# NEW MSTOP PROCESS BENEFITS

## DOMAIN: Engineering
## PROCESS: Capacity & Performance Management

MSTOP
EFFICIENCY DRIVEN PROCESSES

PREREQUISITES

# GENRAL INFO ON MODULE I, II & III

**Before start of this discussion, this has been considered that the forum has already through with the following modules along with their objectives. Although important information from previous modules will be mentioned to link the present topic.**

## ✓NEW MSTOP MODULE I LEARNING:

- New MSTOP Framework Explanation and Basis Drivers
- Relation Between New MSTOP Framework and industry Standards
- Service Functions, Elements and New MSTOP Blueprint
- Uses MSTOP Wiki and accessing know how

## ✓NEW MSTOP MODULE II (Capacity & Performance Management) LEARNING:

- Definition, Goals & Objectives of the Capacity & Performance Management Process
- Basic Concept, Organization Structure and Roles
- Critical Success Factors, Key Performance Indicators & Security Controls
- High Level Process Flow and RASCI Matrix

## ✓NEW MSTOP MODULE III (Capacity & Performance Management) LEARNING:

- Capacity & Performance Management Process Overview
- High Level and Expanded Process Flow
- Case Studies
- Support and Information

INDUSTRY STANDARDS

# INDUSTRY BEST PRACTICES REFERENCES


**✓ITIL V3® SERVICE DESIGN**

- Service Design Principles
- Service Design Processes
- Service Design Technology Related Activity
- Organizing and Implementing Service Design


**✓eTOM RELEASE 8.0**

- Service Development and Retirement
- Resource Development and Retirement

**OTHERS**

**✓ERICSSON CONSULTING & SYSTEM INTEGRATION SOLUTION DELIVERY PROCESSES**

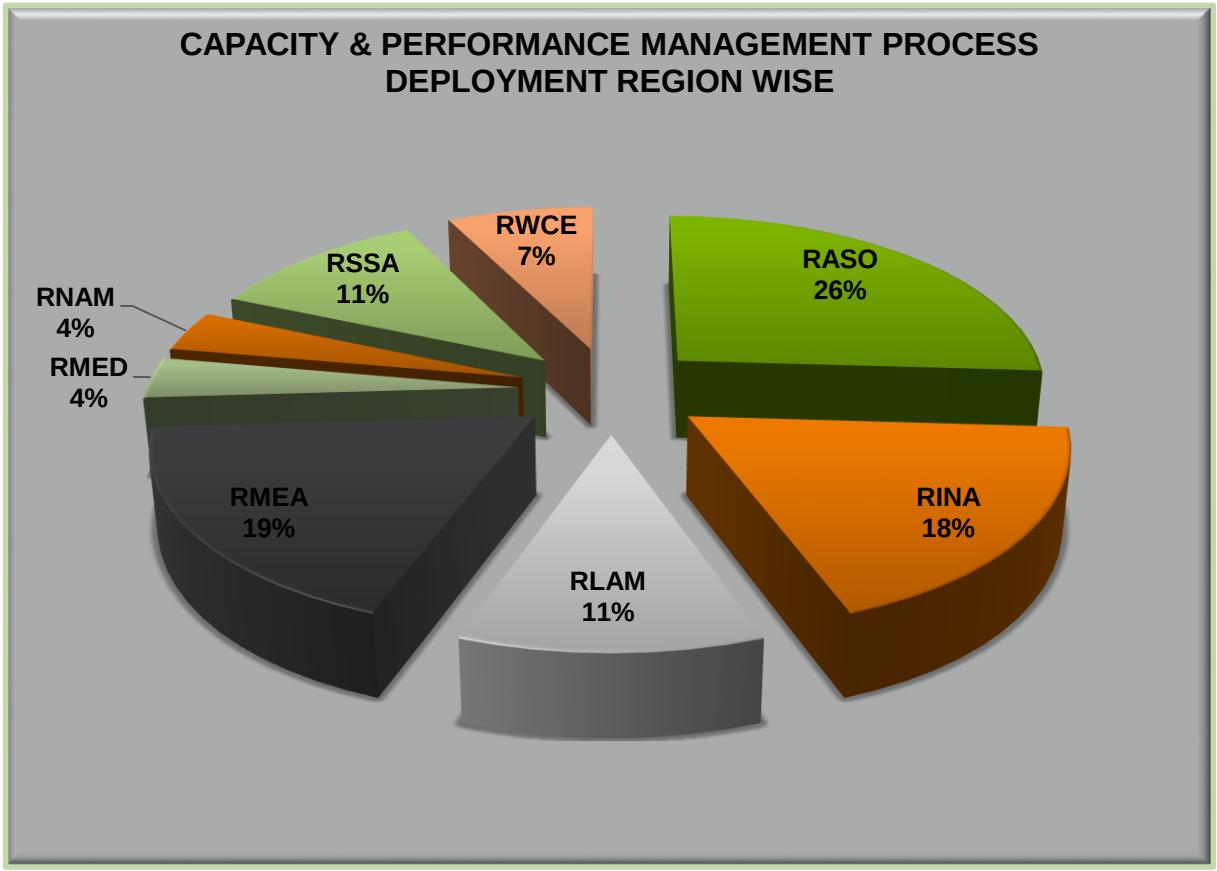
**✓ASL IT FRAMEWORK (APPLICATION SERVICE LIBRARY – BiSL FOUNDATION)**



MSTOP EFFICIENCY DRIVEN PROCESSES

# FOOT PRINTS IN GLOBAL DELIVERY

| Region | Contract Name |
|---|---|
| RASO | Airtel Bangladesh |
| RASO | Axis Indonesia |
| RASO | Telenor Myanmar |
| RASO | Telkomcel East Timor |
| RASO | Telstra Australia |
| RASO | Vietnamobile Vietnam |
| RASO | Digicel PNG |
| RINA | RCOM India |
| RINA | Aircel India |
| RINA | Idea India |
| RINA | Bharti India |
| RLAM | Datora Brazil |
| RLAM | Lime Jamaica |
| RLAM | ASBANC Peru |
| RMEA | MTN Afghanistan |
| RMEA | Zain Iraq |
| RMEA | Mobily KSA |
| RMEA | MTN Iran |
| RMEA | Warid Pakistan |
| RMED | Orange Spain |
| RNAM | Cloud Services |
| RSSA | Airtel Nigeria |
| RSSA | Etisalat CI |
| RSSA | MTN Nigeria |
| RWCE | Mobistar Belgium |
| RWCE | Orange CH |



# DEFINITION, GOALS & OBJECTIVES

## ✓ DEFINITION

Capacity & Performance Management defines the activities to be performed by the MS organization to secure that the best cost efficient infrastructure is always present, based on the current and future agreed business needs, and that additional capacity is ordered, allocated, configured and deployed at the correct time to allow the best infrastructure utilization according to contractual requirements and service strategy. It is a continuous process throughout the MS contract lifecycle.

