



IMPLEMENTATION OF SMARTVIEW FOR OUTAGE MANAGEMENT IN TNB DISTRIBUTION

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Introduction

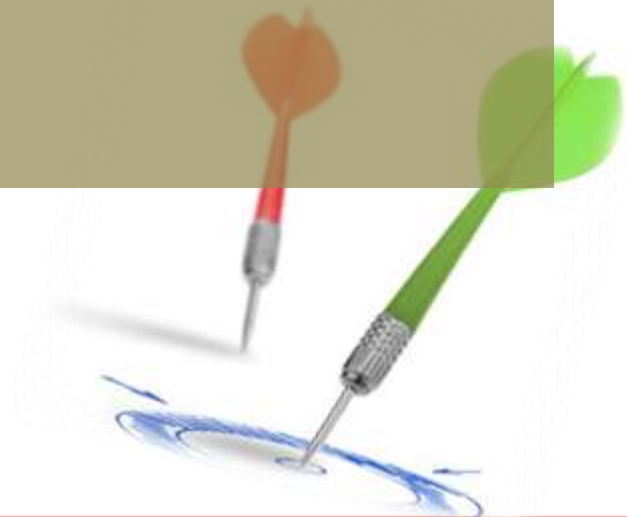
In line with the Distribution division Transformation programed, TNB SmartView was initiated by TNB Careline together with ICT for the purpose of improving operation efficiency and enhance customer experience every time they interact with TNB Careline through Call Management Center (CMC).

TNB SmartView is a simple web-based map application with combination of Google maps and Map API technologies, it will populate all TNB's asset on top of Google maps with real time information such as breakdown info and breakdown team vehicle location. It is simple, reliable, useful and user friendly.

Project Objectives



- 1 To visualize and locate TNB assets on Google Maps**
- 2 To display real time tripping and breakdown information on the map through integration with SCADA and MFFA system**
- 3 To improve the performance of the application by providing fast searching functionalities (street address geocode engine)**
- 4 Improvement of work process environment by providing mobile GIS services.**



