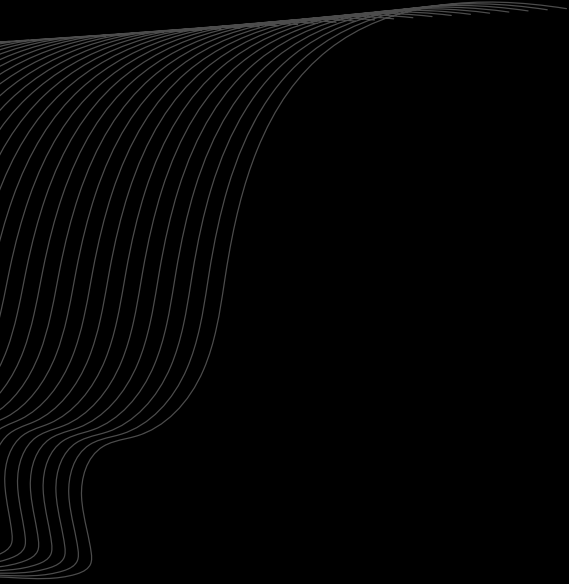


RAID Roaming

Datasheet


RAID
ROAMING



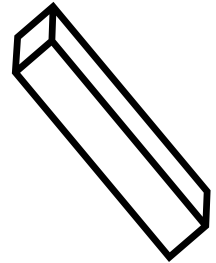


About RAID Roaming

RAID Roaming is a single Central Roaming Management Solution, enabling mobile operators to manage the entire life cycle of roaming agreements from signing, testing, rating, file exchange, fraud control, invoicing, to account settlement.

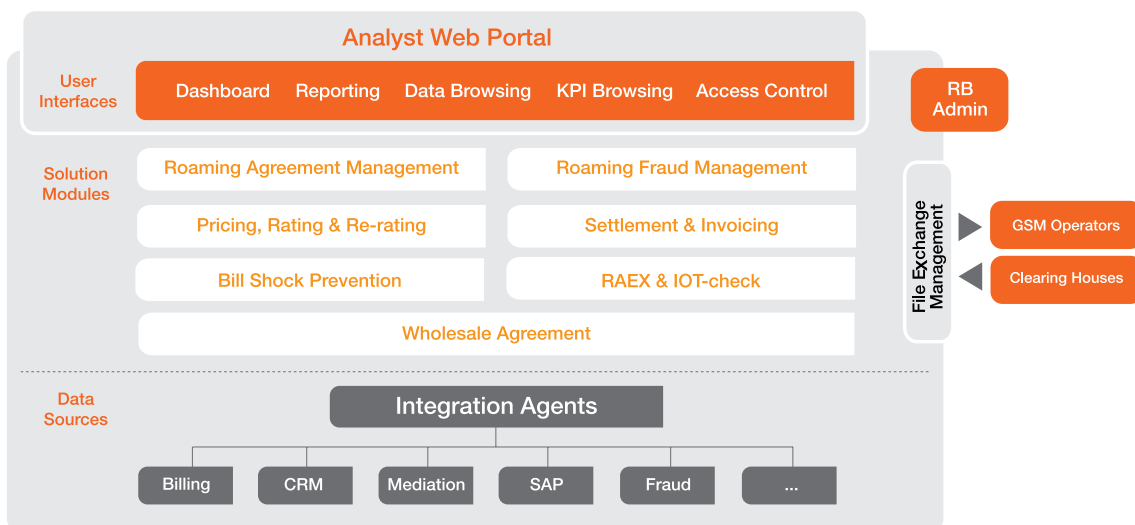
It empowers mobile network operators to take a real end-to-end control of their own roaming business, monitoring and replacing some of the Clearing Houses services; resulting in lower third-party costs, higher revenues and greater responsiveness to the needs of the roaming marketplace.

RAID Roaming assures an open data model and an easy web interface to interact with, as well as a configurable back office for features extension.



