



Company profile

# Busin

# ess

Delta Solutions LLC provides high-quality services for the development, implementation and maintenance of software of any complexity in the field of telecommunications.



*The company also offers consulting services, carries out delivery of the equipment and software.*

# Direc

# tions



## Service Control and Charging

- Online and Offline Mediation
- Policy Control Solutions
- System Quality Management
- Customer Experience Management
- AAA-server
- Real Time Charging

## Service Provisioning

- Mobile Service Provisioning
- Fixed-line service provisioning
- Managed Services
- Mobile Number Portability
- Resource Management
- Self-Care



## IT - infrastructure

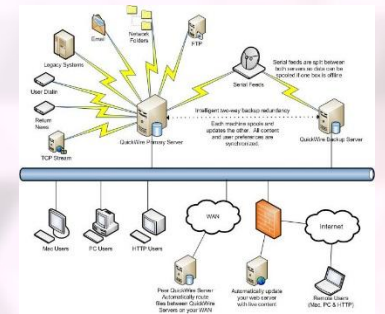
- Building a data center
- Building a network infrastructure
- Monitoring and management of IT infrastructure

- Virtualization
- Cloud solutions



## Network Switching Subsystem

- Signaling Transfer Point
- Home Location Register
- Equipment Identity Register
- Management solution for EIR
- Home Subscriber Server
- System SMS Anti-SPAM



# Customers

MAIN CUSTOMERS:  
and  
partner



KEY PARTNERS:



NetApp™







# Implemented projects

# Projects:

**MANAGED SERVICES**

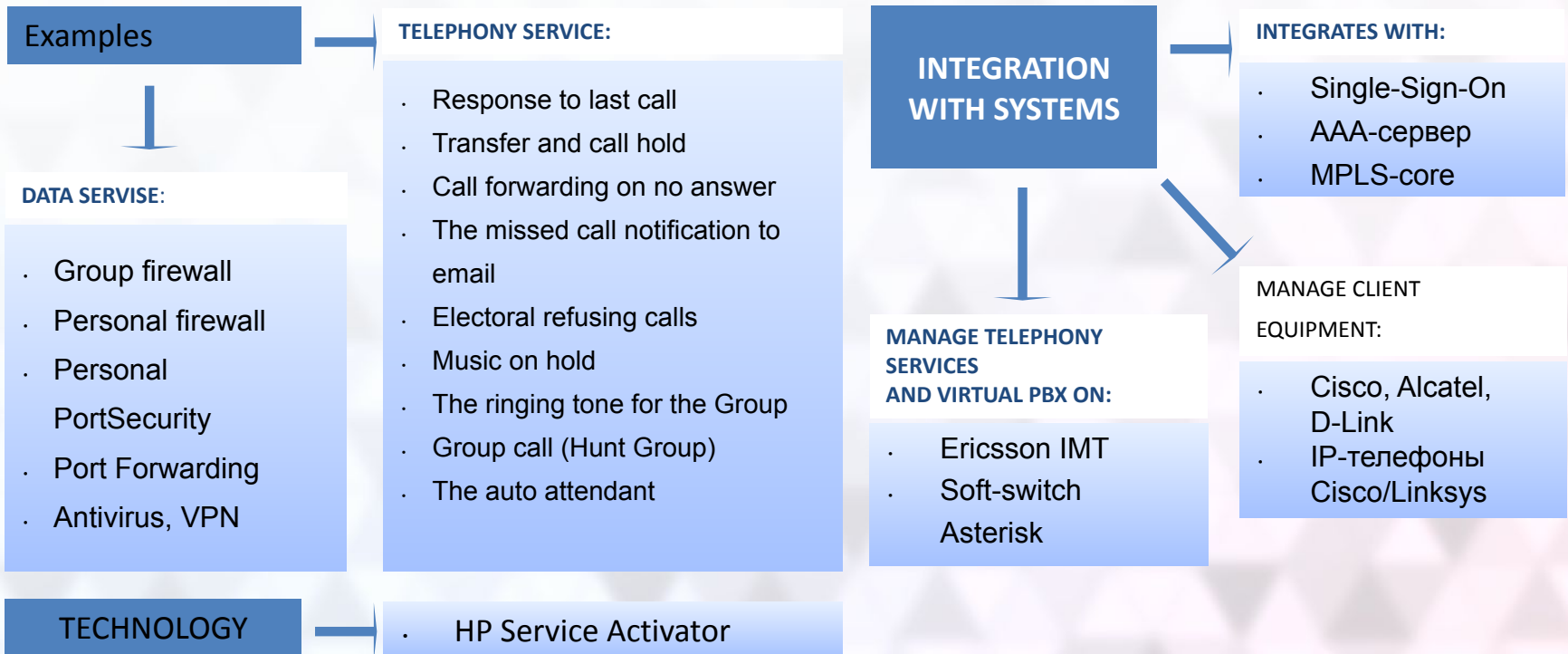
**PROVISIONING SYSTEM**

## Service

provides customer service SMB-Client's CaaS (Communication-as-a-Service) with the ability to manage services and their settings through the self-service portal



The solution includes centralized management of all client devices that provide an access to the services (Internet, telephone service, VPBX services), operator applications and service platforms, as well as self-service portals and monitoring and administration operator portals.



# Projects:

**AUTO BLOCK UNBLOCK FIX** – providing B2B-Clients automatic lock/unlock fixed services

## Service



The system provides the Client with an automatic lock/unlock phone and Internet services customer system on fixed-line communication equipment .  
The system produces a report indicating the execution status of the automatic lock for all services available to the Client .

### Project scope:

The system handles more than 30,000 customers under scenarios of debt a month

### INTEGRATION

#### SYSTEM CONTROLS THE LOCK/UNLOCK SERVICES:

- O/BSS (Ordering, SRI, NRI, CRM, Billing)
- Internet access (Cisco, Juniper, RADIUS-сервера)
- VPN
- Voice services (Soft-switch Mera, Asterisk, Switches и PBX: Iskratel, Ericsson. Avaya, Alcatel, Nortel и пр)
- Прочие VAS услуги

### TECHNOLOGIES

- HP Service Activator

# Projects:

«**THE AGGREGATION PLATFORM SAAS**» – the aggregation platform for the provision and automate operations for various providers with SaaS.

## Service



The system provides a set of relevant management portals SaaS showcase, shop, private office, automatic service activation platform and support to other scenarios of life cycle services, scripts, customer care and compensation scenarios unauthorized modification services to Customer B2B-Clients. Performs the tasks of the resource reservation at the stage of sale and release.

- Project features:**
- Collection of primary inventory information from the service platform
  - The migration of subscribers

### INTEGRATION

- O/BSS (Ordering, NRI, SRI, CRM, Billing, ESB)
- SaaS Providers

### TECHNOLOGIES

- HP Service Activator



# Projects:

## "AUTOMATIC CONTROL ACCESS TO INTERNET RESOURCES SYSTEM" -

### Service

Automating the process of information on the Internet in accordance with the requirements of the legislation of the Russian Federation (139 - FZ, 149-FZ, 114-FZ, 187-FZ of 02.07.13)



- The system automatically performs periodic polling of the list of the Internet Roskomnadzor prohibited resources and restrict access to fixed and mobile networks of the Customer.
- The system performs constraint checking in all regions where the company operates, reporting and notification monitoring services Company.

#### Project scope:

- Operation - 24/7
- The average time for complete processing of the file-upload - 20 minutes
- Lock in a fixed network is less than 5 minutes
- Storing the history of the state of the Local registry - 3 years

#### INTEGRATION

- DPI mobile and fixed networks
- Regional monitoring (sample) performance lock
- Unified register of banned websites ILV
- Providing an API to poll the status of resources

#### TECHNOLOGIES

- HP Service Activator
- Jboss AS

# Projects: Service

**CONVERGENT ONLINE MEDIATION PLATFORM** – system for the implementation of charging data in real time

## Control and



- quota management for prepaid and postpaid subscribers, depending on the policy, APN, URL, time, location, direction, subscribers equipment, network 2G/3G/4G/FTTB/Wi-Fi/LTE, service packages (Time packages, Traffic packages, Event packages(click, melody, MMS ect.))
- Ensuring of the continuous services provision for prepaid and postpaid subscribers in case of unavailability of prepaid-platform, with follow-up tarification of the provided services
- Has a subsystem of background information, provides mechanisms to query processing rules-based business logic, the mechanisms of integration with monitoring systems and mechanisms to ensure reliability and load balancing

