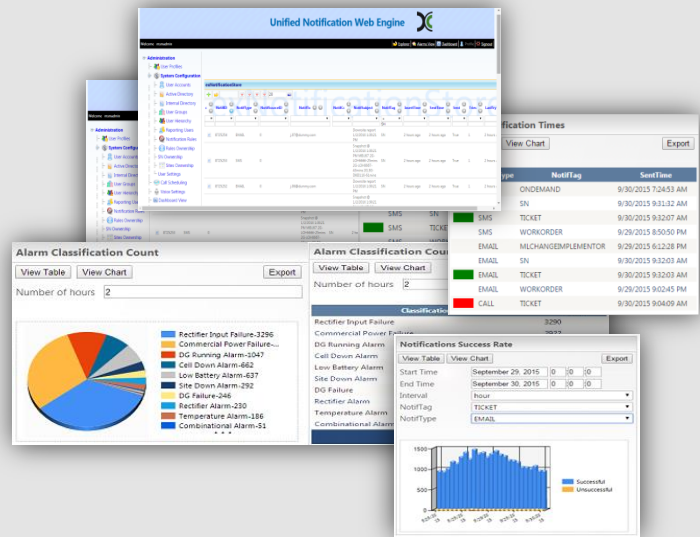


Unified Notification System

EMAIL-SMS-CALL



Exceleron Communication Solution Guide



INTRODUCTION

Real time notification system helps to control and eliminate critical network events by alerting network maintenance staff for quick recovery actions. Negligence in timely control steps can impose serious threats on network integrity. For this, a comprehensive unified notification system is required to inform network maintenance staff through Email, SMS or Call for quick response/actions.

It is targeted to overcome challenges in IT/telecommunication enterprise where critical network states are not being reported to technicians/engineers in real time resulting in severe and prolong network outages. With this notification solution, operation's staff will have quick and better understanding of initial situation that will minimize the impact of network outages by timely actions. Also Staff duty compliance can be improved dramatically with the implementation of unified notification solution.

SOLUTION OVERVIEW

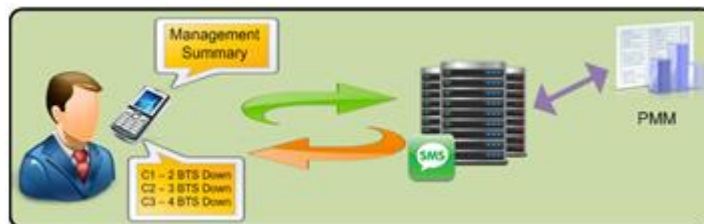
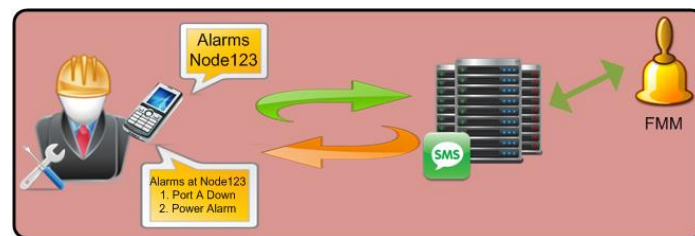
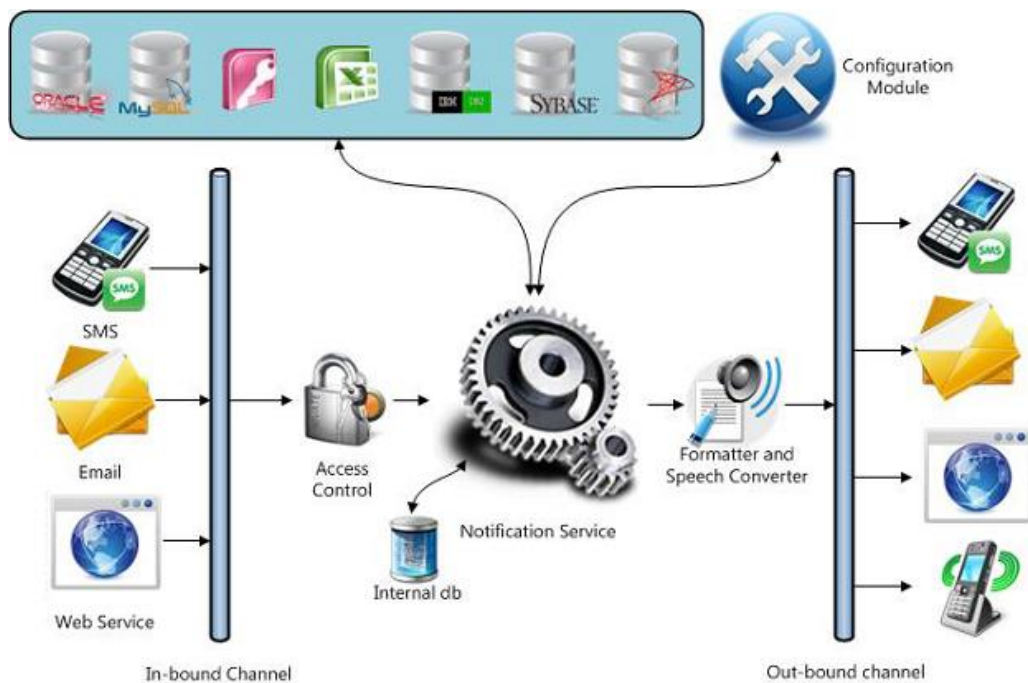
- Notification system for the intimation of alerts or events over Call, SMS and E-mail
- Open architecture for extending corporate data of wireless networks to mobile users of the enterprise.
- Help increasing business productivity by delivering critical enterprise content to make timely decisions
- Easy and flexible integration with existing enterprise infrastructure
- Bi-directional, scalable and reliable solution for cost-effective operational environment
- Robust text to speech conversion feature to send alarms notification over call
- Notifies events to group of users to simplify operational workload
- Smart data formatting to send graphs or health charts for easy management
- Operates on a pre-fed escalation matrix defining communication hierarchy to report critical thresholds

