



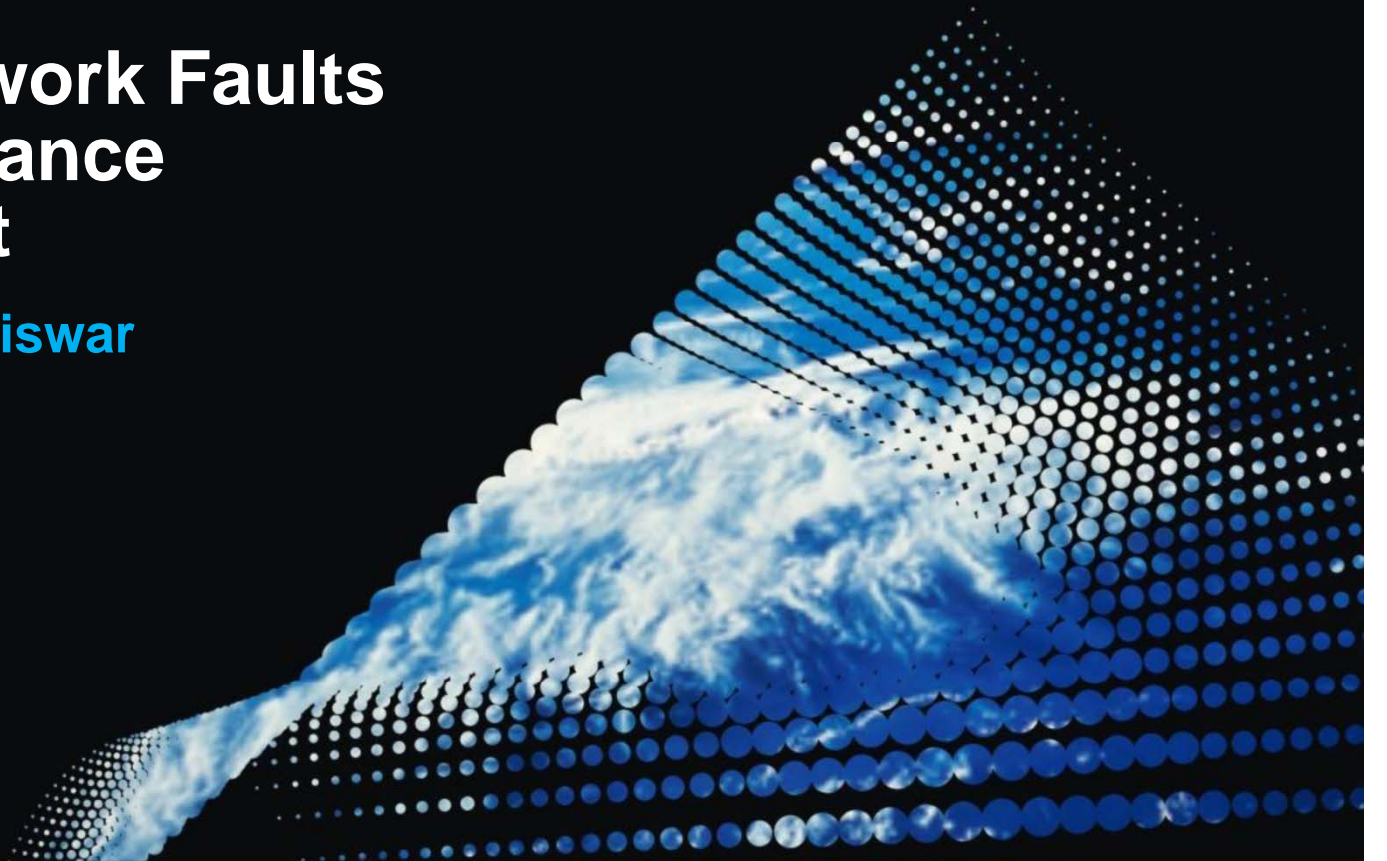
IBM Software Universe
Smarter Businesses, Smarter Industries.

8th March 2011, Pan Pacific, Dhaka.