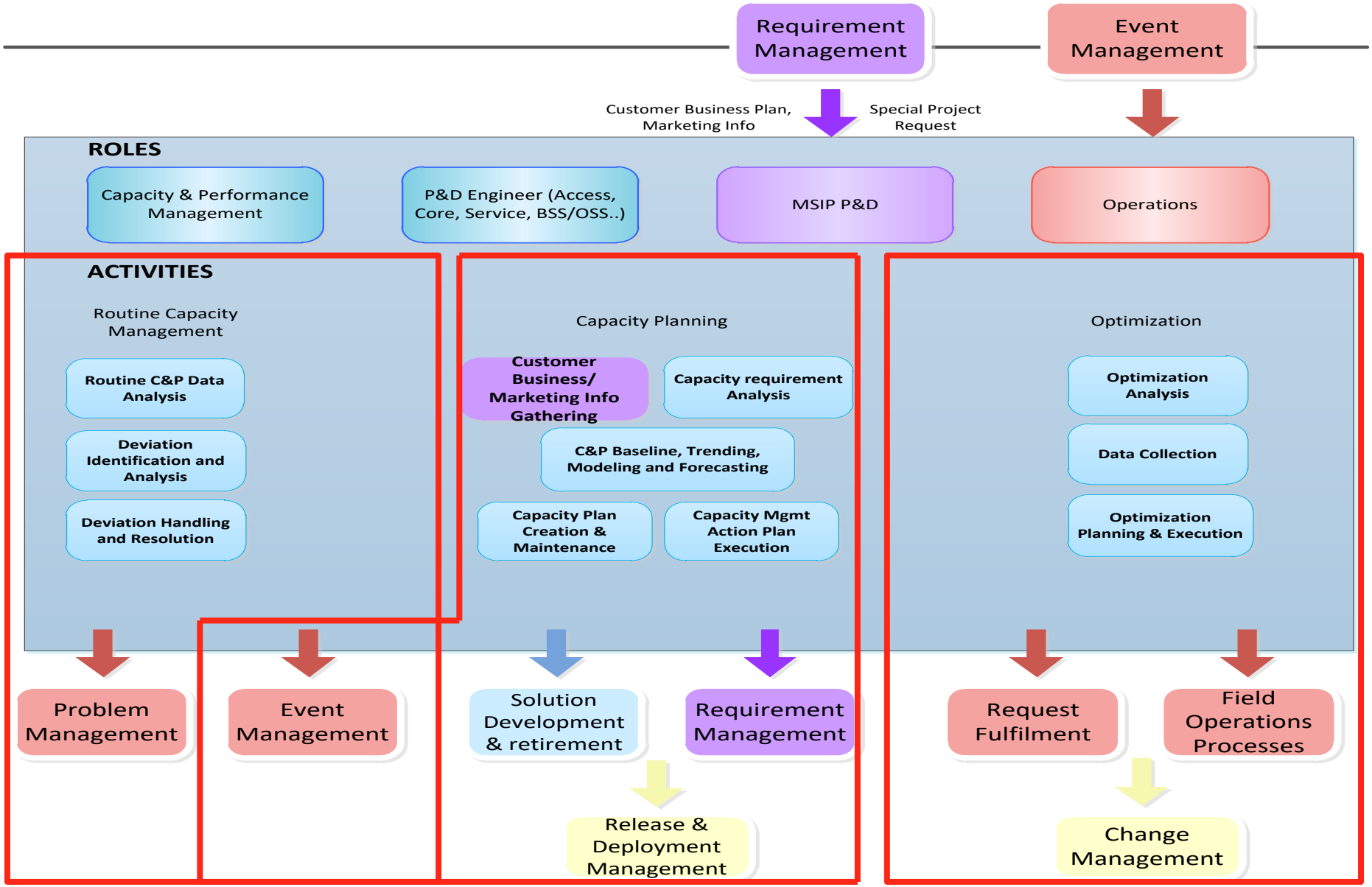
## ✓ GOAL

Ensure that cost justifiable capacity in all areas always exists and is matched to the current and future agreed needs of the business, in a timely manner

## ✓OBJECTIVES

- Produce & maintain an appropriate and up to date capacity plan, which reflects the current and future need of the business
- Provide advice and guidance to all other areas of the business for Capacity related issues
- Ensure that performance meets or exceed all agreed performance targets
- Assist with the diagnosis and resolution of performance and capacity related incidents and problems
- Asses the impact of all changes on the capacity plan
- Ensure cost justifiable proactive measures are taken to improve the performance

# PROCESS OVERVIEW – CAPACITY AND PERFORMANCE MANAGEMENT



# SCOPE SUMMARY

- Capacity & Performance Management Process is the focal point for all Telecom and IS / IT performance and capacity issues
- Provides performance information or specific support to Operations Assurance on carrying out routine operational activities.
- Pro-actively manages the customer's infrastructure to prevent service outages or performance deviations caused by lack of capacity or solution design issues.
- Encompasses all areas of technology and all domains, both hardware and software for the complete customer's infrastructure.
- Environmental system’s capacity and physical space are also contemplated by these processes with the Deployment & Integration organization being responsible for keeping such information accurate and updated.
- Optimization

# TRIGGERS, INPUTS & OUTPUTS

## TRIGGERS

- Service Level breaches
- Events, alerts, exceptions
- Periodic revision of current C&P and review of forecasts and plans
- New/changed services
- Periodic trending/modeling
- Review/revision of business plans, designs, SLA, OLA and contracts
- Special Projects/Events planning request

## INPUTS

- Business plans and marketing information
- Service & Component performance/capacity
- Service Level Requirements
- Financial information
- Changes
- Performance reports
- Configuration Management System

## OUTPUTS

- CMIS
- Capacity Plan
- Service Performance information and reports
- Utilization/Workload analysis and reports
- C&P reports
- Special Project/Event capacity plans
- Forecast reports
- Thresholds, alerts and events

# PROCESS BENEFITS HIGHLIGHTS

**Performance Management:** The complete vertical has been defined and being maintained for monitoring all the contractual KPIs. The inventory of the KPI data and analysis of any deviation is being categorized along with the roles and responsibilities.

**Interfaces with Operations, Field Services & Projects:** Actual interfaces are being established between different teams of the delivery to efficiently manage the cross-functional deliverables.

**Central Common Repository for all the domains of NE:** Central repository are being created for all the applicable domains of Network Engineering. These database are being referred as and when required.

**Interface with MSIP triggering Requirement Management:** This interface help to initiate the business requirement and always trigger to follow up on the pending business requests towards closure.

**Alignment with WLA / OLA:** Process adherence always helps to identify the over-delivery and raise the requirement on immediate basis so that same can be addressed just in time.

**Governance Meeting Structure establishment:** Due to the interface establishment, the importance and contribution is more towards the Governance meetings. Process adherence always helps the stakeholders for active participation in the meeting due to the clarity on roles and responsibilities.

**ADD On SALES Opportunity:** Capacity & Performance management process always helps to identify the add-on sales opportunity and **t**o explore the same conveniently, new Process KPIs are also introduced.

# CASE STUDY 1 TO EXPLAIN ABOVE BENEFITS <CASE 1> CONGESTION CAUSED BY PROBLEM

- Case description
  - While performing routine capacity / performance trend analysis, performance degradation is identified. On investigation this is caused by capacity congestion.

How should Capacity & Performance Management interact with Operations to minimize the impact and help identify the root cause?

