

Data Warehouse Model for Telecommunications

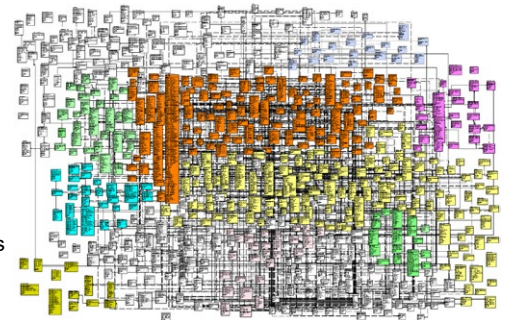


Poslovna Inteligencija Telecommunications Data Warehouse Data Model (PI Telco DWH Model) is a standard industry data warehouse model applicable for fixed and mobile telecommunications operators, covering traditional Business Intelligence requirements including GDPR and IFRS 15, Big Data Analytics and IoT requirements. More than ten mobile, fixed and broadband operators at three continents with more than 45 million subscribers are using PI Telco DWH Model for their analytical systems. The logic of the model follows **TM Forum's Information Framework Shared Information Data Model (SID)**, as a common reference model that software providers, and integrators use to describe enterprise management information. **PI Telco DWH model @ is TM Forum Framework 18.5 Certified Product.** Based on data represented, it allows delivery of all standard Telecommunication reporting and analysis Data Marts. The ones already in regular usage are pre-defined as model Subject areas.

PI Telco DWH Model Benefits for Operators

- Delivers **competitive advantage** by enabling clean data consolidation across multiple systems
- Supports **rapid implementation of warehousing solutions** with meaningful data
- Facilitates a structured approach to subsequent customization and extension of the data warehouse
- Enables business users to more **effectively control and reduce time** taken to scope their requirements
- Provides a solid basis for **statutory reporting and relationship management** supporting decision making and executive information applications
- **Minimizes development costs**
- **Reduces the risk of failure** by facilitating an incremental approach to delivering integrated data warehouse solution
- Currently **used by several operators**, large and small, around the world
- Fosters **collaboration between business and IT** to turn business requirements into actionable solutions
- **Comprehensive** – collecting content from multiple client engagements and turning it into a suite of related Subject Areas - with a proven methodology and models that require minimal customization.

PI Telco DWH Model is also addressing new Big Data Analytics requirements, related to data from sensors, Machine to Machine data and Internet of Things. Model supports location based analytics, deep packet inspection functionalities and provides foundation for integration of structured and non-structured data for unified analytical layer.



PI Telco DWH Model Highlights

- Based on **industry best practices** developed during data warehouse system implementations in Southeast Europe - it is open for all necessary modifications to adjust to individual telecom customer needs
- Based on a **strong Primary Key** – Foreign Key relationships that assure consistency in the model itself, and in the content of the implemented Data Warehouse System
- **Developed with CA ERWin** - requiring ERWin license to view or change, but exportable to any other standard database modeling tool formats
- The current version of the model consists of more than 700 Entities (Tables) grouped in 44 Subject areas, with more than 8.000 attributes, more than 1.100 relationships and more than 1.800 keys.

COMMON BUSINESS

- Business Items and KPI's Subject Area
- Common Subject area
- Engaged Party Subject area
- Product Subject area
- Location Subject area
- Event Subject area
- Order Subject Area
- Policy Subject Area
- AI model Subject Area
- ETL Process Execution Audit Subject Area

CUSTOMER, ACCOUNT & SUBSCRIBER

- Customer Subject area
- Rate Plan Subject area
- Sales Subject area
- Number of Subscribers Subject area
- Loyalty Program Subject area
- Contact Center Subject area
- Churn Prediction Subject area
- Market Segments Subject area
- Marketing Campaign Subject area
- GRPR Compliance Subject area
- Customer Experience Subject area

REVENUE & USAGE

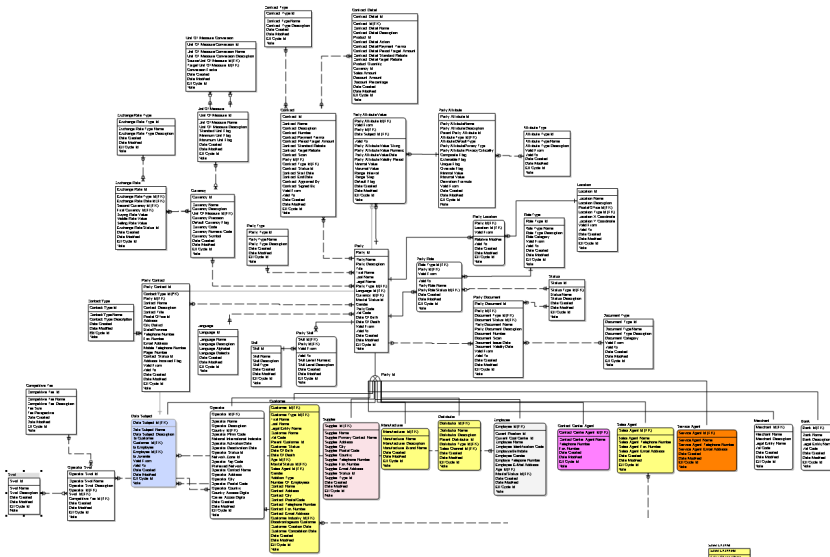
- Recharge Subject area
- Revenue and Collection Subject area
- Dunning Subject area
- Traffic Subject area
- Traffic Aggregations Subject area
- IFRS 15 Reporting Subject area
- Interconnection Subject area
- Mobile Payments Subject area
- Subscriber Location Subject area
- Market Share Subject area
- Content Subject Area
- Internet of Things Subject area