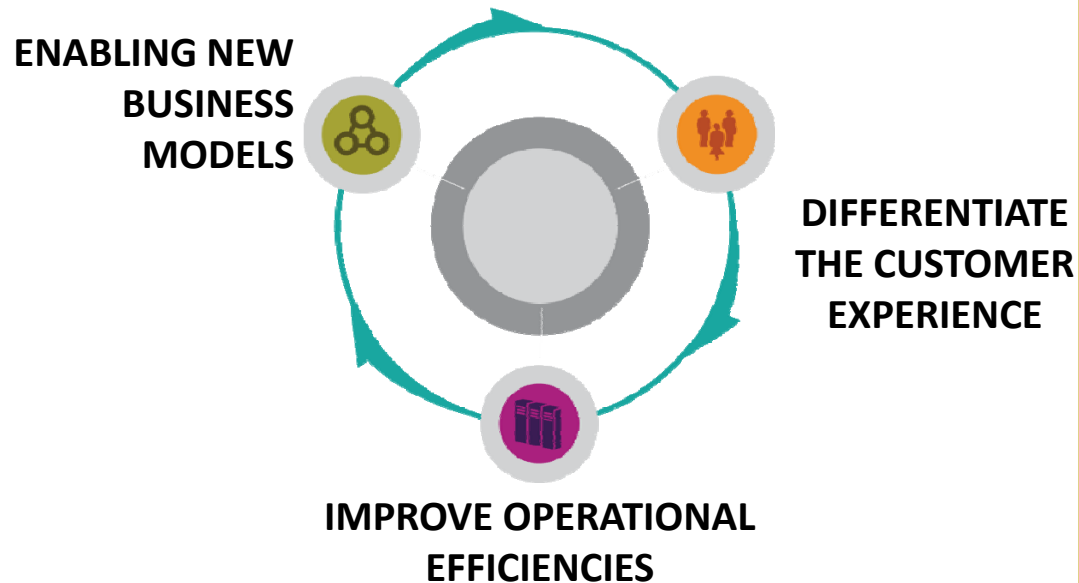


Beyond Network Faults and Performance Management

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Tivoli Software
IBM India/ SA



Smarter Telecom addresses three key issues



- IBM Telecom Frameworks: Bridging the gap between business & IT
- Data Management for Telecom
- Networks: Fault and Performance Management
- Effective Software Delivery for Telecom
- Access the information you need - anytime, anywhere
- Optimizing Business Processes using Filenet BPM
- Customer Churn & Insight for Telecommunications

• Dynamic Business Process Management for CSPs

Key Challenges facing the Telecom service providers today



1. The Growing Usage of Internet

- 2 bn people by 2011
- Wireless growing @ 17%
- 5 billion+ mobile phone subscribers worldwide
- Daily text messages exceeds the world's population

2. Customers Demand More Flexibility, Choice and Control Both in Content and Delivery

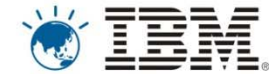
- Connecting devices: computer, mobile phone, television, PDA....

3. Digital Convergence Is Blurring Boundaries

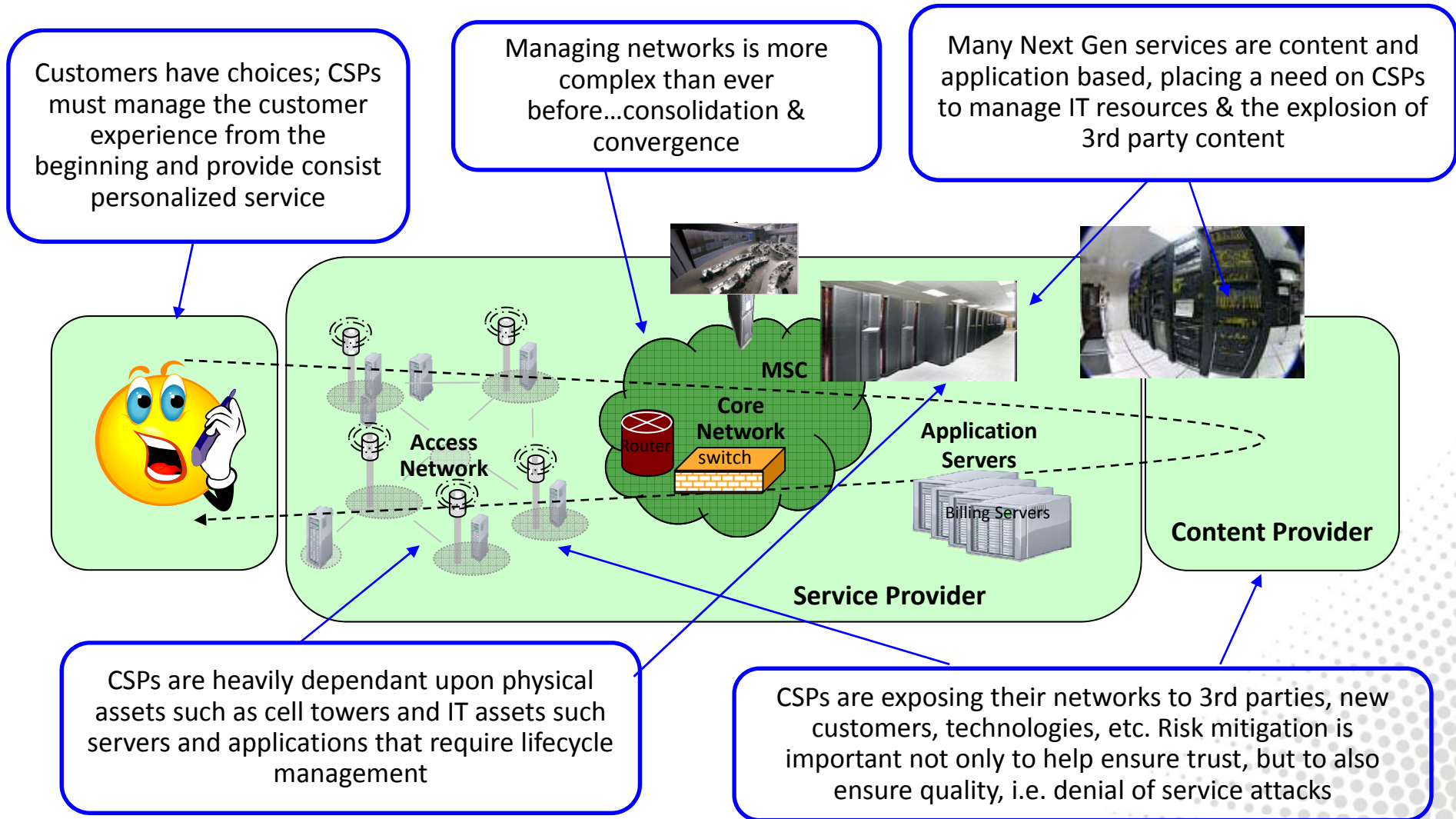
- Birth of the "Telemedia" Industry expanding the addressable market