SmartView System Architecture



Web browser



Platform



TNB SMARTVIEW

Ticket No.,
Cust Address



PE, PMU, MV
Location

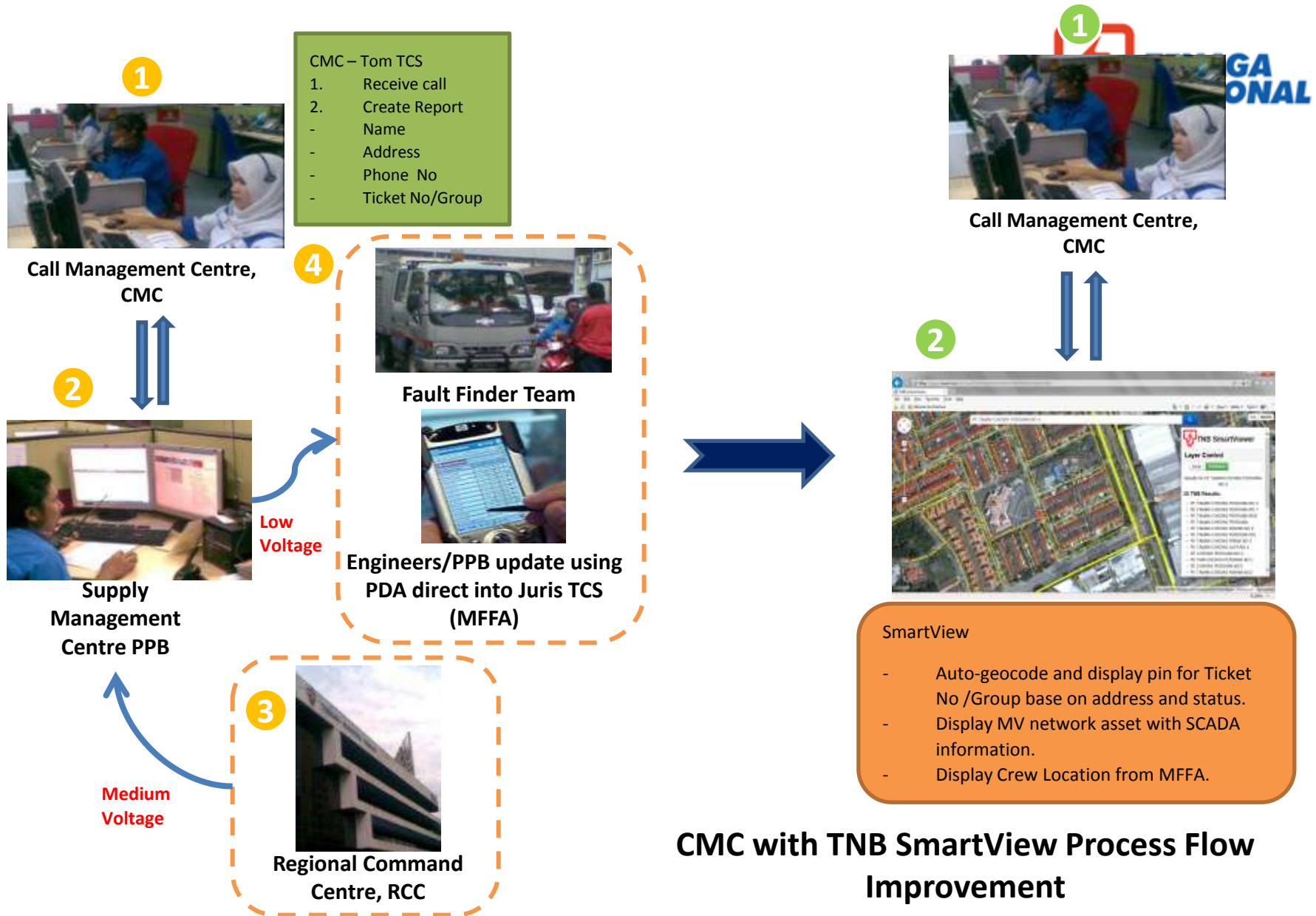


Crew
Vehicle



Real time
Outage data





System Component



No.	Component	Description
1.	GIS	Asset Information & Location
2.	SCADA	Breakdown Information
3.	MFFA	Breakdown team location
4.	TOMS	Ticket no & Breakdown address

System Features



No.	Features	Description of the modules
1.	GIS Data Importer	<ul style="list-style-type: none">- Automation of importing of existing GIS data from Oracle 10g.- Change the map into Map API.
2.	SCADA Data Integration	<ul style="list-style-type: none">- SOA integration with real time SCADA input data.
3.	MFFA Integration	<ul style="list-style-type: none">- SOA integration with real time MFFA crew location input data.
4.	Layer Viewer	<ul style="list-style-type: none">- View asset layer PMU, PPU, PE and Medium Voltage (MV) Cables.
5.	Real Time & Outage Layer Display	<ul style="list-style-type: none">- Display real time outage layer.
6.	Search Module	<ul style="list-style-type: none">- Automate address searching using Address Management Engine.

Business Case

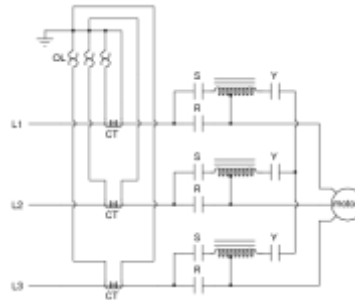
SmartView Phase 1: TNB Careline @ CMC (current implementation)



CMC Operator

- Receives customer complaint on power interruption
- Refers to TOMS to check breakdown status
- Unable to quickly update customer on progress of repair
- Unable to quickly update information to customer.

Before



Integration to GIS, SCADA & MFFA

- Automation visualization of customer complaint/breakdown (ticket) location on Google base map.
- Visualization of GIS network & asset location.
- Access to real-time breakdown data from SCADA (MV outage)
- Access to fault finder location on site and current ticket status from MFFA (for LV breakdown)
- Operation boundaries on map for customer ticket assignment.