THE GOAL IS TO
**ASSURE
AND INCREASE
OUR CLIENTS'
ROAMING MARGIN**

BY CONTROLLING AND MANAGING
BILLING SERVICES & WHOLESALE COSTS



Main Features



INVOICING & SETTLEMENT

- Invoice production for roaming inbound traffic
- Credit notes support for previewed situations
- Validation of invoices received from roaming partner
- Account settlement information with overview of settlement (costs/revenues) and operational status (on payment, dispute)



RAEX & IOT-CHECK

- Support to RAEX.AA14 according to GSMA rules
- IOT check based on AA14 IOTs
- Support to latest release of the process that includes operator data and IOT file split
- Possibility to configure partner IOTs for IOT-check purposes for preferential agreements, or when RAEX from partner is not available



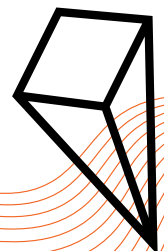
ROAMING FRAUD MANAGEMENT

- HUR and NRTRDE processes available according to GSMA specifications
- Flat rating engine upon NRTRDE traffic allows a valued analysis of roaming traffic in near real-time
- High usage analysis on HUR and NRTRDE traffic with alarm generation for possible fraud situations



PRICING, RATING & RE-RATING

- Flexible home IOT definition for standard and preferential agreements
- Advanced re-rating management for outbound traffic with Roaming bundles offer
- Flexible IMSI-rating and seasonal offers easy to configure
- Volume discounts to reward higher roaming usage
- Preview the effect of a new offer or tariff using the IOT simulation upon real traffic





ROAMING AGREEMENT MANAGEMENT

- Agreement life cycle at operator and service level
- Easy and efficient support to TADIG tests
- Document repository to centralize all relevant roaming agreements documents
- Multi-PLMN support providing a centralized solution for merged operators
- Exchanged test cards database and usage monitoring with alarm generation



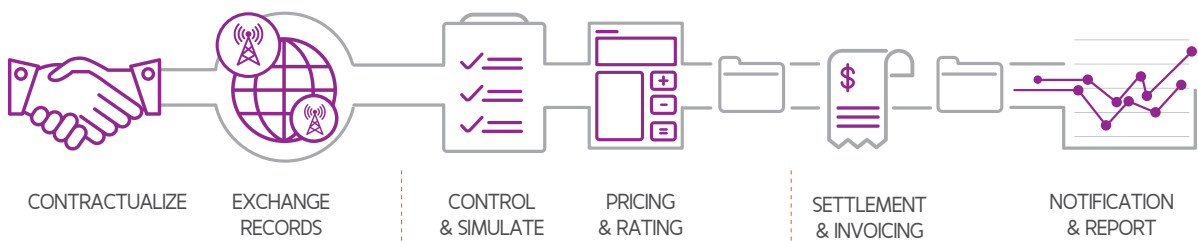
WHOLESALE AGREEMENT

- Support to most common agreement types, flexibility to build new ones based on the others, e.g., (un)balanced, send or pay, tiered discounts, min. purchase commitment, growth %...
- Wholesale agreement performance for a near real-time monitoring of preferential agreements
- Set alarms to guarantee that all agreements are evaluated at the end of the agreement period
- Negotiation tool provides all historical details about traffic and revenues exchanged with each partner to support negotiation of new wholesale agreement



BILL SHOCK PREVENTION

- Support to different bill shock thresholds per groups of customers
- Near real-time alerts through GSN traffic
- Integration with SMSC to alert customers by SMS



Use Cases

EXAMPLES

RAP IN MANAGEMENT

RAID Roaming received a RAP IN file and after Collection, since it is configured, sends an alarm by email for RAID Roaming Operator, John. John, through a web interface, can easily check the related errors and UDRs inside RAP file. John can also manually accept or dispute the entire RAP file or each UDR; if nothing is done within 10 days, RAP will be automatically accepted.

VALIDATE EVENTS/ FILE DATA AND FORMAT

For each received file (Outbound) or events collected (Inbound), data, metadata and formats are validated or assured.

In TelcoX's example, we have 2 different situations:

- A Transferred Account Procedure (TAP) outbound file was received from TelcoY with a gap in its sequence number, and was sent in an older TAP version (not 3.12 as it was configured).
- The inbound events collected from Mediation Device for TelcoZ had some mandatory fields that were incorrectly or not filled in.

All these situations will be reported in the RAID Roaming data model and will automatically feed the necessary alert reports, as configured for both business and operational users.