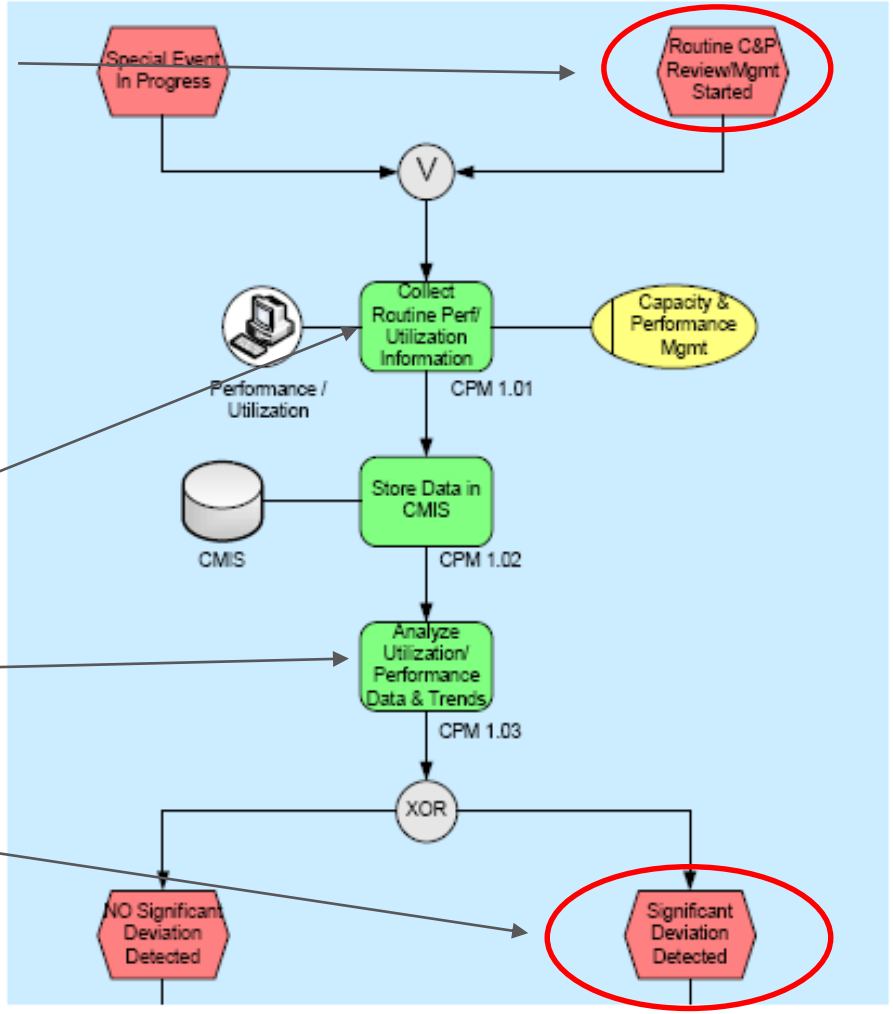
# CASE STUDY 1
# CASE 1 - CONGESTION CAUSED BY PROBLEM

## CASE STEPS:

✓ <Trigger> - Routine C&P Review/Mgmt Started

✓<Step 1> Deviation Identification & Analysis

- ✓ Collect and analyze relevant performance data/reports
- ✓ Analyze utilization and performance trends against forecast
- ✓ Deviation is identified – utilization is moving between 95-100%, while according to forecast and trending model, the normal utilization should be around 80%

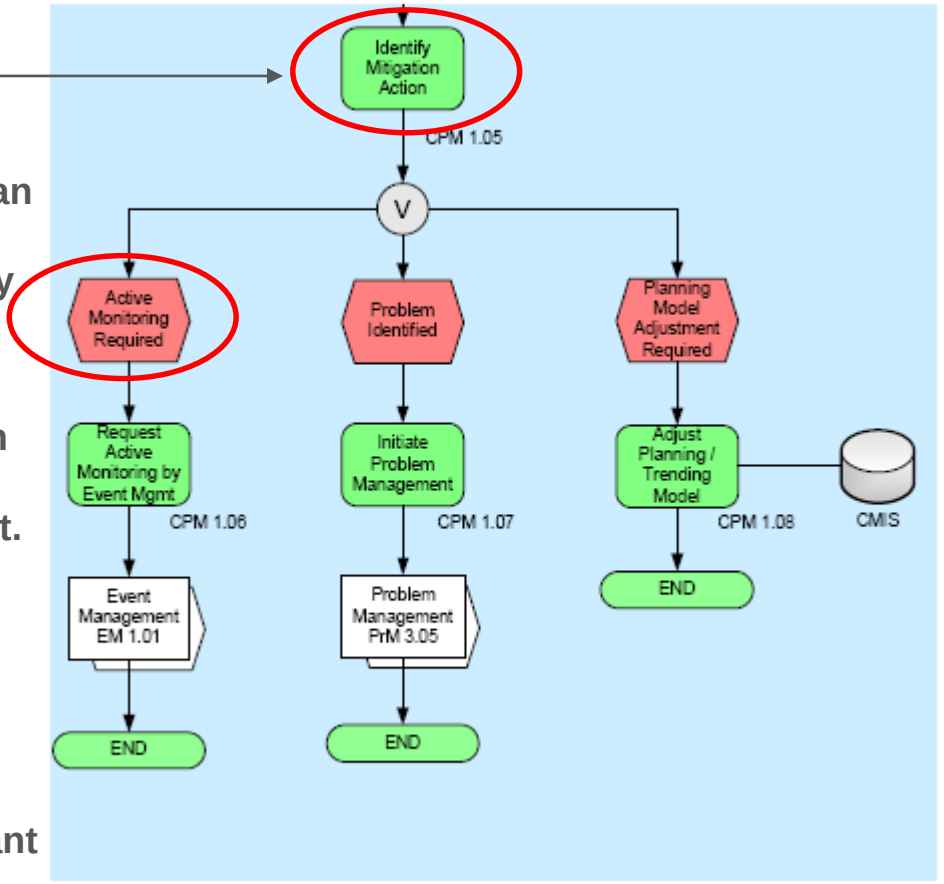


# CASE STUDY 1
# CASE 1 - CONGESTION CAUSED BY PROBLEM

## CASE STEPS:

✓<Step 2> Deviation Handling & Mitigation

- ✓ In order to ascertain what is causing this spike and minimize any potential impact of an incident, Capacity & Performance Management requested Active Monitoring by Event Management
- ✓Event Management confirmed no Change Request or Preventative Maintenance was in progress that is causing the utilization deviation, and that the situation is persistent.
- ✓ Event Management escalated to Incident Management
- ✓ Incident Management process identified that 2 out of the 5 nodes were not taking traffic. During the investigation Capacity & Performance Management provided important assistance in identifying the 2 idle nodes. Subsequently the nodes were restarted and traffic started going through. Utilization went back to normal at around 80%

