Using Big Data and Analytics Insight to Improve Customers' Retention and Value

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What You Should Know ABOUT US

A leading supplier of Revenue Analytics solutions to communications and digital service providers

Founded: 2001

300 employees in 15 locations worldwide

Deployed at 7 out of the 10 largest operators in the world

150 customers in 64 countries

Globally processing 150 Billion xDRs per day, 55 Trillion xDRs per year

Contributing over $12 Billion to providers annual revenue

Partnering with world leading vendors
64 Countries

**North America**

**USA**
- AT&T, Sprint, Alaska Telecom, Sovereign, ATN, Commnet, Altel, Islandcom, CelluarOne, Choice
- Bell Canada

**Canada**
- AT&T, Sprint, Alaska Telecom, Sovereign, ATN, Commnet, Altel, Islandcom, CelluarOne, Choice
- Bell Canada

**CALA**

**Brazil** - Vivo, TeleSP, TIM, Embratel, CTBC
- Mexico - Movistar/Telefonica, Iusacell
- Argentina - Movistar/Telefonica, Telecom
- Peru - Movistar/Telefonica
- Chile - Movistar/Telefonica
- Ecuador - Movistar/Telefonica, CNT
- Colombia - Movistar/Telefonica
- Venezuela - CANTV, Digitel, Movistar/Telefonica
- Guatemala - Movistar/Telefonica, Telgua
- El Salvador - Movistar/Telefonica, Claro
- Panama - Movistar/Telefonica, Cable & Wireless
- Nicaragua - Movistar/Telefonica, Claro
- Costa Rica - ICE
- Caribbean's – Cable & Wireless, Digicel
- Puerto Rico – PRTC
- Guyana - GT&T
- Uruguay – Antel

**Africa**

**South Africa** – MTN, Vodacom
- Uganda – Uganda Telecom
- Zimbabwe – TelOne

**Ivy Cost** – MTN
- Namibia – MTC, Telecom Namibia
- Angola – Angola Telecom

**Europe**

**UK** – BT, O2, Orange, T-Mobile, Colt, Three, Sky, VirginMedia, Cable & Wireless
- Germany – DT, Vodafone, E-Plus, 1und1
- France – France Telecom, Orange
- Spain – Telefonica, Telefonica Moviles, JazzTel
- Italy – Telecom Italia, TeleTu
- Switzerland – Swisscom
- Austria – A1 (Telecom Austria Group)
- Sweden – Tel2, Telia, Telenor
- Denmark – Telia
- Netherlands – KPN, Telfort, Orange, Vodafone
- Ireland – O2
- Lithuania – TEO, Omnitel
- Finland – DNA
- Portugal – PT, ZON
- Liechtenstein – Mobilkom
- Belgium – BICS

**East & Central Europe**

**Russia** – RosTelecom, Uralsvyazinform
- Ukraine – Kyivstar
- Belarus – BelTelecom
- Georgia – Magticom
- Kazakhstan – KazakhTelecom
- Turkey – Vodafone
- Greece – Cosmote, HOL (Hellas Online), Porthnet
- Albania – AMC (Cosmote), Plus
- Romania – Cosmote
- Serbia – Telekom Serbia, Vip mobile
- Slovakia – Orange Slovakia
- Bosnia Herzegovina – Telecom, Srpske
- Croatia – Croatian Telecom T-HT
- Bulgaria – Mobiltel
- Poland – T-Mobile
- Macedonia – Vip operator
- Slovenia - Simobil

**APAC**

**India** – Vodafone, Airtel
- Vietnam – Mobifone
- Philippines – Bayan, Globe
- Australia – Three (H3G), Optus
- Thailand – CAT
- Singapore – MobileOne
- Macau - GTM
- Israel – Bezeq, Bezeq International, Cellcom, Orange, Telephone, YES, HOT
- Palestine – PalTel
- Fiji – Digicel
- Papua New Guinea – Digicel
- Sri Lanka - Mobitel

**150 Customers Worldwide**
What data is available to Telco’s

Usage Data - Events (CDRs, xDRs)

Location Data

DPI data

Customer information – (e.g. age, address, services, organization, id, email...)