DATA ENRICHMENT WITH CRM INTEGRATION

TelcoX RAID Roaming periodically imports and manages CRM information, with more business data to enrich roamers subscribers, using in this case the International Mobile Subscriber Identity (IMSI) as key.

While collecting TelcoX subscribers' events from TAP IN file, it now manages further information about the segment to which they belong to, eg. prepaid, corporate, consumer post-paid or virtual operator partner. This allows different billing rate generation, bundle campaign creation and more accurate reporting.

BUNDLE OUTBOUND CAMPAIGN

For only a \$10 additional fee, all TelcoX Group post-paid customers, when roaming during summer time and using any TelcoX operator network to call home or to any other configured related country, can have the following campaign usage offer during 10 days per month, not mandatory to be consecutive: 100 MB download +50 MB upload, rounded per 1Kb; 10 min to call and 5min in received calls, rounded per 30sec; 10 SMS. Within this period, events beyond campaign limits will be charged with an additional 10% of normal price. Additionally, clients will be notified by SMS when they reach 80% of campaign limit.

WHOLESALE AGREEMENT

RAID Roaming allows TelcoX to monitor and forecast its agreements achievements, supporting a smart steering and maximizing roaming margin, e.g. three tiers agreement with TelcoY Group where Voice MO+MT = 1M minutes as baseline commitment, and a "Receive or Pay" variance between target and actual minutes with the following agreement for Voice MO: until 500K = 1,3€/min; Between 500K-1M = 0,7€/min; Above 1M = 0,35€/min; Data: until 200GB = 1€/Mb; Between 200GB-500GB = 0,6€/Mb; Above 500GB = 0,35€/Mb.

IOT-CHECK

In order to control outbound costs, TelcoX has RAID Roaming configured for IOT-Check. Depending on which was/were the operating partner/s, Roaming Agreement Exchange (RAEX) files can be uploaded and ad hoc preferred IOT discounts applied.

TelcoX then receives a TAP IN file from TelcoY operator and the RAID Roaming detects a +0,01 Special Drawing Right (SDR) difference above the preconfigured threshold.

A RAP OUT file is automatically generated and sent to TelcoY with the failed UDRs.

RAID Roaming operator John can check all of these details in the RR web interface.



ALARM NOTIFICATION

John, a RAID Roaming Technical Operator, received a RAID Roaming Alarm alerting him that there is a delay of 2 hours in receiving Inbound Mediation files.

ERROR NOTIFICATION

TelcoX RAID Roaming operator John configured it to be alerted by a daily email that summarizes all errors that he wants to be notified about, with the details of each one in separate attachments and volume of occurrences aggregated by type.

In this case, John had specified amongst hundreds of possibilities.

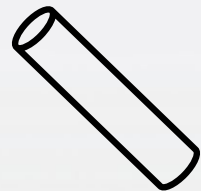
- Technical issues;
- [Format] Gaps in CSP's sequence numbering;
- [System] TAP files errors;
- [Prevent] NRTRDE inbound files delay for operator TelcoY and outbound files for all operators;
- [Business] issues that will also be sent to Maria, a RAID Roaming business user;
- [Fraud] Inbound and outbound test cards events quantity above thresholds (for all or just IMSIs of operator TelcoY);
- [Business] A wholesale agreement expiring in 30 days, as well as a rate plan which expires in 5 days. This notification allows you to renegotiate/schedule new agreements or tariffs in a timely manner;
- [Rating] IOT-Check validation failures.

SMS NOTIFICATION

Customer George received an SMS alerting him that his Roaming data limit reached 80%.

REPORT NOTIFICATION

Automatically send an email to Roaming Manager Joe with the monthly reconciliation report with all the financial data divided by service type, Inbound and Outbound, to compare with the Clearing Houses report.



RAID ROAMING

Main Advantages

BUSINESS

Roaming Managers (RM), RA, FMS

End-2-end Roaming Business control using IOT-check, Reconciliation and Invoice double-check.

Enabling Roaming hubs (Multi PLMN/Net-MVNO).

Decreasing Time-to-Market due to RAID Roaming flexibility and more independence from CHs to configure services and implement different commercial strategies using bundles.

Quick RAID Roaming setup time (3-4 months).

Monitor wholesale agreements between partners, helping agreements negotiation and achieve targets using predicted and steering analysis.