**Project scope:** The total load on the system more than 25,000 tps

Volume directories: 100 million records

### INTEGRATION WITH SYSTEMS

Protocols:

- Radius,
- Diameter,
- GTP',
- OSA/Parlay

Integration with equipment:

- Alcatel iGGSN
- Ericsson SASN
- Nokia Flexi ISN
- Huawei GGSN
- Cisco CSG etc

### TECHNOLOGIES

- HP Internet Usage Manager
- TimesTen
- Couchbase

# Projects: Service

**CONVERGENT OFFLINE MEDIATION PLATFORM** – centralized CDR processing

## Control and



- implements the data processing from network elements and platforms in offline mode and data transfer in OSS/BSS systems (billing system, FMS, Interconnect, SORM)
- Supports more than 30 file formats (ASN.1, binary, XML, CSV), implements the control file integrity and CDR, provides mechanisms reprocessing files and CDR
- Provides filtering, aggregation, correlation, normalization of data, control duplicates the processing of long calls
- The system has a unified architecture and business logic for all types of input data

**Project scope:** More than 20 types of input data  
More than 10 types of output systems  
Total traffic - 2 billion. CDR/day.

### INTEGRATION WITH SYSTEMS

The system collects data from the following sources:

- Alcatel 5020 WCS
- Ericsson CME20
- Huawei MSC
- Nokia MSC
- Siemens D900 and other

### TECHNOLOGIES

- HP Internet Usage Manager

# Projects: Service

**IP MEDIATION** – the system of collecting and processing information about internet и VPN traffic consumption



Beeline™

## Control and

- Implements parsing of the Netflow packets, packet filtering with the white/black lists of IP addresses, the aggregation for a configurable period for a dynamically generated keys
- Includes a proxy module that implements a load balancing between sensors
- Provides a survey of SNMP devices on the list from the database with periodic updates.
- Provides automatic selection of the SNMP version for each device with the ability to periodically update the information
- Implements integration with monitoring systems for notification of errors and unavailable SNMP devices

**Project scope:** Total load:

Netflow - 200 000 tps

SNMP polling 5000 devices every 5 minutes

### OPPORTUNITIES

Protocols:

- Netflow v5, v9
- SNMP v1, v2c, v3

### TECHNOLOGIES

- HP Internet Usage Manager

# Projects: Network

## IMPLEMENTATION AND MAINTENANCE HLR/AUC/EIR SITES Switching Subsystem Beeline™

in countries where "Beeline" (Kazakhstan, Georgia, Tajikistan, Armenia)  
HLR is a database used for storing and managing subscriber profiles in GSM/UMTS.

### Project scope:

- 4 countries;
- More than 10 000 000 subscribers;
- Distributed architecture and geographical redundancy solution with data replication.

### The solution includes:

- Planning, design, implementation and maintenance of the infrastructure of network components;
- Architecture design, implementation and maintenance of the platform;
- The customer training;
- Support solutions 24/7

### TECHNOLOGIES

- The HP OpenCall;
- Support 3GPP standards;
- Work on 2G, 3G, IMS, EPS;
- Consolidation solutions: AuC, HLR, HSS, SPR, EIR on a single platform

### EQUIPMENT

- High-performance HP NonStop server;
- Network equipment HP/Cisco



# Other

## Projects

**CONVERGENT OFFLINE MEDIATION PLATFORM** – centralized processing of CDR



CJSC «Volgograd GSM»

**PROVISIONING SYSTEM** – implements the automation of the full cycle management of Triple Play services over GPON.



**IMPLEMENTATION AND SUPPORT FOR INTELLIGENT PLATFORM SMS ANTI-SPAM** -



Module SMS Anti-SPAM is deployed in the network to control, detect and block SMS messages that contain spam, viruses etc.



**Thank you for attention!**