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Services are Much More Complex

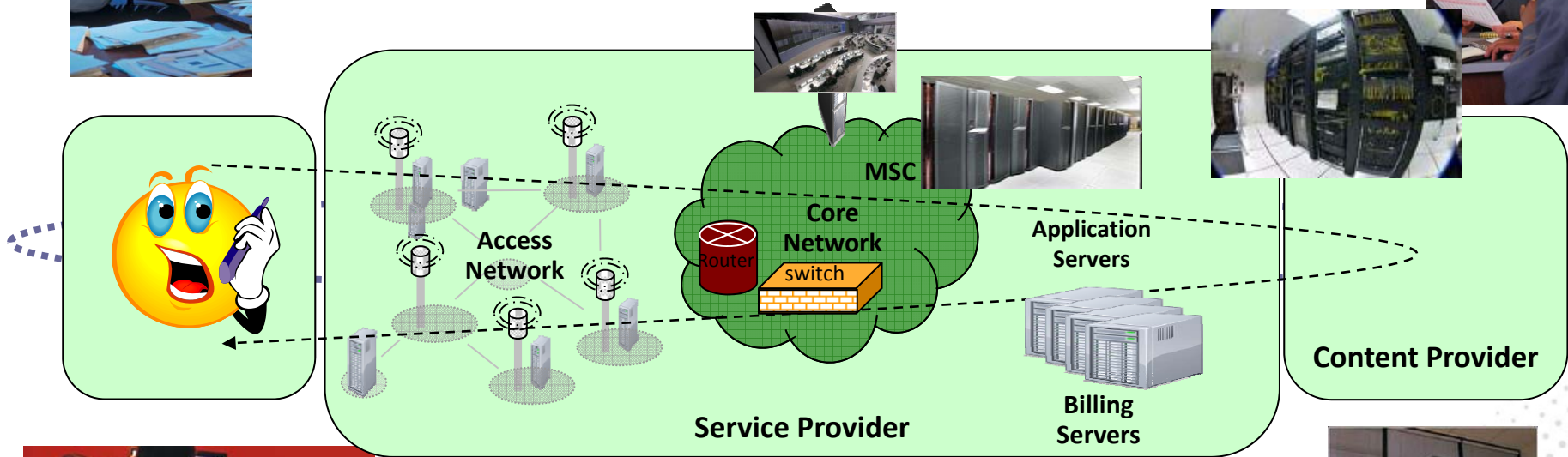
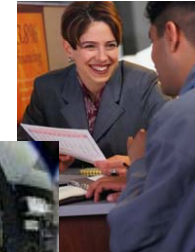
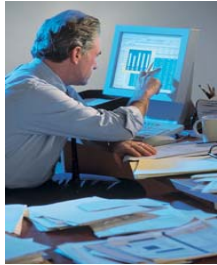
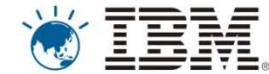


1) What needs to be managed has grown and become more complex

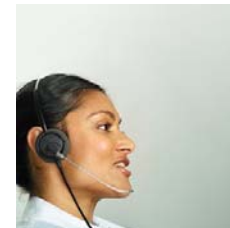


Services are Much More Complex

2) Who needs to be involved in the success & management of a service has evolved

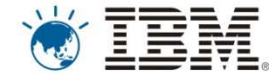


Network Operations



What's happening in the market:

Why Customer Experience is so important!



Poor
experience
with data
services



Smarter
devices



Rich data
services



Customer
Experience
imperative

- The expectations of users around customer experience is increasing across all telecoms sectors.
- Managing the customer experience will increase customer satisfaction, reduce costs and provides a powerful differentiator in an ever increasing competitive market place.