GSMA latest standards and technologies support, e.g., TAP, RAP, NRTRDE, LTE, VoLTE.

Near real-time Service Monitor & Fraud Detection.

FINANCIAL

CFO, Controllers, PMO, RM

Business Assurance due to revenue and cost control at CDR level, e.g., initial tests always find several Operator-DCHs gaps.

TCO decreases proportionally to CSP independence of existent Clearing Houses (CHs). RAID Roaming can replace several CHs services both for Inbound (visitors) and Outbound (roamers), e.g., RAEX & IOT-Check, Rating and Re-rating, Agreement Management, Invoicing, Bill Shock Prevention, Fraud features (NRTRDE, HUR), RAP/TAP Management, Financial Reconciliation and Operational Reports.

Full RAP file management cycle, including dispute events, controlling more revenues and costs.

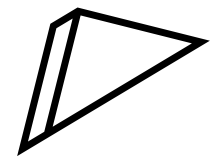
OPERATIONAL

CTO, IT, ARCH, End Users, RM

Complete and automatic control of the Roaming process in one tool.

Enable internal (eg. MD, CRM, Billing, DW, RA, FMS) and external (eg. CHs, Partners) easy integrations since format and data quality is not dependent on third-parties (RAID Roaming open Database and File model).

Easy management with intuitive web client application, including technology developed to be multiplatform, on premises or Cloud/SaaS, scalable and assuring maximum performance.

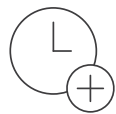


WHY SHOULD YOU BE USING RAID Roaming Management?

Business Cases to Complement Clearing Houses



Cost reducing and margin assurance w/more control



Reduce time-to-market with more flexibility



Increase business possibilities with new roaming features

Double-check FCH invoices and DCH/partners IOTs;

 Transferring part of services from DCH/FCH, both for Inbound and Outbound;

 Full control of your own and your partners' RAP files and in dispute CDRs;

 Flexible pricing, from a standard optional monthly renting model, to a monthly all-inclusive price in the Cloud;

 Act as Roaming HUB within a group or different geographies (Multi PLMN/Net, MVNO).

More flexibility to manage your own and your partners' services life cycle, e.g., quick launches;

 IOTs full control with powerful rating features;

 Invoice quickly, saving interests;

 Outbound flexible bundle campaigns;

 Dozens of reports and dashboards with ad hoc extendable possibilities.

Outbound retail re-rating;

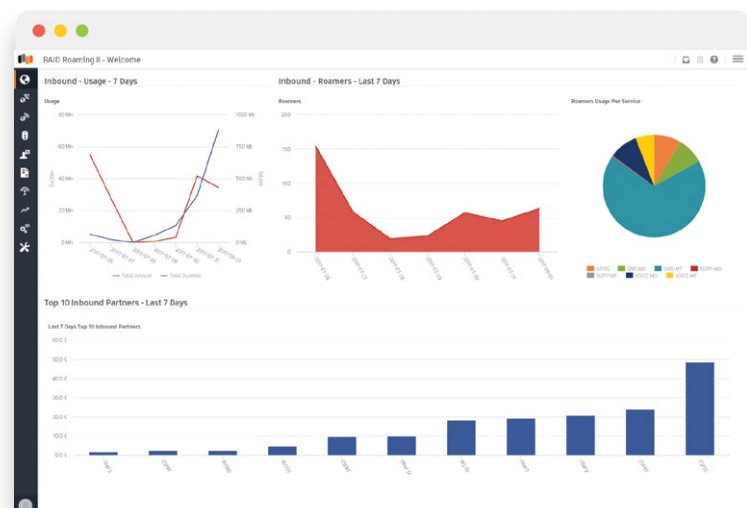
 Bundles dependent on client segmentation;

 Partners' agreements management;

 Several out-of-the-box wholesale volume discounts with predictive analysis working as a steering facilitator and supporting contract negotiations.

Complete package of dozens of predefined reports grouped by Business, Operation and Settlement

Includes a new Reconciliation report that aggregates all revenues and costs by service type, date, RAP/TAP files, among other configurable indicators both for inbound and outbound. This allows the operator to check in detail its revenues, costs and consequent margin to check against Clearing Houses or their own invoice reports.



