

DataXtender Next Generation Service Assurance



DataXtender

by Kapsch

With the explosion of mobile data subscriptions, the mobile internet revolution has finally arrived in many markets. Network operators welcome the new revenue stream, but they often struggle to meet the challenges of optimizing network performance and customer care for those new services. Kapsch CarrierCom's Service and Quality Assurance product, DataXtender, has helped key European mobile operators do exactly that. DataXtender has contributed substantially to offering better customer service by reducing the time needed to process customer billing enquiries, for example, while improving customer satisfaction and protecting revenues. Furthermore, it is compatible for current and future network technologies, making this a sound investment for networks.

DataXtender Benefits at a Glance:

DataXtender provides information in real-time to a broad group of professionals and users working within a network. Our service and quality assurance product benefits the network operators in the following ways:

- Σ Real-time access to information
 - Σ Empowers your customer care agents
 - Σ Instantly detect and understand network problems and their causes
- Σ Achieve productivity immediately after installation of DataXtender
- Σ Reduce costs through optimized planning

Real-time access to information

DataXtender processes large amounts of complex data from different sources in real-time, and presents information in easy-to-understand reports, allowing diverse user groups to interpret the data quickly. The information empowers marketing, sales and customer care departments to make decisions quickly based on the information provided by DataXtender, without having to involve technicians.

Empowers your customer care agents

One operator, for example, was processing an average of 30 enquiries for data services per 1.000 bills. Processing a billing enquiry usually involves time consuming research via trouble tickets in the technical department.

Having installed DataXtender, billing enquiries are resolved directly by customer care agents, without having to engage network operations, and costs have been reduced dramatically. By using DataXtender's Volume and Content Based Billing Report, the operator in question reduced the time needed to handle a typical billing enquiry by 50%, because fewer trouble tickets were sent to operations.

Instant problem recognition

Through constant monitoring, a potential bottleneck can be caught before it becomes a problem. Detecting problems early helps optimize the network and avoid customer complaints. DataXtender offers a Dashboard feature that facilitates early detection even more by giving users at-a-glance-overviews of all important systems., as defined by its users. DataXtender's Intelligent Alarm allows users to set thresholds, notifying them when these limits have been exceeded.

Achieve high productivity in short amount of time

DataXtender's intuitive user-interface helps new users to start working productively immediately after installation. DataXtender uses standard tools and trace formats, such as Wireshark™ -- the tool of choice to display network traces -- as the basis for DataXtender's call trace reports. Various alarms, such as centric alarms for maximum usage thresholds, or core network, are generated in standard SNMP format, guaranteeing a shorter learning curve. Furthermore, alarms can be sent via email, ensuring that the right people will be notified on time.

Seamless integration of DataXtender functionality directly into leading customer care programs also ensures productivity of DataXtender from day one. There is no need for extensive end-user training to use DataXtender productively.

Reduce costs through optimized planning

Through network analysis reports, network operators get a clear picture of the usage of their networks, the individual network elements, and links between them. Thus they can detect inefficiencies based on current usage data, allocate resources accordingly, which will lead to savings in OPEX.

DataXtender helps to analyze and improve load-balancing of network elements. By evenly distributing the loads on MSCs for example, network operators can optimize capacity on each MSC. This also leads to potential reductions in hardware investment.



How DataXtender can help you:

DataXtender offers the various user groups at an operator an end-to-end view of relevant business data, with the help of real-time reports. All reports are generated from the same data source, thereby assuring data consistency.

Core Network Planning

Reduce CAPEX through well-founded capacity-planning based on the following criteria:

- Σ Attached subscriber growth rate or data throughput for SGSN/GGSN
- Σ Load distribution for GGSNs (PDP contexts, APN usage, data volume)
- Σ Subscriber and data volume per cell
- Σ Average time of voice trunk allocation
- Σ Identify Hotspots which have higher traffic load or number of subscribers

Operations

- Σ Log Browser for online problem detection
- Σ Measured delay per GPRS/UMTS interface measurement points
- Σ Release cause statistics per MSC
- Σ Roaming customer error cause statistics
- Σ Identification of performance and link bottlenecks
- Σ Troubleshooting of network problems by analyzing live traces