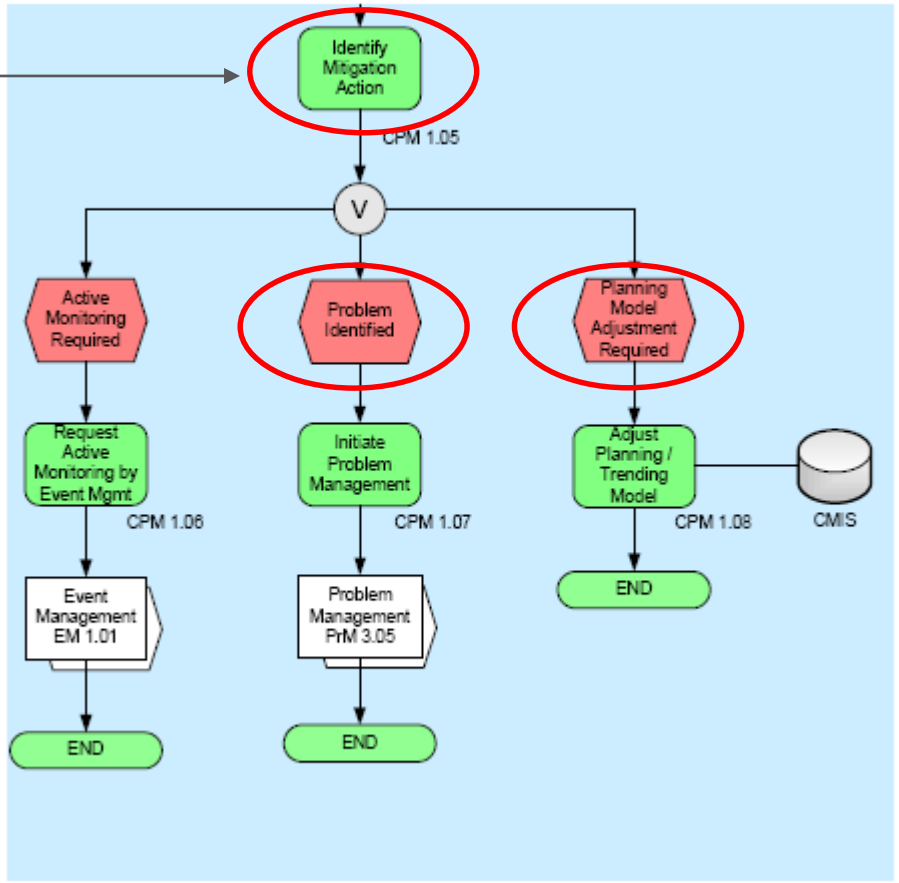


# CASE STUDY 1
# CASE 1 - CONGESTION CAUSED BY PROBLEM

## CASE STEPS:

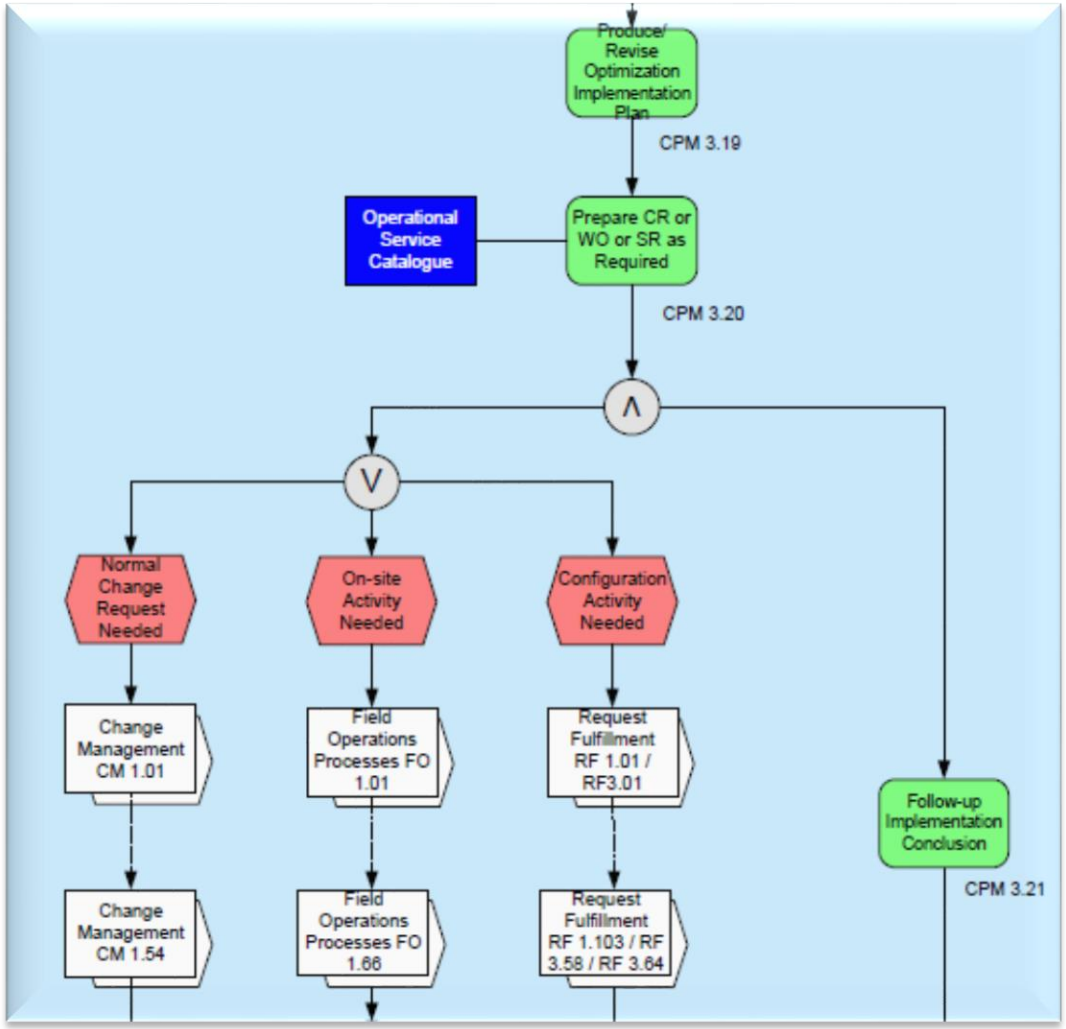
✓**<Step 2> Deviation Handling & Mitigation**

- ✓ The reason why the 2 nodes stopped working was unknown although the incident is resolved.
- ✓ Capacity & Performance Management raised a Problem and requested Problem Management to further investigate
- ✓ The Problem Management root cause analysis revealed that the 2 nodes had a memory leak issue. Once traffic hits 300 transactions per second, the nodes would lock up. Originally 5 nodes were load sharing, after 2 nodes locked up, all the load went to the remaining 3 nodes, sending utilization abnormally high on them. Capacity & Performance actively participated in this investigation and helped to provide a workaround and a permanent fix solution
- ✓ Capacity & Performance find the trending model was correct and when the workaround is in place the utilization trend remains in alignment with the forecast model. Thus no adjustment is required.



# REAL LIFE SCENARIO#1

## DELAY & DIFFICULTIES IN OPTIMIZATION RELATED FIELD SUPPORT




### PROBLEM STATEMENT

- There was no direct interface between Optimization and FSO for Field Support.
- This leads to communication gap during field activities related to optimization.
- Long response time from Field Engineers because all follow ups were made through emails via 1st Level Ops.
- No direct identification of the work orders related to optimization and its SLA measurement.