Case Studies

EXAMPLES



MTN Cyprus Business Control & Margin Assurance

ASSURE AN END-TO-END ROAMING BUSINESS CONTROL BY REPLACING LEGACY SYSTEMS, CHECK PARTNERS' AND CLEARING HOUSES' INFORMATION.

"WeDo Technologies proved to be a valuable partner for MTN Cyprus. The professionalism of the team led to a swift, problem-free and without delay project implementation, from the moment requirements were gathered right up to "go live". Our main goal of controlling roaming business, an end-to-end methodology was successfully achieved. We can now verify our DCH/FCH and partners' traffic and IOT information, assuring minimum leaks and gaps, while having the flexibility to easily maintain and manage the RAID Roaming solution."

Mircea Petrescu MTN Cyprus Head of Roaming & Carrier Services, Revenue Assurance & Fraud



Digicel Group Flexible Rating & Hub System

ASSURE AND IMPLEMENT ROAMING BUSINESS HUB KEY STRATEGIES, AS WELL AS A FLEXIBLE RATING SYSTEM DUE TO NETWORK COMPLEXITY.

"I know what a dependable vendor means, and at the same time all the qualities that a vendor must possess can be found in the software and services delivered by WeDo Technologies. We have been using RAID Roaming product for several years now, and WeDo is extremely professional when it comes to supplying top-of-the-range services. The same can be said about their support. I am extremely satisfied with the way they conduct their business and hope you will have the same pleasant experience with them."

Arne Casteleyn Digicel Group, Head of Roaming

Digicel



Oi Brazil Management and Integration System & Advisor Expertise

EASIER CONTROL AND RELATIONSHIP MANAGEMENT WITH OTHER CSPS AND CLEARING HOUSES WHILE HAVING WEDO'S EXPERTISE AND ADVICE IN ROAMING BUSINESS STARTUP AND M&AS.

"Oi has selected RAID Roaming because it is an easy to control tool, which fully supports our daily management and makes our relationship with the other CSPs and Clearing Houses easier. The choice of this solution was also determined by the vast experience WeDo Technologies demonstrated. Their advice helped us map and determine the paths to be followed by Oi in the world of International Roaming. It allowed us to maintain an excellent level of operational control of the roaming-related activities."

Marcelo Conde Billing Manager

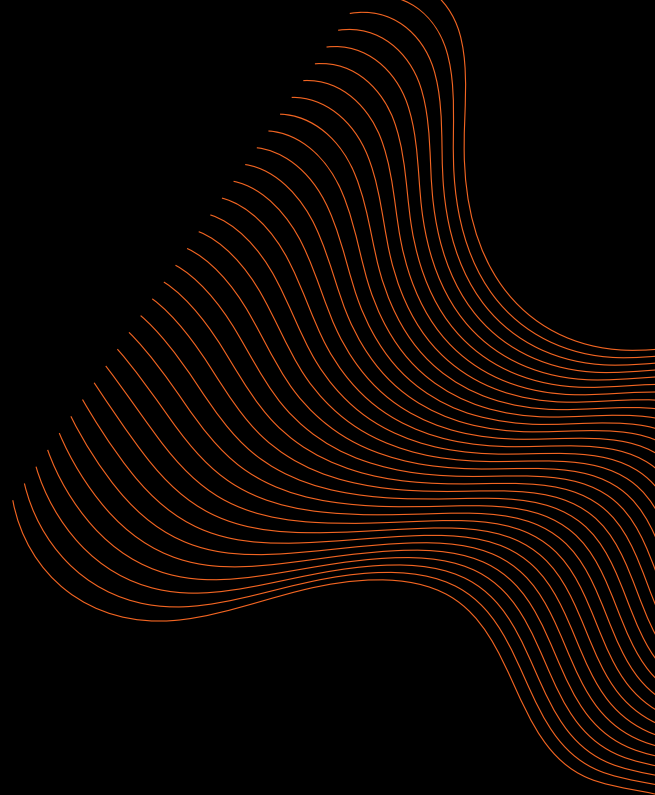


North American Carrier Control Traffic Events & Minimize Financial Losses

ASSURE AND INCREASE ROAMING MARGINS, BY CONTROLLING AND MANAGING TRAFFIC EVENTS AND WHOLESALE AGREEMENTS.