IBM Solution: Holistic Service Management



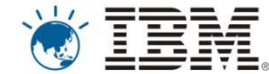
Objective: Fast, efficient, cost-effective delivery of quality services



Operations directly increasing Profits!!!

- Profit per subscriber using Tivoli Netcool
IDC Report Jan. 2009
- Increased revenue by an average of \$1.7M or \$.54 per subscriber
- Saving per subscriber \$.36

Initiative 1: Customer Experience Management



Customer Experience is the experience of customers across aspects of a service providers business, over the duration



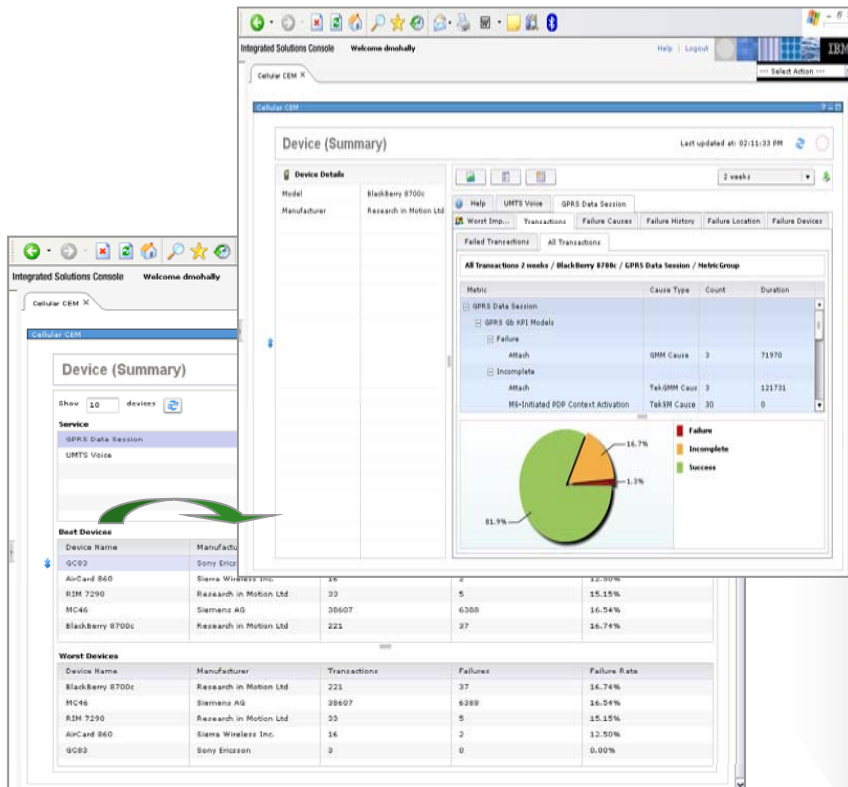
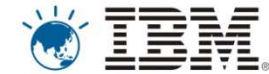
Each interaction with a customer creates an experience (e.g., using a self-service, calling customer care, topping up credit) with the goal of

- A positive experience is created when customer feels their expectations have exceeded.
- Thereby increasing customer satisfaction, brand loyalty and



Leading Asia Pacific Carrier:

Potential to Reduce Customer Care Costs by \$1.2 million USD



Customer Care (cost of operations)

- Approx 20k mobile data device configuration service calls per month.

CEM automatically detects:

- New Combination of SIM and Handset
- Mis-configured APN

Supporting automated triggering to Mobile Device Management platform for auto correction of configuration issues.

