



CELCOM SOLUTIONS

Smart City and Convergent Platform for ICT & Utilities

12TH JANUARY 2017

ABSTRACT

Telecommunications industry has been growing tremendously making way for newer technologies, innovations, speed and reach. The growth of Telecoms has become part of our lives, where the reach has expanded to residential, enterprises, Government and several other sectors.

We have seen the speeds reaching Gigabits through FTTH-GPON and now even on mobile broadband through the newer 5G coming into the market. Telecoms has been backbone for industries including M2M, IOT and lately Smart cities utilizing it to offer innovative services to customers.

Celcom Solutions has been catering to service providers in the areas of Transforming ICT services in both Wireline and Wireless arena. Celcom Solutions brings unique experience of OSS BSS & Smart Cities.

Most of us know, the term Greenfield denotes 'starting on a clean slate', i.e. without any prior constraints with regards to networks, business processes and Information Technology (IT)/system estate. Celcom Solutions has performed a greenfield implementation in Middle East to power Smart City to offer OSS BSS for ICT and Utility services which includes implementing convergent platform to offer both ICT & Utility services on single platform.


In recent years, there has been interests from several countries to offer Smart Cities and India is now embarking 100 of them. Lately the convergence has gone beyond telecom and the new need is to have a single invoice for all services – ICT & Utilities, which demands for Convergent Platform for rating, billing and invoicing.

Celcom Solutions can play a vital role to offer its state of art – one stop solutions from IT front. This document briefs about our capabilities and offerings.

What is a Smart City?

A Smart City connects human capital, social capital and ICT infrastructure to address public issues, achieve a sustainable development and increase the quality of life of its citizens.


Typical offerings in a Smart City include the following



The diagram shows a central blue circle labeled 'Utilities'. Surrounding it are icons for 'Electricity' (lightbulb), 'Water' (faucet), 'Gas' (flame), and 'Smart Parking' (car with Wi-Fi signal).

Utilities

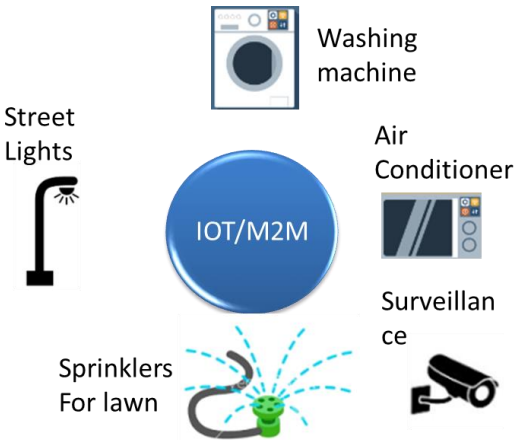
- Water & Chilled Water
- Piped Gas
- Electricity
- Smart Parking based on hourly, monthly and yearly parking subscriptions
- Vehicle Charging



The diagram shows a central blue circle labeled 'Telecom Services'. Surrounding it are icons for 'Voice' (phone), 'Wifi' (antenna), 'IPTV' (TV with Wi-Fi), 'Broadband' (router), and 'IP VPN' (router with Wi-Fi).

Communication Services

- Voice, IPTV, Broadband for residential
- Voice, Broadband & IP VPN for Enterprises
- Wi-Fi



The diagram shows a central blue circle labeled 'IOT/M2M'. Surrounding it are icons for 'Street Lights', 'Washing machine', 'Air Conditioner', 'Sprinklers For lawn', and 'Surveillance' (camera).