# REAL LIFE SCENARIO#1.....CONTD.

## DELAY & DIFFICULTIES IN OPTIMIZATION RELATED FIELD SUPPORT

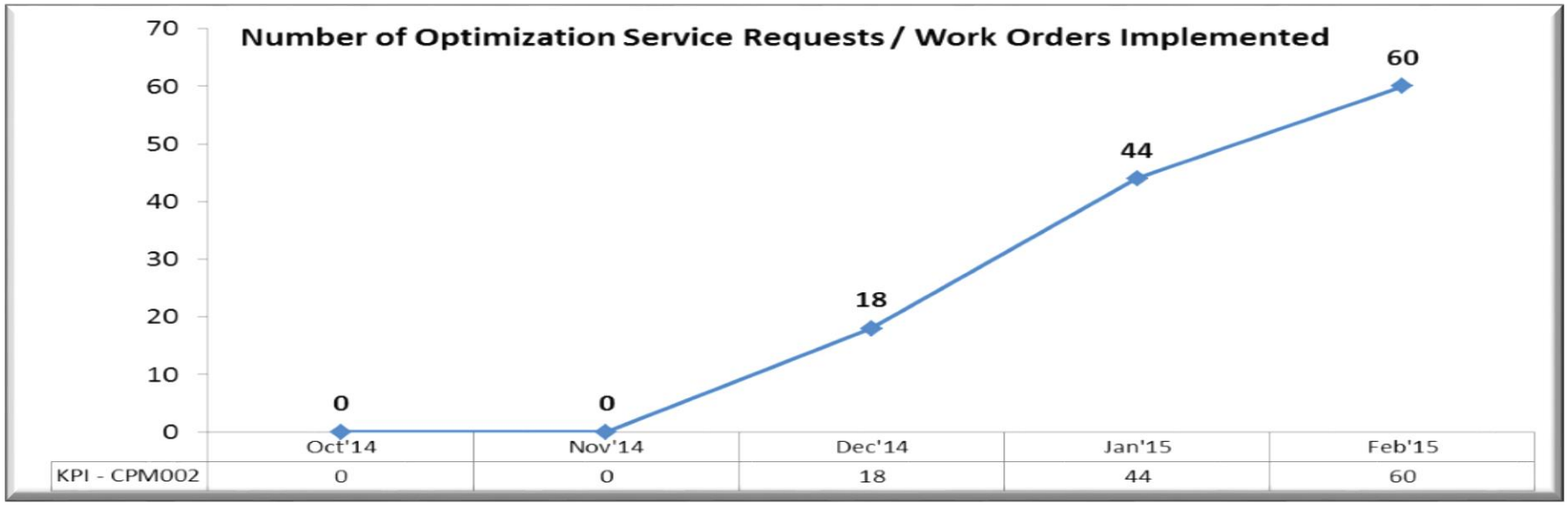
**RESOLUTION**: Direct Interface established between Network Engineering team and Field Operations team through Work Order as defined by MSTOP framework.

# REAL LIFE SCENARIO#1.....CONTD.

## DELAY & DIFFICULTIES IN OPTIMIZATION RELATED FIELD SUPPORT

**RESULT:**

- Planned work orders are now being raised, directly assigned to FSO.
- This led to:
  - Reduced response time from FSO
  - Significant improvement in WLA compliance
  - Direct tracking of the work order
  - Efforts saved from 1st Level Ops for generating WO from CR
  - Efforts saved from Change Management for CR assessment

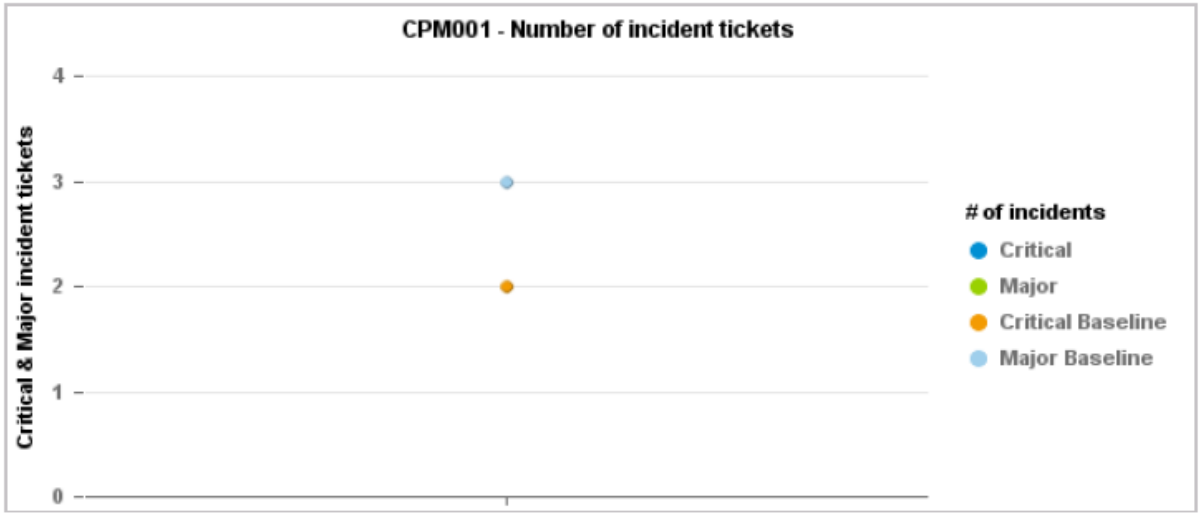


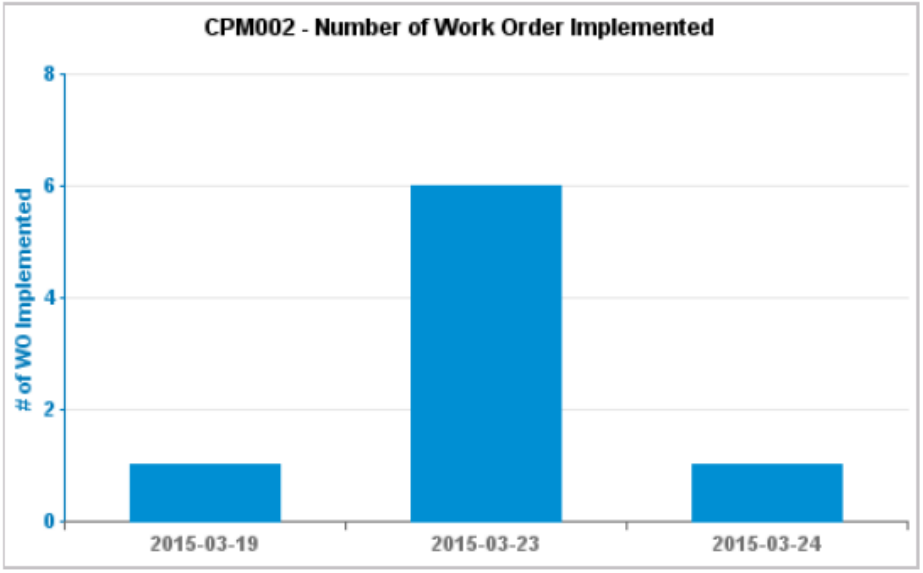
# CONTINUAL IMPROVEMENT

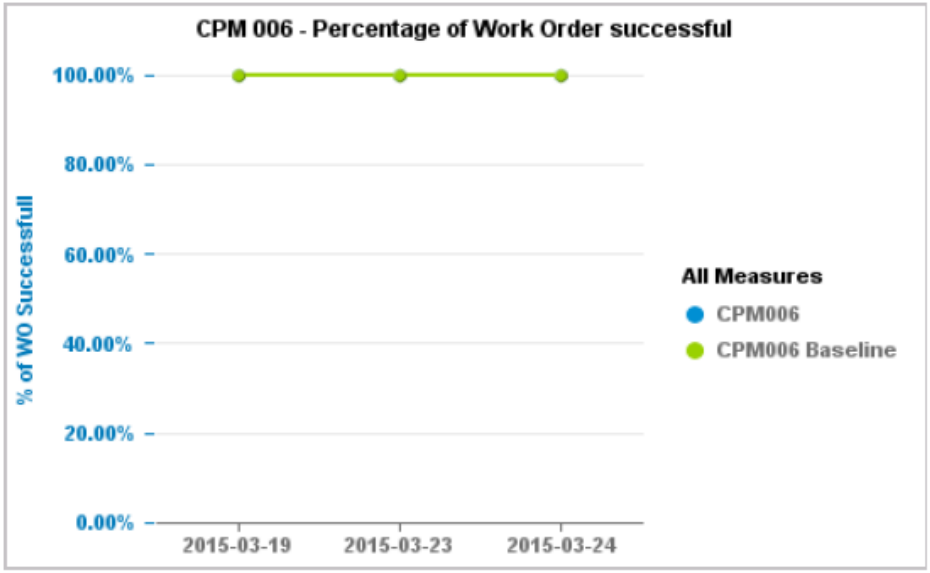
# PROCESS KPI AUTOMATION THROUGH BI

## Zain Iraq - Capacity and Performance Mgmt KPIs - 01-03-2015 to 31-03-2014

| KPI No. | Full Name | Value |
|---|---|---|
| CPM001a | # of Critical incident tickets | 0 |
| CPM001b | # of Major incident tickets | 0 |
| CPM002 | # of WO Implemented | 8 |
| CPM006 | % of WO Successful | 100.00% |