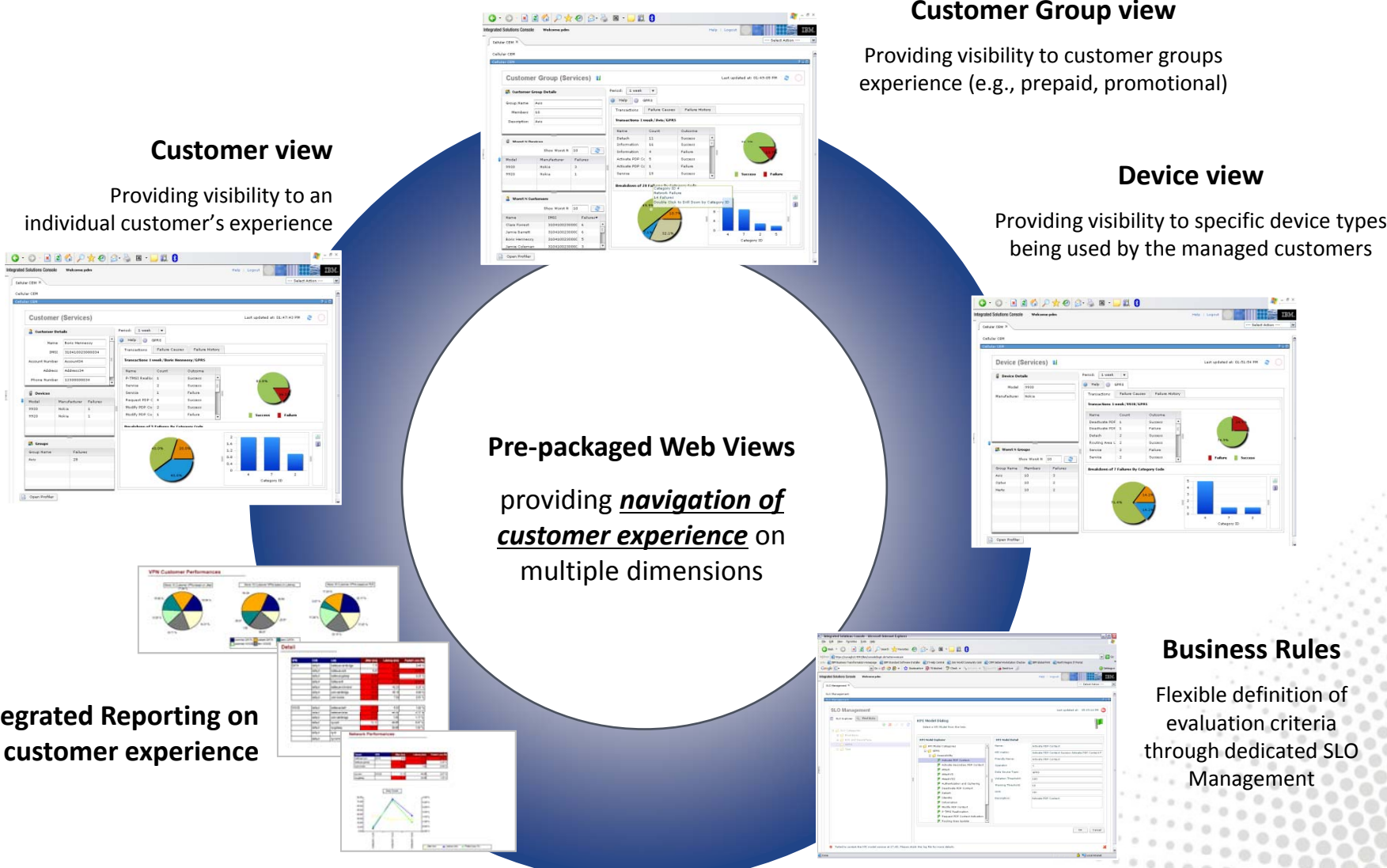
Each one costs approx 10 USD to resolve.

- $20k * 10 \text{ USD} = 200k \text{ USD per month}$
- Annualized=> 1.2 million

Auto correcting mis-configured APN's brings significant cost savings, along with unblocking service usage revenue for the target services.

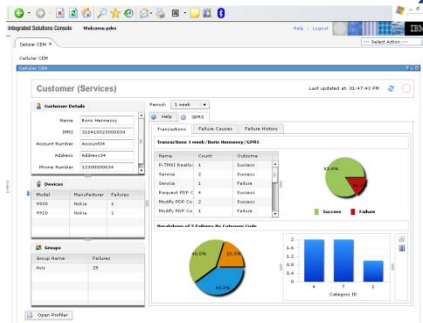
Customer Experience Management

The Holistic way to manage your customers...



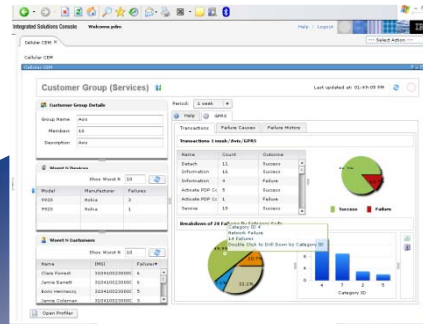
Customer view

Providing visibility to an individual customer's experience



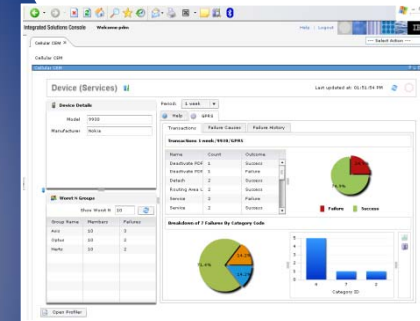
Customer Group view

Providing visibility to customer groups experience (e.g., prepaid, promotional)



Device view

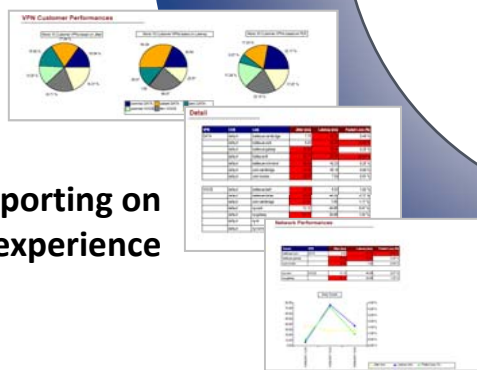
Providing visibility to specific device types being used by the managed customers