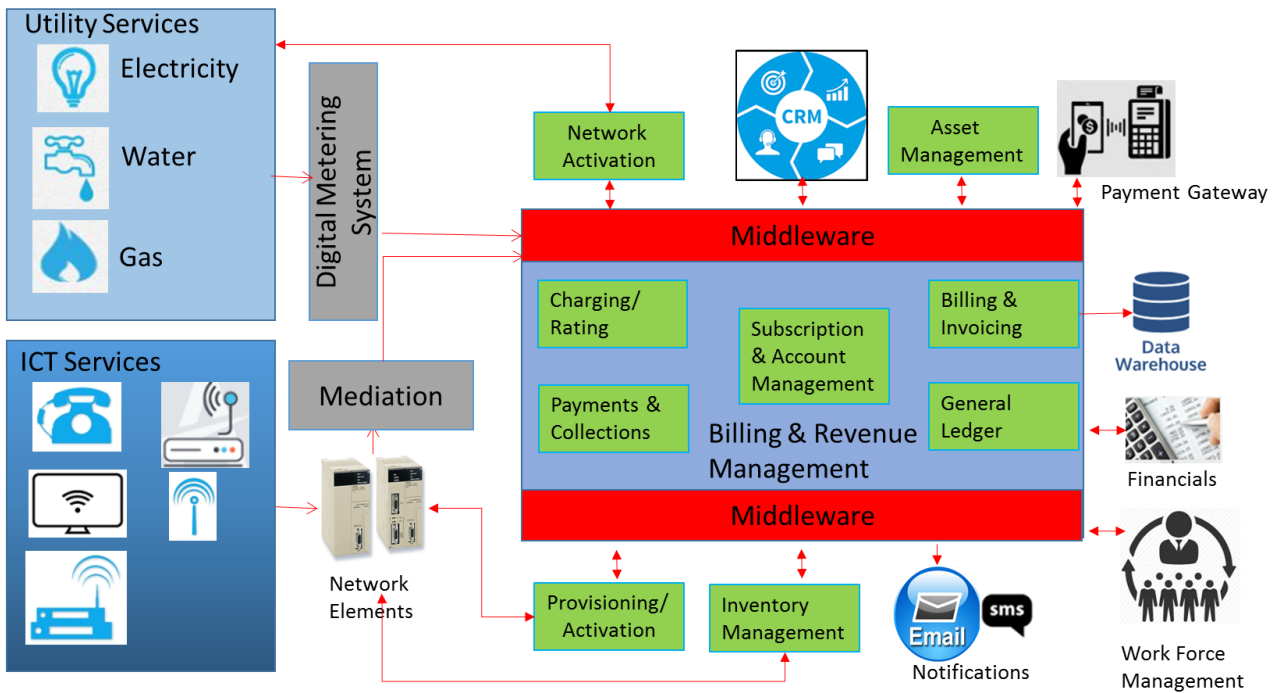
Other Services

- Smart device management for Washing Machine, Air conditioner and other home appliances
- Auto operated Street lights
- Surveillances
- Automated Sprinklers for lawns
- Automated access to homes & Many more...

Celcom's Greenfield implementation included the following

- Customer Relationship management & Self Care Portals
- Convergent Platform for Billing & Revenue Management (ICT & Utilities)
- Mediation
- Inventory & Asset Management System
- ERP & Work force management
- Provisioning/ Activation System
- Middleware for Orchestrations
- Network Integrity

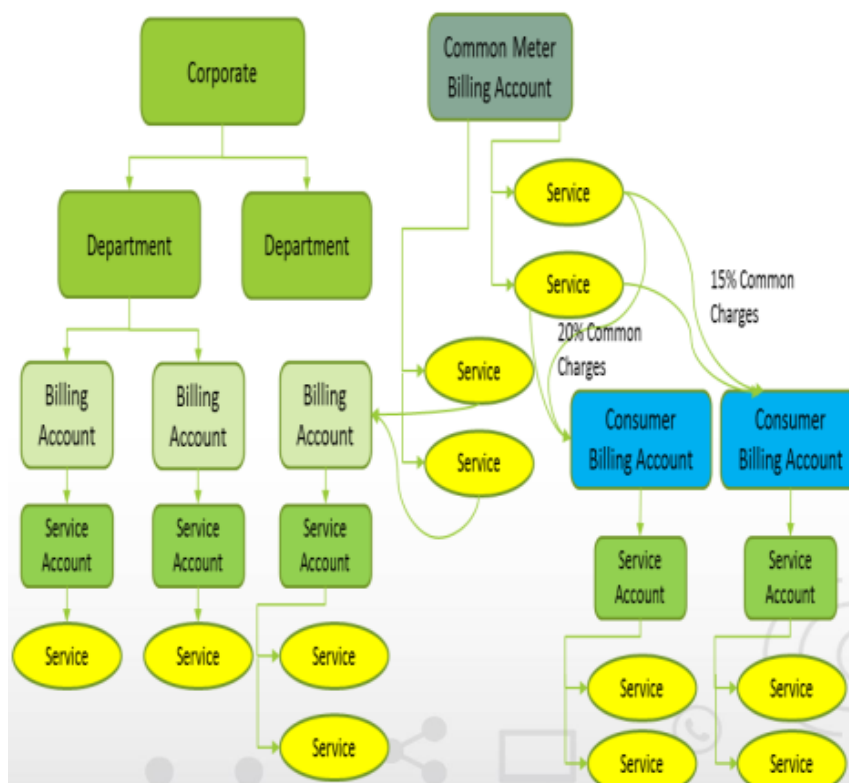
Reference – High Level Architecture (Celcom Solution's Greenfield Smart City Solution Architecture)