# CONTINUAL IMPROVEMENT

# PROCESS KPI AUTOMATION THROUGH BI

**Continued from last slide…**

1. Till now KPI automation done from BI universe in reference to the data availability from OneTM.
2. This will help in minimizing the efforts in Process KPI measurement.
3. Automated KPI derivation from PM Tool is in progress.
4. Delivery team needs to follow / adhere the process only. Automated KPI reports will be generated from the tool as per the schedule and will be circulated to all the stakeholders.
5. There will be no option for manipulation or human error in process KPI measurement.

# CONTINUAL IMPROVEMENT – VALUE ADDITION

Under continual improvement plan, 9 new KPIs have been introduced in the month of October 2014 and an interface with Event Management has been established to inform deviation found in Active Monitoring towards Optimization. The new KPIs are as follows and along with the objectives.

| KPI | KPI DESCRIPTION | OBJECTIVE |
|---|---|---|
| CPM001 | Total number of Critical and Major Incidents caused by Capacity Planning issues | Proactive approach to minimize issues related to capacity planning. |
| CPM002 | Number of Optimization Service Requests / Work Order Implemented | Month-On-Month basis effort analysis for Optimization domain |
| CPM003 | SLA targets missed due to capacity planning issues | Readiness of Planning domain with Temporary Fix as well as with Permanent solution. |
| CPM004 | SLA targets missed due to optimization issues (Poor Performance) | Readiness of Optimization domain with Temporary Fix as well as with Permanent solution. |
| CPM005 | Percentage of performance KPI improvement against baseline | Continual Service Improvement Plan is in place and being followed honestly. |
| CPM006 | Percentage of Optimization Service Requests and Work Order successful | Successful resource utilization as per SLA |
| CPM007 | Percentage of CIs with Over - utilized (above defined threshold) | Proactive approach to collect information for Planning & adherence to SLA |
| CPM008 | Percentage of CIs under - utilized (below defined threshold) | Proactive approach to collect information for Planning optimum solution |
| CPM009 | Average time spent on SR (Capacity / Optimization Plans) | Effort analysis for Planning |

# BENEFITS – REAL LIFE EXAMPLES

## VIETNAM MOBILE, VIETNAM

1. **Alignment with WLA and OLA(s) and reinforcement:-**

   Capacity and Performance Review is aligned with WLA documents .

   - The Trigger to collection of performance /utilization information activity is part of routine capacity & optimization review as defined in the Contract/WLA .
   - The list and frequency of distribution of KPI reports and other performance reports is also listed in WLA .
   - Reinforcement of contractual KPI(s)/SLA and CPM KPI's

2. **Governance meeting** :-
   - MS governance specific to CPM, meeting 13 & 14 as a part of capacity planning cycle
   - A handshake has been made between PDO and Problem Management to have a monthly Governance meeting for **CPM KPI discussion** . This will ensure process KPIs to discussed between PM & PDO and arrive at reporting.

3. **Business Requirement**: -
   - Any special project request/new requirement/Request ,expansion request or any new requirement which is not pre-approved shall come as Business Requirement(BR) from Requirement Management Process.

4. **Demand and Capacity Chart** :-

As part of CPM process ,a consolidated Demand and Capacity Chart shall be prepared for all the domains after detailed trending analysis is done.

Demand and Capacity can provide a clear visual presentation :-

- The Forecast usage
- The Planned capacity based on the Forecast and capacity expansion project completion.
- The current actual usage
- The current available (installed) capacity
- The forecast exhaustion date for the current capacity
- The forecast exhaustion date after expansion project completion.

This helps plan the right time for capacity upgrades with consideration of already scheduled/planned projects.

# BENEFITS – REAL LIFE EXAMPLES

## AIRCEL, INDIA

1. Periodic review meetings were conducted with stakeholders to check the working of this process on ground level. No deviation in the ways of working was observed.
2. The process is found to be stable without any negative impact in WLA fulfillment.
3. The process brings in clear identification in roles and responsibilities (through RASCI matrix in place) of different teams involved while carrying out their activities.

The agreed KPI values were measured on ground to mark success level of the process under two heads-

- ❑ CPM process KPI as per acceptance criteria (CPM002 & CPM004)

4. As a part of MS Aircel, Network Sustenance (NS) implementation in ESPA involving tracking of 4 KPIs related to degraded cells. This is tracked as CPM005.

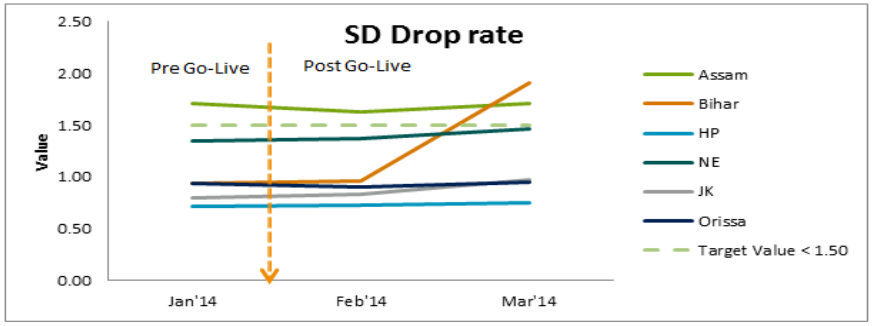
5. KPI measurement analysis (based on the KPI data for more than one month, Jan'14 to Mar'14) are as below.

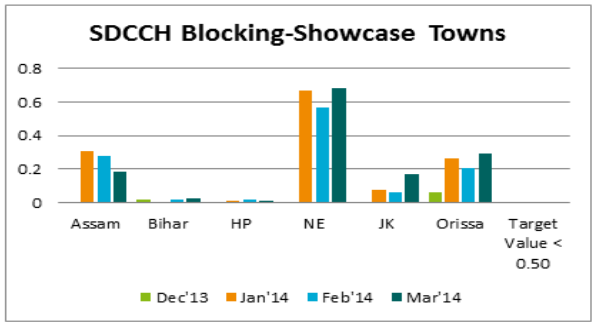
- ❑ The baseline data used for month of Jan'14 for CPM002 & CPM004
- ❑ There has been no incident reported (Emergency & Critical) during the observation period ( from 22nd Jan'14 to 28th May'14) for CPM002 & CPM004 related Optimization issue.
- ❑ Network Sustenance (NS) KPI's are tracked & reported from Jan'14 to Mar'14.
  - ✓ SD Blocking,
  - ✓ SD Drop rate (This is not a contractual KPI and is tracked & measured for internal performance)
  - ✓ TCH Blocking
  - ✓ TCH Drop