Customer Care

- Σ Volume and content-based billing report helps manage customer billing complaints
- Σ Comprehensive IMSI-based subscriber analysis shows subscriber call details (B-party, call duration, data volume, service usage)
- Σ Verify whether a service is available for a given customer (radio network, GPRS/UMTS network, service)
- Σ Provide detailed customer, service and network statuses to existing 3rd party systems (API)

Product Management

- Σ Generation and verification of tariff models
- Σ Display usage of offered services
- Σ Analyze 3rd party services and applications used in the network
- Σ Analyze roaming customers
- Σ Display overview of which mobile handsets are used in the field
- Σ Compare postpaid and prepaid subscriber behaviour

Sales / Key Account Management

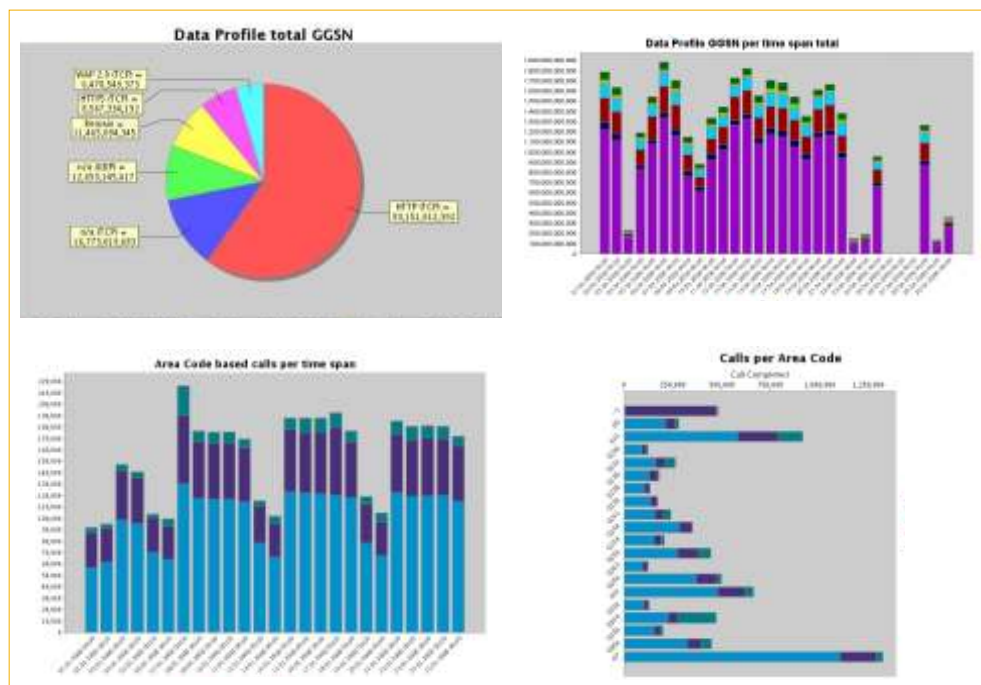
- Σ Show usage of push-email services of an existing customer
- Σ Know the business customer - total number of calls, data volume, handsets in use, traffic share, roaming duration, actual use of products and services
- Σ Display home zone call duration statistics

Marketing Management

- Σ Analyze subscriber behaviour during and after a marketing campaign: were goals met for usage of service, target subscriber group, which mobile handsets were used?
- Σ Determine regional “black holes” for targeting marketing campaigns
- Σ Verify success of local marketing campaigns (sports or music events)
- Σ Success analyses of marketing promotions and services

Executive Management Review

- Σ KPI/KQI reports give management a quick overview of the most important business parameters
- Σ How many subscribers are using GPRS or UMTS service at the moment?
- Σ What is the total data volume for GPRS and UMTS per day/month?
- Σ How many GSM subscribers do I have in my network?
- Σ Which are the most frequent roaming partners? (number of mobiles / average call duration / average call attempt / data volume)



The different graphs and diagrams help you monitor KPIs and network statistics at a glance.



Real-time access
to information



KEY FEATURES

Support for standard telco technologies and protocols

DataXtender supports the following standards and technologies when collecting and analyzing data: GPRS, UMTS, GSM, GSM-R, Next Generation-IN, Voice-over-IP, roaming traffic.

Data from those networks are extracted from different sources and in different formats. For GPRS and UMTS, network traces are analyzed and aggregated via DataXtender's passive monitoring system. Other technologies deliver information in CDR or event records format.