Customer interaction information (payments history, complains history, churn)

Customer social information (who he calls, who calls him, when, duration....)

Data from external sources – Facebook, tweeter, web...

Competitors plans
What can be done with this data

Revenue Assurance (detect and prevent Revenue Leakages)

Design price plans & Best offers

Detect Fraud

Increase customer satisfaction and prevent churn

Cross and pre sale

Enable targeted advertising

And much more, plan traffic routes, prevent infections propagation,......
First Example – Revenue Assurance
Detected Leakage % of revenues
- 98% Revenues
- 2% Leakage detected

Recovered %
- 31% Recovered
- 69% Unrecovered

Recoverable and Unrecoverable % of un-recovered revenues
- 43% Recoverable
- 57% Unrecoverable
IMS and LTE Network

Radio Access Network (RAN)

Wholesale I/C Billing system

Postpaid Billing system

Provisioning events

Accountable usage events

IP Network

Evolved Packet Core (EPC)

Internet

PSTN/PLMN

AS

MGCF

CSCF

PDF

OFCG

SPR

PCEF

PCRF

MME

S-GW

ePDG

P-GW

Radio Access Network (RAN)
e-NodeB

IMS

ERP

CRM

Postpaid Billing system

Wholesale I/C Billing system

Provisioning events

Accountable usage events
The Challenge

- Daily input of ~12 billion records in various formats
- Find discrepancies between sets of ~40 billion records
- No exact matching (clocks differences, partial information, rounding differences, similar but not exact values)
- Need to detect also best match
- Cost effective
- Robust, and capable of manage significant delays in inputs
- After discrepancies are detected, need to enable near-real time analytical investigation

Naïve sort and match will not work
The Solution

- Events and transactions files
- Multiple formats
- Fragmented info

- Formatting
- Enrichment
- Correlation
- Purging

- Mediation
- Records
- Files
- Events
- Discrepancies
- Aggregations

- Drill down/trough
- Records
- Indexes to files
- Aggregations

- DB
- OALP
- KPI, KRI

Comparison Engine
Second Example – Design and offer Price Plans
Impact

CMOs need flexible analytics solution to **model multiple new plans** and benchmark versus competitors’ offering
- Control customers’ migration and potential income dilution
- Consider behavioral changes due to price plan change

Advanced Insights

- CMO want to utilize **clickstreams data and voice transactions** to cross-sale and up-sell their own as well as 3rd parties offering (e.g. shows tickets, loyalty programs, etc.)
The Challenge

• **The goal**, increase customers’ satisfaction, reduce churn, and increase revenues

• **The method**: Design new price plans, estimate their impact, and propose next best offer to customers

• **The volumes**: 54 Billion events (30 Million subscribers, 10 events per subscriber per day, history of 6 months)

• **The requirements**: cost effective (e.g. hardware costs), analyze multiple price plans in parallel, offer the right plan to the right customer

Using a regular billing system will not do the trick
cVidya Solution Overview

**Pricing plan implementation**
- Price Plans from billing
- New Price Plans by Marketing
- Competitors Price Plans

**Scenario & Rating definitions**
- Selection of price plans, options and customers for rating
- Filter eligible rate plans based on pre rating parameters

**Rating and bill calculations**

**Results database**

**Process Audit & control**
- Reports, logs and alerts

**Business rules definitions**
- Filter results based on post rating business targets definitions
- Priority definitions for eligible options: best, 2nd best, ...

**Export to CRM & Campaigns**
- Reports, detailed results for each subscriber
- Web interface

**Extract eligible subscribers data**
- Rated CDRs
- Customer Data
- Invoices Data

**Business rules simulations**

**Financial impact simulations**

**Price plan implementation**
The result Advanced Insights – Cross-sale and up-sale

You will save 10€ by moving from unlimited to 2GB bundle. Register to this package and get 3 months of free access to live sport streams at premium speed.

You will save 10€ by moving from unlimited to 2GB bundle. Register to this package and get 1 month of free access to “shape-up” gym club near your office.
Your Success is Our Business