

# OpenTCM

## Trouble Call Management

Trouble Call Operators functioning within a tense environment require easy to use tools for logging customer calls, analyzing probable cause and maintaining accurate records of maintenance actions initiated. **OpenTCM™** encompasses the scope of traditional Trouble Call, Outage Management and Crew Management functions providing the following key features:

- **Trouble Call Logging:** A complete database of customer call information that may be linked to an existing Customer Information System to streamline entries.
- **Outage Management:** When interfaced with OSI's **OpenMAP™** product, a complete set of tools is provided to perform probable cause analysis and pinpoint the "area of interest." Automated management of outage conditions is suggested through the **OpenTCM's** ability to log faults, group faults, prioritize/escalate faults, initiate work orders and track work order status.
- **Crew Management:** When interfaced to a Crew Dispatch/Management system, automated crew selection and delivery of work order and other relevant information to field crews can be provided.

**OpenTCM** can easily be integrated with a utility's customer information system (CIS) to enable the identification of customers with a minimum amount of user-entered information and provide access to customer details. In addition, customer service representatives are given the ability to review fault status, time to restoration and details of the work for communicating reasons for fault and fault status to affected customers. Electronic and printable trouble tickets are automatically generated for each outage event.

Using the topological analysis capabilities of the **OpenMAP** product, coupled with SCADA real-time telemetry, **OpenTCM** provides a prediction/analysis engine that analyzes trouble calls and SCADA events, and provides the following functions:

- Escalation of outage to a higher level based on user-defined business rules.
- Grouping of related trouble calls and network outages to a high level event.

The screenshot shows the 'Customer Info - All Customers' window. It features a table with columns: Acct #, Last Name, First Name, Phone, Address, Priority, AOR, and Account Type. Below the table, a 'Customer Info' pop-up window is open for customer 'A-0-1997-C-485'. This window contains fields for Last Name (Sier), First Name (Greg), AOR (AOR\_1), Address (24 #6 WoodsWay-4), City (Plymouth), Zip Code (55416), State (MN), Station (station2), Feeder (feeder2), Section (section2), Device (device2012901), Transformer (transformer2), and Phase (PB). There are also 'Actions' buttons like 'Create New Ticket', 'Related Tickets', 'Area Outages', and 'Area Work Orders'.

The screenshot shows the 'Trouble Call Management - All Tickets' window. It features a table with columns: Ticket Name, Date Issued, Status, Ticket Type, AOR, Priority, Fault Type, and Outage. Below the table, a 'Ticket Info' pop-up window is open for 'Ticket 1'. This window contains fields for Issued By (isi), Issued At (Jun 20, 2001), AOR (AOR\_1), Acct Number (A-0-1997-C-485), Last Name (Sier), First Name (Greg), Ticket Type (Customer), Ticket Status (Open), Priority (Medium), Fault Type (Lights Out), and Related Outage (Outage\_1). There are also 'Actions' buttons like 'Create New Outage', 'Customer Info', 'Related Tickets', 'Area Outage', and 'Area Work Orders'.

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# OpenTCM – Trouble Call Management

Automated management of outage conditions is suggested through the product's ability to log faults, group faults, prioritize/escalate faults, initiate work orders and track work order status. Work orders are prioritized based on user-definable criteria and include resource qualification/skill set requirements that may be matched to a crew management system for proper work allocation. Therefore, when interfaced to a Crew Dispatch/Management system, automated crew selection and delivery of work order and other relevant information to field crews is provided.

The Outage Management system maintains and reports several well-established reliability criteria (e.g., SAIDI, SAIFI, MAIFI).

**Outage Management - All Outages**

Outage Name	Outage Type	Date Issued	Outage Date	AOR	Status
Outage_1	Planned	04/26/2001	04/26/2001	AOR_1	Open
Outage_2	Predicted	04/26/2001	04/26/2001	AOR_1	Open
Outage_3	Confirmed	04/26/2001	04/26/2001	AOR_1	Archived
Outage_4	Confirmed	04/26/2001	04/27/2001	AOR_1	Archived
Outage_5	Predicted	04/26/2001	04/27/2001	AOR_1	Open
Outage_6	Planned	04/26/2001	04/27/2001	AOR_1	Archived

**Outage ID: Outage\_1**

Issued By: jsi | Outage Type: Planned | Outage Status: Open

Issued At: Apr 26, 2001 | AOR: AOR\_1

Start Date: Apr 26, 2001 | Priority: Medium | Work Order: Order\_1

**Device List**

Device Type	Device Name	Description
Feeder	feeder3 01290112	
Line	line802	
Station	station2	

**Work Order Management - All Work Orders**

WorkOrderName	WorkOrderType	Date Issued	Priority	Status	AOR
Order_1	Residential	04/26/2001	Very Low	Open	AOR_1
Order_2	Industrial	04/26/2001	Low	Open	AOR_2
Order_3	Residential	04/26/2001	Medium	Created	AOR_2
Order_4	Industrial	04/26/2001	High	Archived	AOR_3
Order_5	Residential	01/20/2003	Medium	Created	AOR_1

**Work Order ID: Order\_1**

Issued By: jsi | Order Type: Residential | Order Status: Open

Issued At: Apr 26, 2001 | AOR: AOR\_1

Start Date: Apr 26, 2001 | Priority: Very Low

Estimate Date: May 26, 2001 | Actual Date: Apr 26, 2001

**Device List**

Device Type	Device Name	Description
Feeder	feeder3 01290112	needs work
Line	line802	urgent
Station	station3	

**Customers Affected**

List of customers affected in area of work order: Order\_1

Acct. #	Last Name	First Name	Phone	Address	Priority	AOR	Account
A-0-1997...	Siber	Greg	952-778-	34 #6 WoodsWay-4	Low	AOR_1	Industrial
A-1-2000	Choy	Albert	763-899-	3345 #69 Lakes Street	Medium	AOR_1	Resident
A-1-1998	Ingram	Ron	952-882-	3324,56th Ave, #4	High	AOR_1	Industrial

**Customer ID: A-1-1998-468**

Last Name: Ingram | Email: rg@osii.com

First Name: Ron | Phone Number: 952-882-8876

AOR: AOR\_1 | Meter Number: #998

Address: 3324,56th Ave, #4 | Priority: High

City: Plymouth | Account Type: Industrial

Zip Code: 55416 | State: | Station: station3 | Feeder: feeder3 | Section: section3

Device: device3 0129011 | Transformer: transformer3 | Phase: AB

Comment:

OK