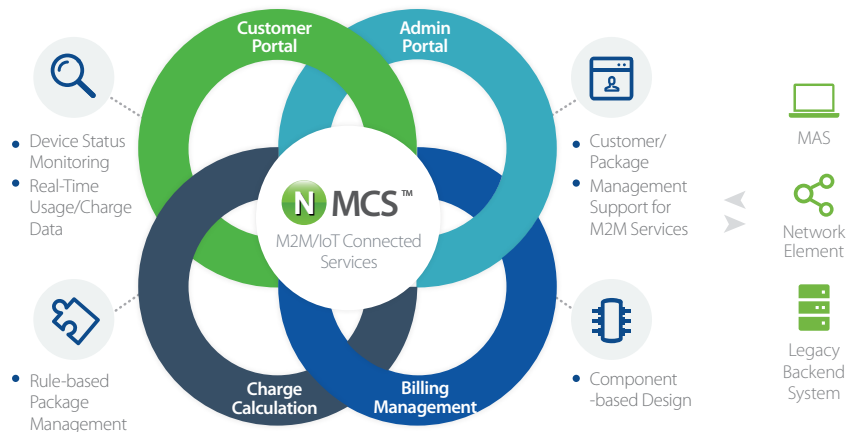




M2M Connected Services

NTELS M2M Connected Service (MCS) is an integrated operations solution for M2M-related services.

The solution consists of the Self-Care Portal for monitoring of customer services and devices and Admin Portal for management of customers and SIMs, and billing solution for fast, accurate charging and billing. With rule-based creation of service packages, MCS allows service providers to quickly apply to M2M-related services, which can help reduce operational costs and improve customer satisfaction.



Business Models

Communications Service

- Real-time and periodical billing for fixed/mobile (voice/data/SMS), Internet, VoIP, and IPTV services
- Support for WCDMA, LTE, and IMS networks

Cable TV Service

- Billing for cable TV, video content (VOD), Internet, and VoIP services
- Quadruple service: bundling of cable TV, VoIP, Internet, and MVNO services

SMB B2B e-Commerce Service

- Billing for B2B e-commerce services for small/medium businesses
- Support for pre-billing¹ and SaaS²

Utilities Service

- Batch billing for utilities services
- Support for various billing cycles

Gaming Service

- Billing for online and mobile games (usage or content-based)
- Support for prepaid and postpaid billing

Consulting Service

- Billing-related comprehensive consulting for SMB

Note 1: Pre-billing refers to the process of collecting service-specific usage data and converting to billable format.

Note 2: SaaS (Software as a Service) refers to the delivery of the software through the Internet to multiple customers/tenants.

Features

Real-Time Device Status and Charging Data Monitoring

- Device status (activated/deactivated) and location monitoring for customers
- Real-time collection of usage logs to provide account-specific charging and billing data

Self-Care and Admin Portals

- Self-Care Portal for customers to manage and monitor their devices and subscribed services
- Admin Portal for operators to manage customer profile, and monitor customer revenues and the usage of resources (SIM and MSISDN) assigned to the customers

Rule-based Engine

- Charge calculation based on the rules defined in the Product Lifecycle Management System (PLMS)
- Fast implementations of new pricing schemes without modification of the application code

Component-based Design

- Component-based scalability and flexibility, which enables the operation of selected rating/billing functions, easy functional expansion as the business grows, and adaptability to a wide range of M2M/IoT services

IoT Billing & CRM

M2M Connected Services



Key Functions



Self Care Portal

Self-Care Portal for customers to view the status of M2M services and charging data, and register devices with the system

- Customer portal to access M2M/IoT platform services
- Device registration and activation by customer
- Service subscription and termination by customer
- SIM and contract change by customer
- Usage and charging data
- Device status and location monitoring



Admin Portal

Comprehensive management of customers and resources for M2M services

- Customer account management
- Package product management
- SIM management and assignment
- Developer management
- Application management



Rating and Charge Calculation

Real-time collection of usage logs and rating/charge calculation according to the pricing plan of customers

- Real-time usage log collection
- Product and customer information collection
- Collection of usage-based charges calculated in rating
- Onetime charge, recurring charge, and discount calculation



Billing

Calculation of the bill amount based on the charging data per payer basis and generation of invoices

- Real-time usage log collection
- Product and customer information collection
- Collection of usage-based charges calculated in rating



Provisioning Gateway

Provisioning gateway interfacing with legacy network elements to send orders made through the Self-Care or Admin Portal

Use Cases

M2M/IoT Platform for MNO/MVNO

We implemented an integrated M2M/IoT service operations system for product & customer management, charging, billing, and invoicing. With rule-based creation of service packages, the system allows MNO/MVNO to quickly roll out new services and pricing schemes without modification of the application code.

Background

- Increasing complexity of charging models and need for multi-play services
- Demanding requirements of interfacing with network elements
- Needs for comprehensive statistics and analysis on processes

Implemented Solutions

- Product Lifecycle Management System (PLMS)
- Mediation
- Rater
- Provisioning
- Billing & Revenue Management (BRM)

Benefits

• Customer Self-Care Services

Our Self-Care portal allows the customer to register devices with the system and view the locations of devices, real-time charging data, and bill amount.

• Minimized Errors, Dynamic Pricing, and Bundling

Operational efficiencies have been improved with rule-based convergent charging and billing, which minimizes errors in charging data and enables dynamic pricing and bundling of products and services.

• Streamlined Billing Process

All tasks related to billing have been streamlined and as efficient as possible through adoption of flexible rule-based billing infrastructure and optimization of the operating environment (e.g., re-definition of processes and optimized scheduling).



Celcom
M2M Connected Service



Onse Telecom



SK Broadband
B-Cube System



CJ Hellovision
MVNO System