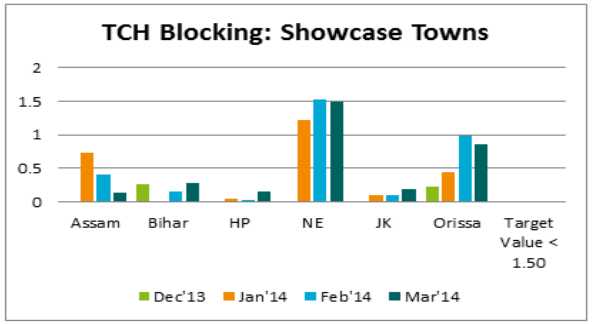
# BENEFITS – REAL LIFE EXAMPLES

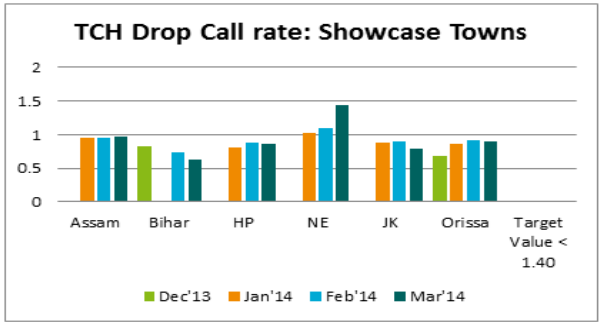
# AIRCEL, INDIA (CONTD…)

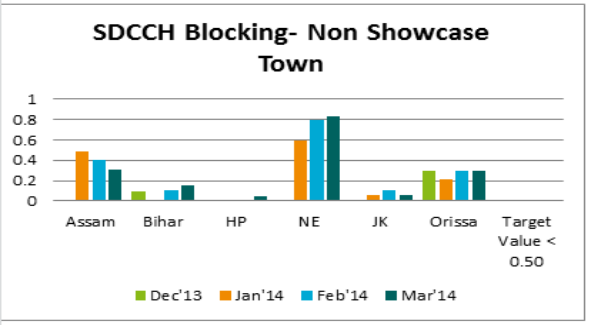
## Graphical Representation of KPI Performance and Analysis:

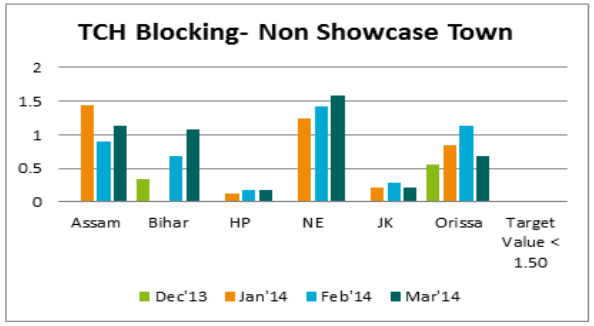


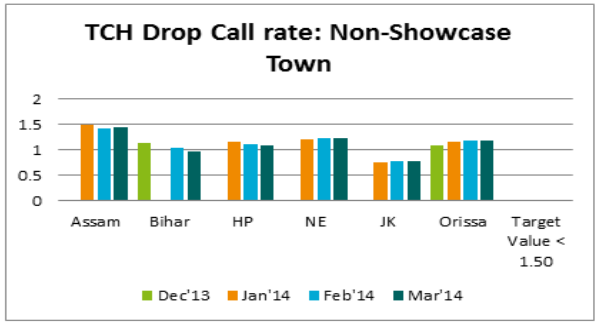



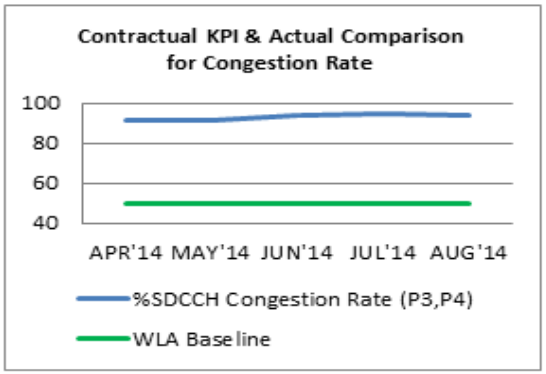



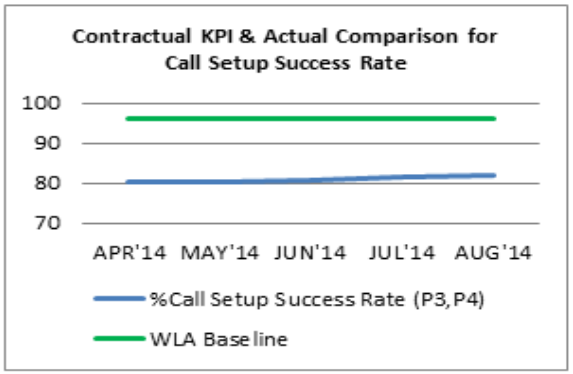
# BENEFITS – REAL LIFE EXAMPLES

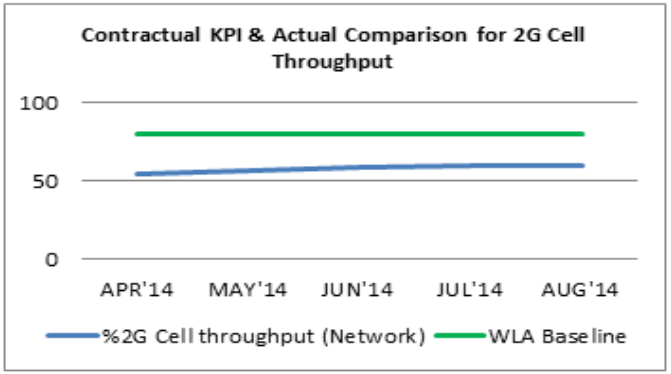
## MTN, NIGERIA

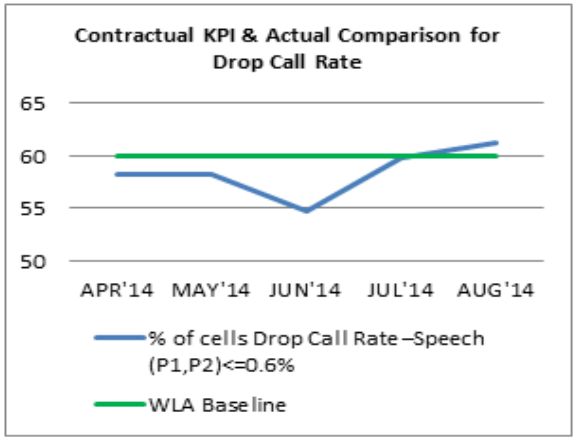
### Graphical Representation of KPI Performance and Analysis:

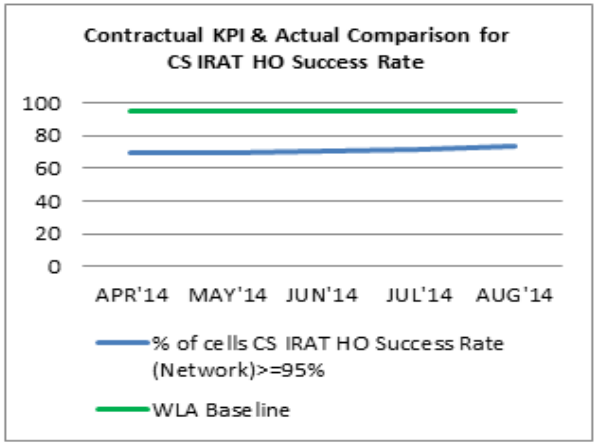
| KPI | Description | Measurable | Baseline Data Available | Measurement Period | Jun '14 | July '14 | Aug '14 | Sep '14 |
|---|---|---|---|---|---|---|---|---|
| CPM001 | Total number of Critical and Major Incidents caused by Optimization issues | Yes | Yes | Monthly | 0 | 0 | 0 | 0 |
| CPM002 | Number of SLA performance targets missed due to optimization issues | Yes | Yes | Monthly | 0 | 0 | 0 | 0 |
| CPM003 | % of performance improvement in alignment with the WLA | Yes | Yes | Every 6 months | Baseline data mentioned below. | | | |