"We were able to identify 8% more billable roaming records once RAID Roaming was implemented, adding millions of dollars to our bottom line. Not only did RAID Roaming improve our roaming revenues, it allowed us to take more control over our overall roaming business."

Roaming Manager Wireless Operator



With WeDo's RAID Roaming solution, we can now verify clearing house reports, partner traffic and even IOT-related data, assuring minimum leaks and gaps. All through a solution that is both flexible and easy to use, manage and maintain.

MIRCEA PETRESCU

MTN Cyprus, Head of Roaming & Carrier Services, Revenue Assurance & Fraud

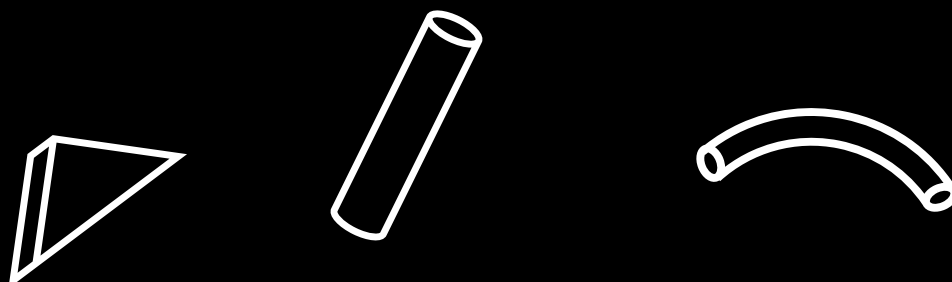
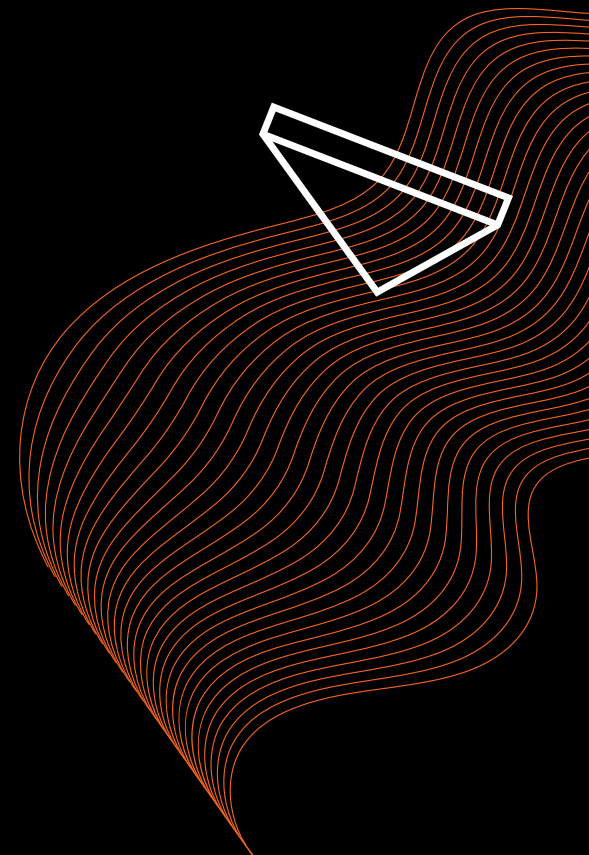
WeDo Technologies,

founded in 2001, is the market leader in Revenue Assurance and Fraud Management software solutions to Telecom, Media and Technology organizations worldwide. It has also +15 years of experience in managing and supporting different roaming business, spread across 43 countries.

WeDo Technologies provides software and expert consultancy across +105 countries, through a +600 network of highly skilled professional experts, present in the US, Europe, Asia-Pacific, Middle East, Africa, Central and South America.

WeDo Technologies' software analyzes large quantities of data allowing to monitor, control, manage and optimize processes, ensuring revenue protection and risk mitigation.

With over 180 customers - including some of the world's leading blue chip companies - WeDo Technologies has long been recognized as the constant innovator in assuring the success of its customers along a journey of continuous transformation.



Did you know ?

That RAID Roaming has +15 years of experience in managing, and supporting different roaming business realities, within 5 continents and spread across 43 countries?

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