DataXtender was developed in close cooperation with leading European network providers to ensure the product's market readiness and fit for purpose.

Remote Access

DataXtender's data collection server is installed at the Network Operation Centre (NOC), which allows remote access to data analysis functionalities: reporting web-GUI, API for M2M-access, real-time network traces via Wireshark TM or similar tools. User and system administration is also possible via remote access.

Comprehensive Reporting Tool

Each network continuously delivers a vast amount of data, in the form of messages, traces, event records or CDRs. DataXtender helps network operators in collecting, aggregating and analyzing such data. Predefined reports give different user groups and departments at the operator profound knowledge about the operator's infrastructure, customers and services.

Reports deliver historic and real-time information about session management statistics, payload analysis or subscriber behaviour. They allow drill-down from a global view to detailed views e.g. from SGSN down to individual cell level. Each report has dedicated input parameters to narrow down the report results.

Dashboard

With the Dashboard Viewer, reports selected by the users are periodically updated and displayed automatically on the user's desktop. By continuously refreshing the data, customer service, product management or network planning professionals have an up-to-date overview of customers, services and the network.

Intelligent Alarm

Report results are not only used for instant problem detection or capacity planning. They deliver important information which can be forwarded to alarming systems to present critical errors in a network. For every result-field in a report, a threshold can be defined to be monitored during report execution. Once a threshold is hit, the associated alarm is generated via SNMP or email.

The alarms are not limited to one-time execution of reports. To use DataXtender as an automated alarming tool, the framework allows scheduling of reports which can be assigned to thresholds. With every execution of scheduled reports, the set thresholds are compared with result values. There are no limitations with regards to scheduling any number of reports, report input parameters, or the period how often a report will be executed.

Event Correlation

Activities within a mobile network are not always as clear-cut and simple to follow, like a call between two users. Value-added services add a degree of complexity. An activity that is seen as a single event by the end-user (e.g. sending an MMS) is actually a series of events within the operator's landscape - e.g. server requests/replies, forwarding to network elements, etc. In order to classify an activity as successful, all internal events need to be confirmed and have to be on time. DataXtender's Event Correlation engine allows setting up rules for activities which contain all individual events and their time constraints. Violations to those rule-sets generate an alarm.

Export of Report Results

Report execution is not always done via the web-based GUI. Users groups such as Customer Care have their own tools with which they are familiar. For such users and applications, DataXtender offers an API to all available reports. They can be accessed in the same way as in the WebGUI, setting all input parameters to filter results. (e.g. request for all outgoing calls from a subscriber, known by their MSISDN). This API can be accessed via JDBC/ODBC.

The results of those reports that are executed via WebGUI - either directly or through scheduling and they can be exported in file formats are, csv, xls, txt, html, pdf and rtf, for further processing. Further simplifying the process, results can be sent to other departments via email.