Pre-packaged Web Views

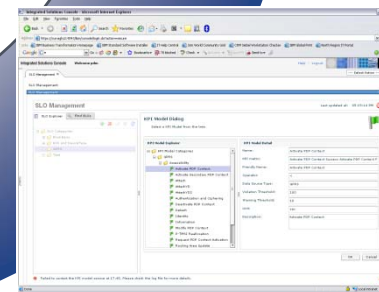
providing *navigation of customer experience* on multiple dimensions

Integrated Reporting on customer experience



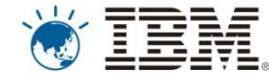
Business Rules

Flexible definition of evaluation criteria through dedicated SLO Management



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Managing the actual experience of mobile end customers



Many issues leading to poor customer experience are **not network related**



But specific customers are experiencing problems

Traditional monitoring tools do not provide visibility down to the individual customer experience.

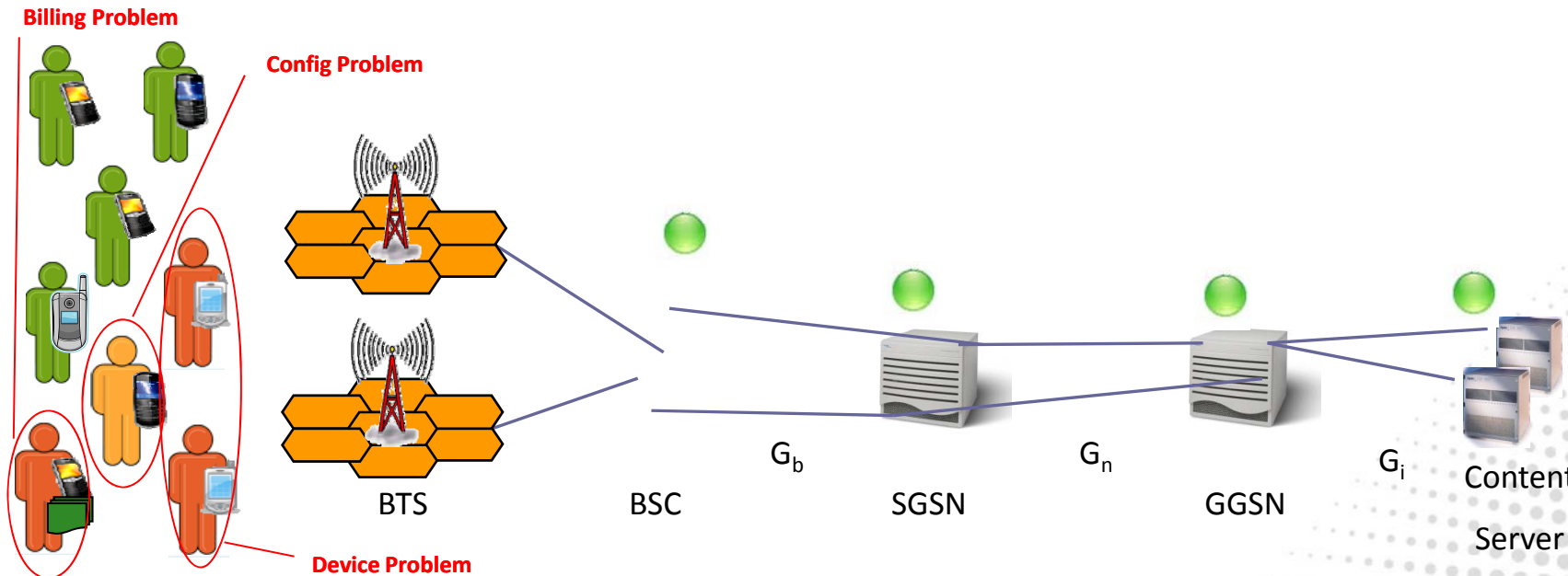
For example:

- PM provides an aggregate view of network resources.
- SQM provides an aggregate view of service performance