Customer Management

- Caters to following customer segments
 - ✓ Consumer
 - ✓ Corporate, Government, Enterprise
 - ✓ Wholesale
- Account Hierarchies
 - ✓ Multi-level
 - ✓ Paying and Non-Paying
- Flexible Charge Sponsorship rules
 - ✓ Service based e.g. charge only ICT services
 - ✓ Usage based e.g. Only rental
 - ✓ Partial sponsorship e.g. Up to \$150 of usage
- On-demand Bill Generation
- Pre-built integration with Mediation systems
 - ✓ ICT usage collection
 - ✓ Utilities Digital Metering System
- Error Validation
 - ✓ File level – Duplication, invalid, out of sequence etc
 - ✓ Usage Record level – Duplicate, invalid etc
- Alerts & Reports

Following is an example of Account hierarchy and sponsorship



Convergent Charging/ Rating & Discounting

- Single platform to rate ICT and Utilities (Gas, Electricity, Water, ..)
- Common Area charging for Utilities
 - ✓ Charging based on Occupied area – floor area (e.g. Sq. ft)
 - Sharing of common meter charges based on percentage of area occupied
 - Charge per sq. ft / sq. meter of occupied area
 - ✓ Changes to area in the middle of month
 - Customers adding additional space
 - Customers vacating partial space
 - New Occupants
- Varied Charging
 - ✓ Threshold Charging – Charging based on cumulative usage
 - ✓ Tiered Charging
- Volume Discounting
- Real-time Balance View

Revenue Management

- Corporate level bulk payment distribution
 - ✓ Service based
 - ✓ Oldest to Latest invoice
 - ✓ Highest to Lowest due
- Service based dunning rules
- Revenue Reporting
 - ✓ Earned, Un-earned, Billed, Unbilled etc

Billing & Invoicing

- Next Bill prediction – based on historic data
- Bill Smoothing & Prevention of Bill Shock
- Multi-language invoice support
- Detailed and summarized invoice
 - ✓ ICT detailed / summarized invoice
 - ✓ Utilities wise detailed/ summarized

Business Benefits and platform advantages

Business Benefits
<ul style="list-style-type: none"> • Faster Deployment • Program De-risking • Extended Business Capabilities • Reduced Cost to Serve • Faster time to market • Increased Monetization

Pre-Integrated and tested solution to readily launch
<ul style="list-style-type: none"> • Complex Hierarchy and Product Modeling • Single Platform for Service rollouts for Wireless, Wire line and utilities • Complex Cross Product bundling and discounting

About Us:

Celcom Solutions is a ISO 9001: 2008 certified UK headquartered Organization with presence in India, Australia and United States of America. Celcom Solutions specializes in Consulting, Systems Integration, Large Transformation, Greenfield implementations in the areas of Telecoms & IT OSS BSS and Smart Cities.

- Celcom Solutions specializes in OSS (Operation Support Systems) and BSS (Business Support Systems) which are the backbone of every Communication Service Provider to provide services to consumers, manage revenue and enrich customer experience.
- Celcom Solutions provides Consulting services to the Communication Service Providers for the following
 - Advisory Business Consulting Services to drive Revenue Growth, Innovative Product Offerings, Market based Segmentation approaches, Effective Monetization drivers, enhanced Customer Experience etc.
 - Operational Consulting Services to help reduce OPEX spend on IT, IT Landscape assessment, Operational Transformation of IT assets, Consolidation of assets and infrastructure innovations for cost savings.
 - Technical Consulting on Product & Domain areas of OSS BSS to drive effective Project implementations
- Celcom Solutions specialized in end-to-end Large Transformation and Greenfield Implementations for Communication Service Providers for rolling out Wireless (GSM, CDMA, 3G, and LTE) and Wireline (Fixed Copper, ADSL, Fibre to Home) services for Business, Enterprise and Consumer Segments in the area of OSS BSS.
- Celcom Solutions also provides infrastructure services to host IT infrastructure and Data Centres for operators.

Please feel free to reach out to us on info@celcomsolutions.com for more information and demos.

Contact: +91 80 4942 8000



Thank You