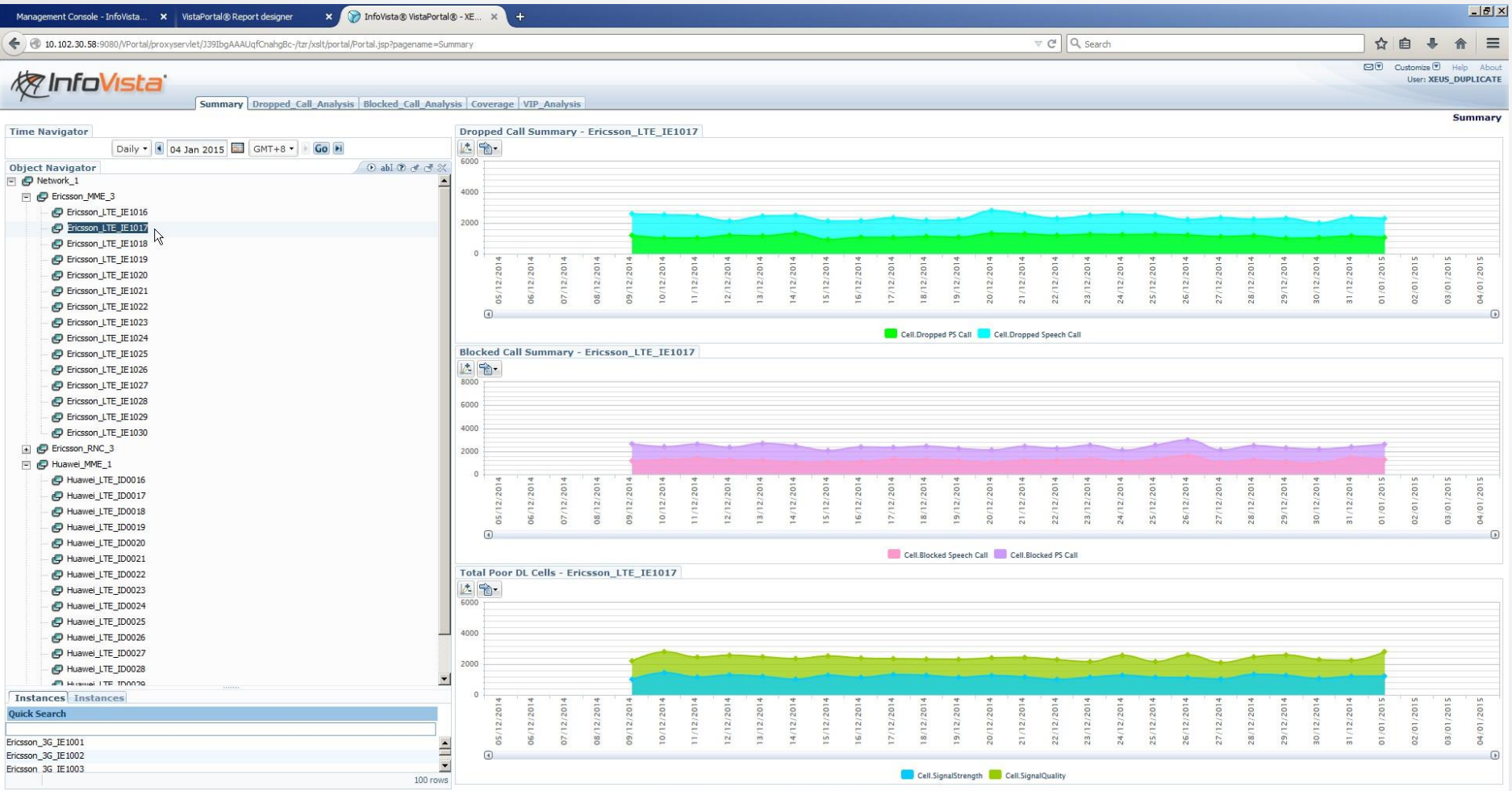
- Troubleshooting subscriber and network issues often require consulting many systems with no connections to each other. Hence cumbersome.



VistaNEO Benefits

- Providing a capability to view Network Performance KPIs and Subscriber RF Call Trace in a single “connected” view (e.g. Web Based ↔ VistaNEO Client)
- Performance and Optimization personnel are able to use both performance data and Call Trace to troubleshoot VIP issues or cell/network issues more effectively

Web-Based KPI Reporting



Web-Based KPI Reporting

The screenshot displays the InfoVista web-based KPI reporting interface. The browser address bar shows the URL: `http://localhost:9080/Portal/proxyServlet/J391bgAAUqfCnagBc-/tz/xslt/portal/Portal.jsp?pagename=WorstCell`. The interface includes a navigation menu with options like Summary, Dropped_Call, Blocked_Call_Analysis, Coverage, and VIP_Analysis. The main content area is titled "Dropped_Call > Worst_Cell".

Object Navigator: A tree view on the left shows the network structure, including Ericsson_MME_3, Ericsson_RNC_3, and Huawei_MME_1/Huawei_RNC_1. A list of Ericsson_LTE_IE1021 cells is visible, with the first cell selected.

Time Navigator: A control bar at the top of the chart area allows for time-based filtering, currently set to "Hourly" for "00:00 03 Jan 2015" in "GMT+8".

Network/Cell Trend - Ericsson_LTE_IE1021: A combined bar and line chart showing "Dropped Call Total" (blue bars) and "Dropped Call Percentage (%)" (green line) over a 24-hour period. The Y-axis for Count ranges from 0 to 125, and for Percentage from 0% to 125%.

Dropped Call Distribution by Cause Type - Ericsson_LTE_IE1021 - 00:00-01:00 03 Jan 2015 GMT+8: A donut chart showing the distribution of 427 dropped calls by cause type. The total count "427" is displayed in the center of the chart.

Cause Type	Count
CellLocked	16
DLBadQuality	30
DLLowCoverage	24
MobilityFail	68
Other	88
RegistrationFail	88
S1Fail	36
SuddenLoss	25
UELostOther	40
Total	427

Legend for Cause Types: CellLocked (blue), DLBadQuality (orange), DLLowCoverage (purple), MobilityFail (green), Other (red), RegistrationFail (pink), S1Fail (light blue), SuddenLoss (magenta), UELostOther (yellow-green).

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