Scalability

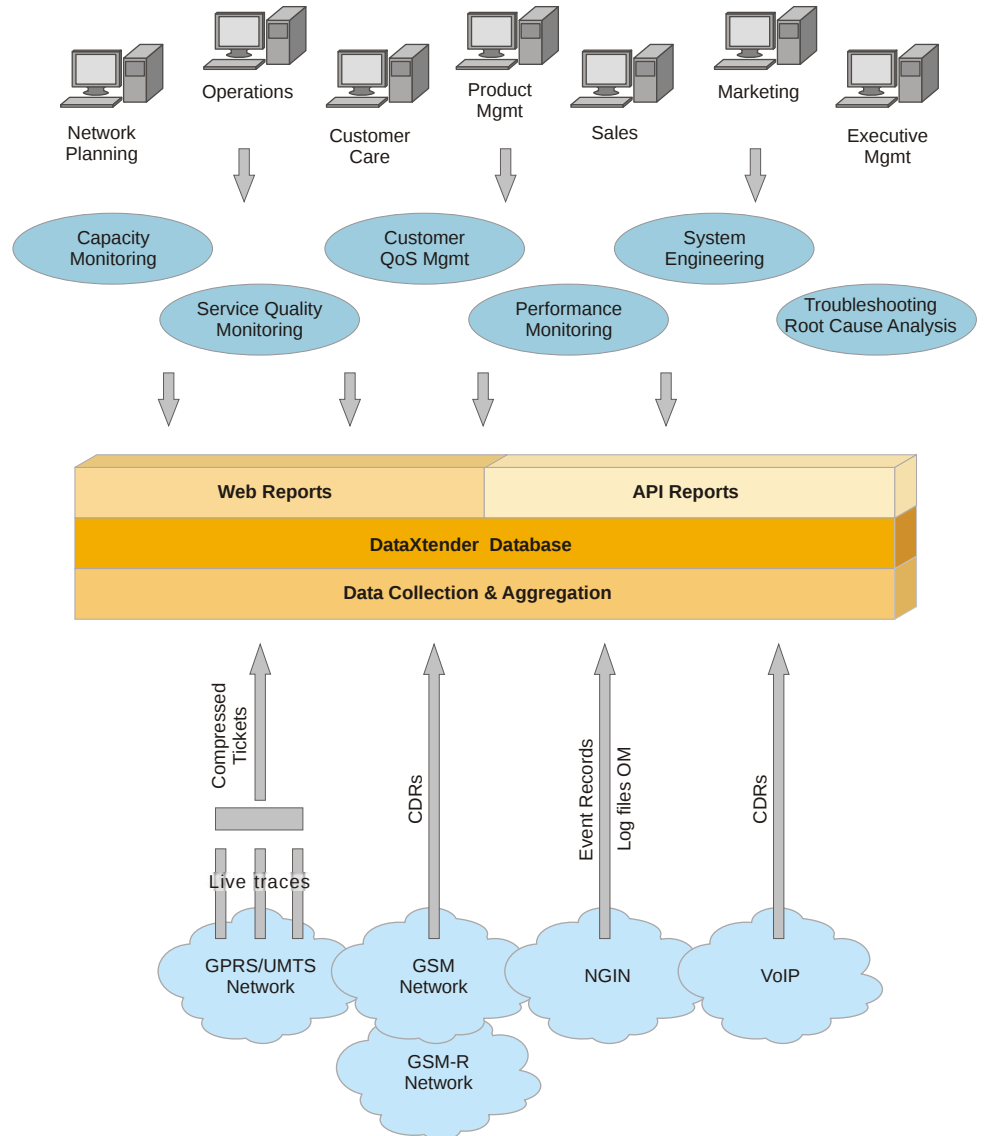
Best-of-breed products require best-of-breed systems architecture. This implies modular structures and scalability to fit the requirements of any operator. The internal structure of DataXtender allows differences between data collection, aggregation, database (Oracle®-based) and the report presentation layer. Those modules can be run on single or multiple machines. Thus the required hardware can be specified to any data rate or volume of the input data.

GPRS und UMTS analyses are based on a passive monitoring system which is adaptable to any network configuration. This highly scalable system does not only deliver raw data for packet core reports, it has built-in functionality which allows to pre-filter network messages, delivers > 95% deciphered packets (based on our patent-pending Gb deciphering technology) and provides all stored traces to external trace viewers like Wireshark™ in live-mode.

KEY FEATURES
Σ Support for standard telco technologies and protocols
Σ Remote Access
Σ Comprehensive Reporting Tool
Σ Dashboard
Σ Intelligent Alarm
Σ Event Correlation
Σ Export of Report Results
Σ Scalability
Σ Future-proof Architecture
Σ System and User Administration

Future-proof Architecture

DataXtender supports convergent service design. Therefore network operators can be assured that our products will carry them into the next generation of networks and network elements.



System and User Administration

Remote access is not only a key benefit for users of the reporting system, it also enables system administrators to configure application-based settings, as well as everything regarding user management: User authentication, authorization and rights administration.

Kapsch CarrierCom

Kapsch CarrierCom is a leading European solution provider for fixed and mobile network operators. As part of the Kapsch Group, headquartered in Austria, with extensive telecommunications experience and 2,300 employees worldwide, Kapsch CarrierCom covers all fields: from analysis, consulting, integration, and network installation, maintenance and operation to product development.

Kapsch's OSS/BSS flagship product, DataXtender, helps lower operational expenditures through real-time monitoring and instant problem recognition. With over 25 years experience in mobile telecommunications, Kapsch products help network operators ensure a consistent customer experience, while optimizing their operations.

For more information, please refer to: www.dataxtender.com

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