FINANCE & HR

- Finance Subject area
- CAPEX Subject area
- Procurement Subject area
- Human Resources Subject area

INFRASTRUCTURE, WORKFLOW & INVENTORY

- Service Subject Area
- Inventory Management Subject area
- Project Subject area
- Quality of Service Subject area
- Resource Subject area
- Resource Capacity
- Management Subject area
- Service Provisioning
- Management Subject area

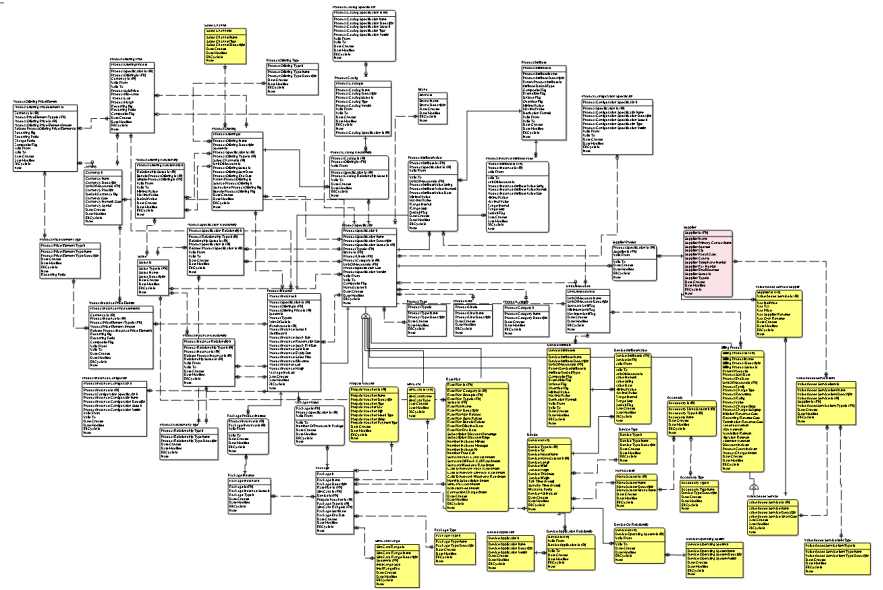


PI Telco DWH Model Engaged Party Subject Area

Visually representing Engaged Party Subject Area definitions of Party entities and subtypes, and also relationships definitions.

PI Telco DWH Model Product Subject Area

Visually representing Product Subject Area including information about logical organization of Product related entities and types of products, including packages and detailed attributes of devices.



INTELLECTUAL PROPERTY

PI Telco DWH Model is an exclusive intellectual property of Poslovna Inteligencija. PI grants a nontransferable and nonexclusive right to use the PI Telco DWH Model, with delivered customizations and extensions to its Customers who purchased the model.

BIG DATA ANALYTICS

DATA INTEGRATION

PREDICTIVE ANALYTICS

BUSINESS INTELLIGENCE

DATA WAREHOUSING

DATA QUALITY

PLANNING AND BUDGETING

DATA GOVERNANCE

MASTER DATA MANAGEMENT

FINANCIAL CONSOLIDATION

ANALYSIS, DESIGN, DEVELOPMENT, IMPLEMENTATION, SUPPORT, EDUCATION

Poslovna inteligencija offers the best market available data management solutions, and provides implementation services using the leading global technologies and methodologies in combination with its years long accumulated knowledge and expertise.

ABOUT POSLOVNA INTELIGENCIJA AND BIRD CONSULTING

Poslovna Inteligencija is the leading consulting company in South Eastern Europe, specialized in implementation of intelligent information systems for decision support. The company was founded in 2001. In a short period of time, the company has been recognized as a market leader in business decision support area. Today Poslovna Inteligencija has offices in Zagreb, Ljubljana, Belgrade, Podgorica, Sarajevo, Vienna and London. Poslovna Inteligencija has more than 130 employees, and more than 100 of them are top consultants. They have been engaged for years in the largest Data Integration, Data Warehousing, Big Data Analytics, Performance Management and Business Intelligence projects, and have a vast experience. This knowledge is realized through the areas of business activity and vertical solutions. The company shows a distinct expertise in understanding business processes in medium

and large companies in various industries (banking and finance, telecommunications, manufacturing, retail, wholesale and distribution), in the of knowledge of implementation methodologies, and knowledge of leading technologies. Poslovna Inteligencija is the market leader, not only by the number of consultants and their diversified knowledge, but also by more than 200 delivered Data Warehousing, Business Intelligence and Performance Management projects in all industries in the region and Europe. Poslovna inteligencija is regional distributor for Informatica, Software Value Plus Partner for IBM Cognos, IBM SPSS, IBM Netezza and IBM InfoSphere platforms, HPE Vertica Tier 1 partner for Adriatics, Microsoft Gold Certified Partner, regional VAR for Tableau and Panorama. **Don't hesitate to contact us or our implementation partners for further details!**

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