After



Benefits

- Improved customer experience
- Able to provide immediate feedback to reassure customer
- CMC agent can visualize the customer and breakdown location .
- Single point of reference for breakdown and crew information.
- Fast ticket assignment according to operation boundaries

In pipeline : Operations Support



Operations Team & Management

- Attends breakdown on site
- Need to manually get information from RCC on network SCADA status.
- Need to manually get information from breakdown crew on-site status.
- To get fastest route and correct location to site.

Current



SmartView Mobility & Map Dashboard

- Searching by PE name or address.
- Navigate to site, based on fastest route as recommended by Google Maps (real-time traffic info)
- Visualize real time outage location (MV)
- Get online and updated breakdown status from crew on-site.
- Visualize breakdown and crew vehicle location.

Future



Benefits

- Shorter respond time to site.
- Increased productivity (information on-the-go)
- Map dashboard for breakdown information and status.
- Consolidated information for operation support.

New User Request: Supply New Connection & Service Team



PKP front liner & Service Team

- Receives new supply application from contractor or customer
- Submits form to service team for site visit and cost estimation
- Prone to inaccurate data e.g. address
- Estimation of length of cable for supply connection or replacement of faulty cable.

Current

Access Smartview via desktop

- Enter address or coordinates to view customer location and network connectivity.
- Verify with contractor/customer on exact location of new supply application .
- Calculate and estimate cable length on the spot.
- Identify nearest network connectivity point (eg. Pole etc..)

Future

Benefits













- Improved response time to customer/contractor for the request.
- Provide accurate info for service team.
- Increased productivity (in support of Distribution's 7 days supply connection initiative)

Benefits of SmartView



From ...

To ...

-  **Unable to provide real time response/information to the customer**   **CMC agents able to view real time information and advice customer in detailed/immediate information**
-  **Unable to locate the exact location of outage address given by customer.**   **CMC agent can visualize the exact outage address/location via the map display**
-  **Unable to get Real-timed Outage information from SCADA & Fault Finder crew location.**   **Outage information & Fault Finder Crew location can be view on the map at real time**
-  **Multiple sourcing of information (TOMS, SCADA , MFFA, GIS)**   **Single channel (360° view) of information hence improve CMC agent handling time**

Outcome Measure



EESI satisfaction

Average Handling Time

No's of Return Calls to Customer

By providing reliable and friendly user system to the agents, it has increase staff's satisfaction. The average satisfaction survey scored 4 points (out of 5 scale points)

Reduce average handling time (AHT) from 3.04 minutes in January to 2.57 minutes in April 15 – June 15

Reduction by 70% of return calls to customers

Improve accuracy information to the customer by 100%



EES increase



Within new target 3 minutes



Reduce return call to customer

Search ▾ TNB SmartView Search

Road Map Satellite Hybrid Terrain

Search: Jalan CJ 15

Address: Jalan CJ 15, Taman Cheras, 4320 Cheras, Selangor, Malaysia

Postal Code: 43200

Name: 15000000115000000000

ADDRESS SEARCHING

PPU BTHO 6

Device ID: Label

Device Type: LOW VOLTAGE TRANSFORMER

Simulated: true

Status: Open

Subs: BTHO

Mnemonic:

Subs Type: PPU

Timestamp: 2015-03-03T20:55:42+08:00

SCADA OUTAGE LOCATION

Search: BJC7653 (10042153 : Abdul Rahim b Bakar)

Business Code: 0140

Field Crew Team: 10042153 : Abdul Rahim b Bakar

Latest Timestamp: Tue Apr 14 2015 @ 3:41:46 PM

Tickets Currently Assigned: 1

1: Fault Type	Lain-lain
Incident	NO 23, JLN MAHKOTA 4/ MUTIARA BUKIT RAJA 2,
Location	1 RUMAH BEKALAN TIDA
Remarks	
Report Status	Kerja Siap
Type	

Ticket: 014000160414236

FAULT FINDER LOCATION

Search Result(s)

Distribution Assets:

- FBU SALAKONG
- FAU 200

TNB ASSETS LOCATION

TNB SmartView

THANK YOU