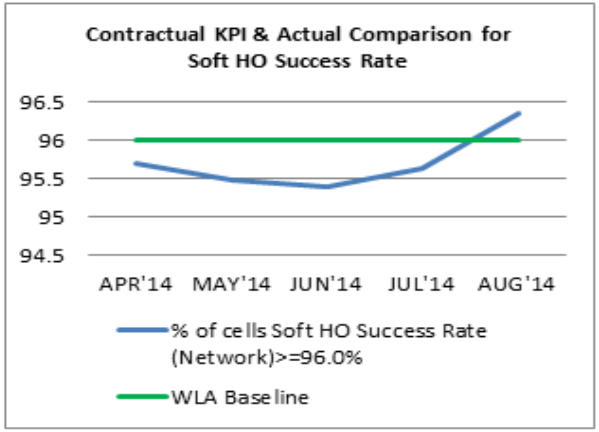


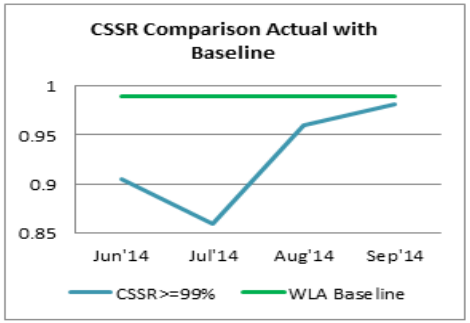
# BENEFITS – REAL LIFE EXAMPLES

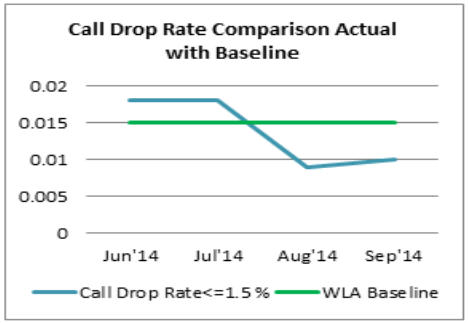
# DIGICEL, PNG

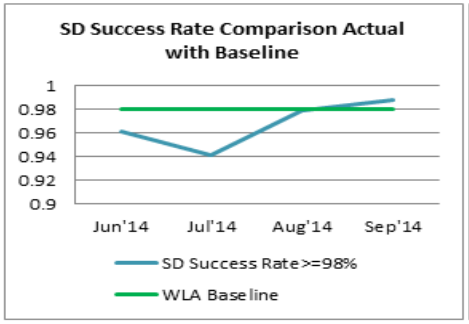
## Graphical Representation of KPI Performance and Analysis:

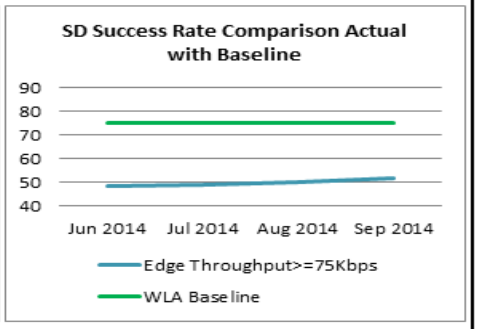
| KPI | DESCRIPTION | FREQUENCY | MEASURABLE | MEASUREMENT | SEP'14 |
|---|---|---|---|---|---|
| CPM001 | Total number of Critical and Major Incidents caused by Capacity Planning issues | Monthly | YES | TT-Report: Ops Support BA Verified Report: Problem Management & NE | 0 |
| CPM002 | Total number of Critical and Major Incidents caused by Optimization issues | Monthly | YES | | 0 |
| CPM003 | Number of SLA Performance Targets missed due to Capacity Planning issues | Monthly | YES | | 0 |
| CPM004 | Number of SLA Performance Targets missed due to Optimization issues | Monthly | YES | | 0 |
| CPM005 | % of Performance improvement in alignment with the WLA | Every 6 Months | YES | | Data Mentioned Below |

**CPM005 Analysis: 2G SLA Performance KPIs**

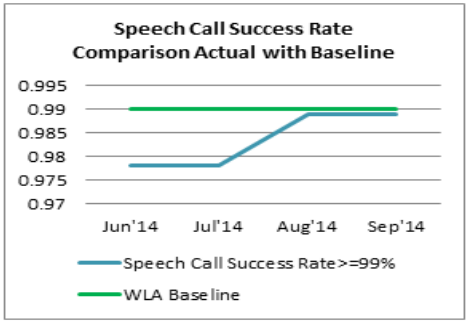


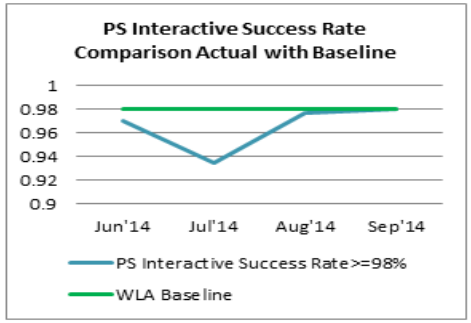



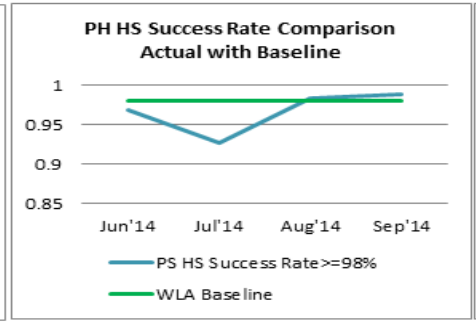



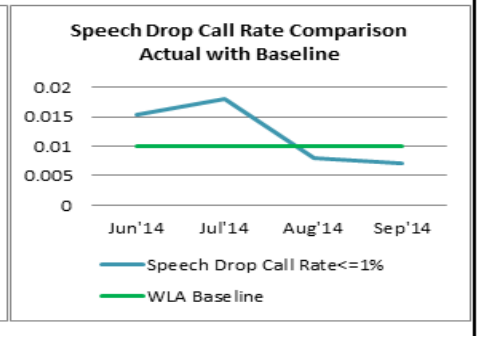



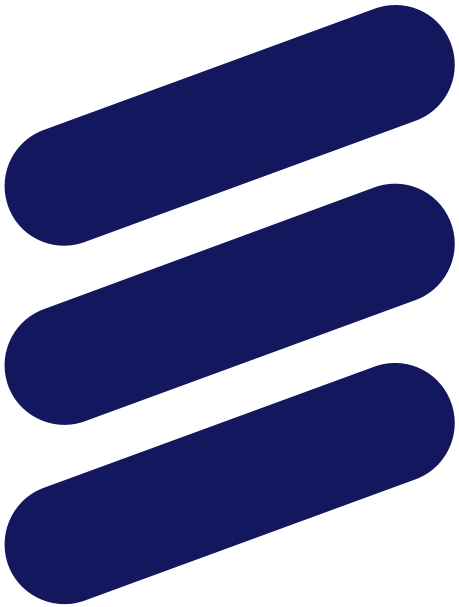

**CPM005 Analysis: 3G SLA Performance KPIs**





ERICSSON