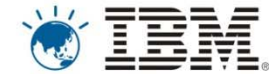
Network is ok



CEM provides aggregate views but also slices down to the individual customer



Increasing customer satisfaction – with CEM analytics



CRM

Retrieve customer info
From existing CRM repository

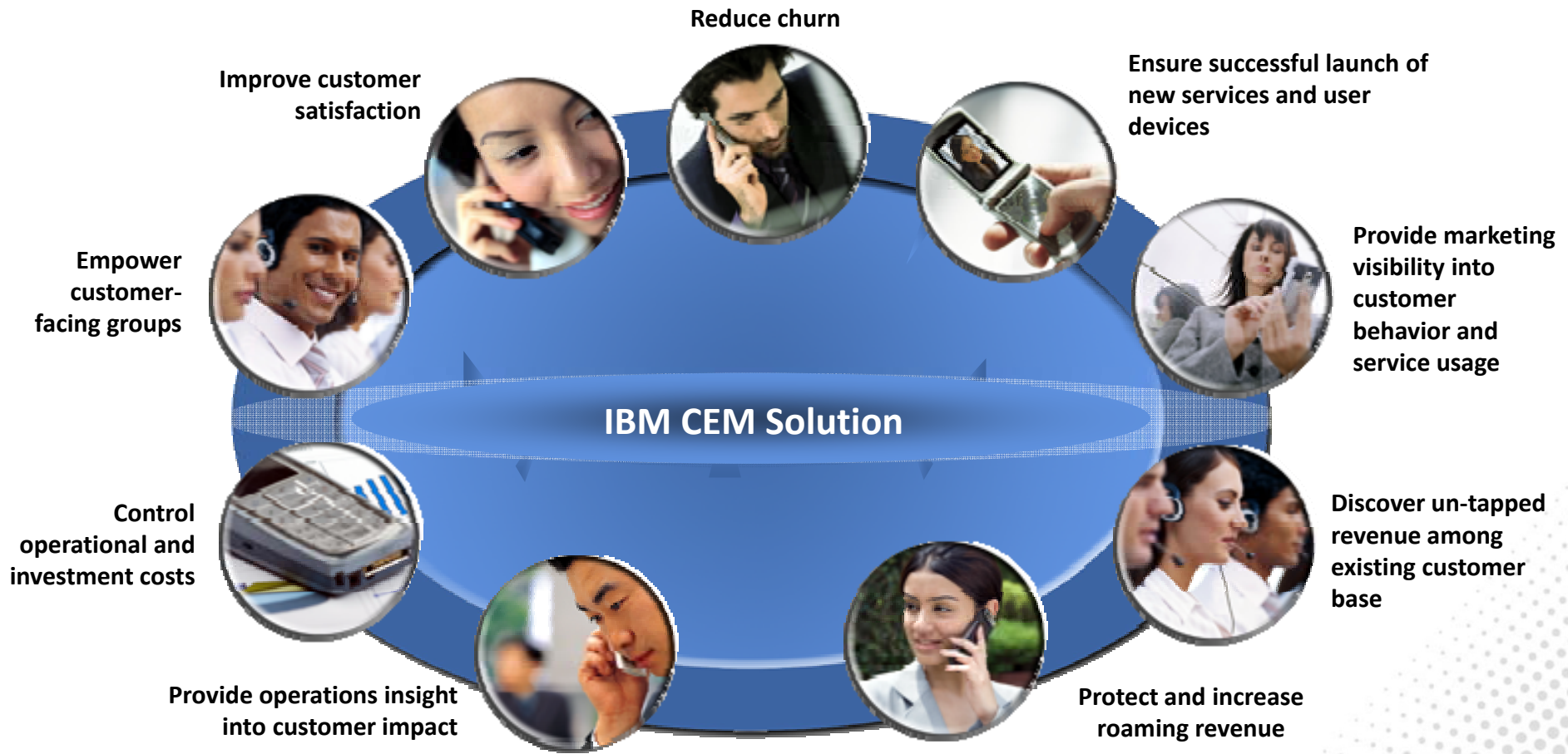
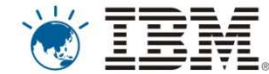
- Users can quickly identify/validate which services a customer is having issues with.
- For any selected service(s), the user can analyze the customer experience on multiple different dimensions.

- Transactional Analysis of the failing transactions identify the causes of the failures.

Name	Count	Outcome	Cause Type
Network-Initiated Detach	5675	Success	GMM Cause
Network-Initiated Detach	6390	Success	GMM Cause
Network-Initiated Detach	4207	Success	GMM Cause
Network-Initiated Detach	5876	Success	GMM Cause
Network-Initiated Detach	5208	Success	GMM Cause
- Visual plot of the failures occurring for the specific user.
- Historical Analysis of the customer experience by drilling into the periods where degradations are detected.
- Location Analysis to investigate if customer problems are specific to geographical areas.
- Device Type Analysis to investigate if customer problems are handset type-related.

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Value of Customer Experience Management



Our World-Class Package



Global scale & reach



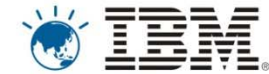
Comprehensive global business services



Innovation driven

Smarter Businesses, Smarter Industries.

Initiative 2: Smart Mobile Towers



Problem:

- Cell towers growing organically WW 3.5M in 2008 to 5M+ by 2012
 - 80-90% of energy consumption is in the network Towers, BTSs, BSCs, MSC's
 - 10-20% of energy consumption is used by data centers
 - 50% of energy consumption in cell towers is attributed to HVAC (cooling)
- Passive mobile network infrastructure operational silos
- Service providers use ~60-90% of their energy in mobile network (BTSs, MSCs)
- Data and systems lack integration to allow end-to-end optimization

Opportunity:

- CSP's can reduce costs 20-30% from operational and energy usage improvements with an IBM Smarter Tower Operations offering
- CSP's can integrate operations to provide a competitive revenue opportunity from their mobile passive infrastructure
- CSP's can utilize smarter operations to enable new opportunities of revenue beyond the passive infrastructure.



Smart Tower Operation: Save 20-30% on energy and operational costs of their passive mobile infrastructure business

How does IBM solution for Green Tower Operations Optimization improve operations?



Customer Challenge



IBM GTO2 Solution



Benefits

Network Energy Consumption

- Energy use in network operations can be 70-90% of energy use in a service provider
- Mobile Telcos are continuing to scale number of towers worldwide
- Energy Management solutions need to be targeted based on location, climate, usage and solution type to maximize ROI

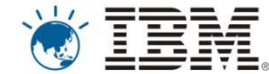
Tower Energy Optimization

- Optimize tower operations to drive higher performance
- Monitor energy consumption, correlate to operations, and finding opportunities for energy reductions
- “Right Size” energy equipment, operations and utilize alternative energy solutions.

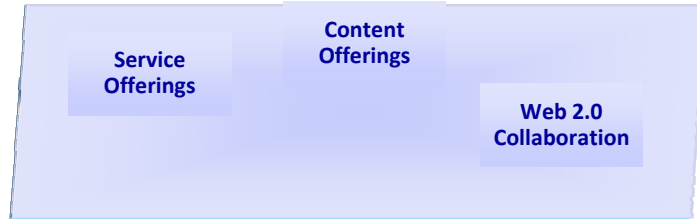
Cost Reduction in Energy and Operations

- Drive cost reductions greater than 20-30% from telco energy consumption using smarter planet offerings from IBM of end-end monitoring, command & control systems, energy solution components and IBM managed services combined with business intelligence for energy consumption.
- Utilize Financial Analytics to target energy solutions

Initiative 3: The Cloud



CSP Service Structure

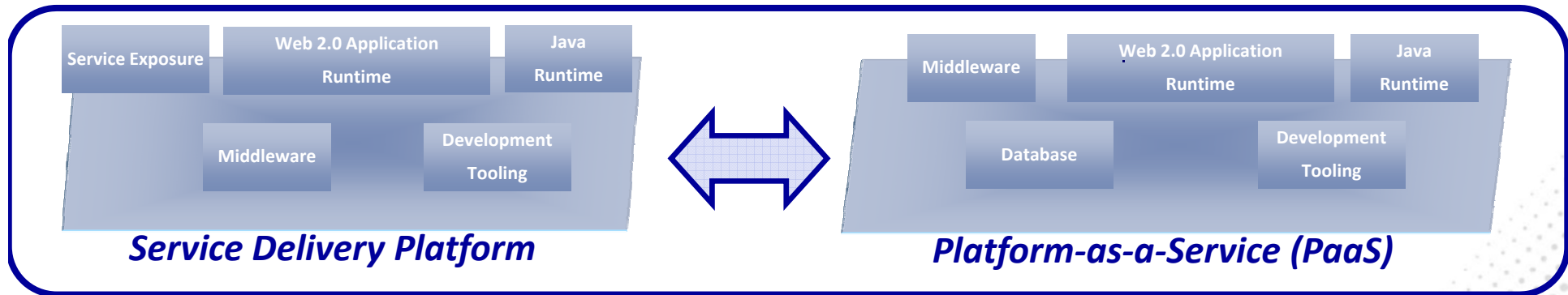
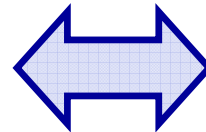


CSP Services & Applications

Cloud Delivery Models

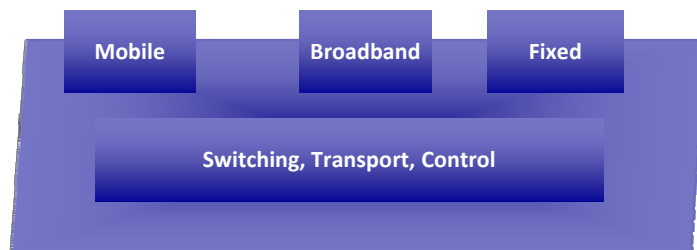


Software-as-a-Service (SaaS)

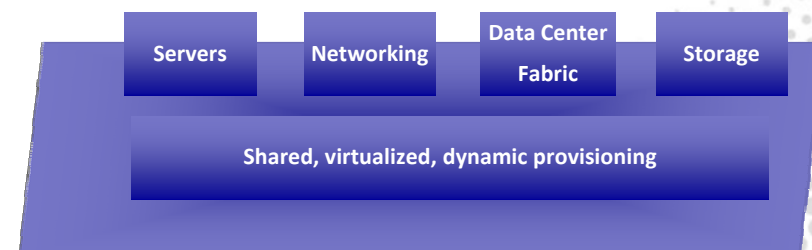


Service Delivery Platform

Platform-as-a-Service (PaaS)



CSP Network Infrastructure



Infrastructure-as-a-Service (IaaS)