KEY FEATURES

- Sends real-time alerts and reminders over Voice Call, SMS and Email to individual or a group of users when a particular state in the system arises.
- Pre-scripted alerts can also be scheduled to send voice call, SMS and Email alerts to individual or group of individual for any activity information
- Easy and flexible integration with existing DBs and Ticketing systems
- Fetching of raw alarms from servers, manipulation of alarms and generation of alerts and reports in Tabular/Graphical Format
- Provides Interactive Voice Response (IVR) for In-coming Calls
- Provides flexibility to administrator to define & modify customized exception rules for notification based on multiple parameters and time on live system.
- Ability to provide load balancing between multiple SMPP and SMTP servers
- Integration with IP/E1 PBX for voice call notifications
- Empower administrator to manually create users or groups with facility to define access control list. Provides bulk import/export feature to define, delete and modify user profiles & notifications ownership
- Provides flexibility for users to define their own personalized setting based on the authority assigned to them initiated via SMS, Email or over the web portal
- Logs to monitor the user's requests/responses, notifications information and system related faults.
- Work flow designer tool to define complex rules with customized logics, facilitates operator to create/modify rules and escalation hierarchy on the fly.
- Customized reports like Sites Down/Environmental Alarms can be viewed and send in Tabular and Graphical Formats with multiple filtering options which can be scheduled to run and send via Email to an individual or groups as per their ownership
- On-demand reports generation by end users for sites down/environment alarms etc. through PULL SMS

OVERVIEW OF NOTIFICATION ENGINE MODULE

It consists of two parts, a front end and a back end engine. The front end is used to set the outgoing notification template, access for the Call/SMS/Email modules and specify recipients that should receive notifications. The back end is used to manage/query the database for upcoming events which are set to send notifications.



SUMMARIZED NOTIFICATION MODULE

- Sends scheduled PUSH customized notifications report of the sites alarms queried from host servers through Email and SMS after required processing and formatting.
- N levels of recipient's definition against Site Codes with each level notified through required formatted information on Email and SMS based on the individual sites, MBU, Zone, Sub-Region, Region etc
- Facilitates end users to query reports in PULL scenario on demand by sending Email or SMS for real time or non-real time updates.

INTEGRATION WITH DATABASES

Easy and Flexible integration with databases like DB2, MySQL, Oracle, SQL, Sybase to fetch Alarms/Events and Tables data

FAULT MANAGEMENT MODULE

Filters out unwanted alarms/events with high occurring frequency which reduces load on the core processes. Modifies and adds different fields to the alarms/events. Avoid duplications of the same event/alarm within a threshold period by its identification.

CURRENT ALARMS QUERY MODULE

- Provides ease to authorize users to query real time alarms information of any site from host server in the pre-defined formats through SMS.
- Easy to define text shortening formats to display large alarms information in compact & readable formats for end users for different domains



EMAIL AND SMS LISTENER MODULES

- Integration with multiple SMTP servers in load balancing mode to listen the defined user requests to perform requested tasks and sends the outgoing notifications through Email
- Integration with SMSC server in load balancing mode using different ports to listen the defined user requests to perform requested tasks and sends the outgoing notifications through SMS
- Use web service to update response in DB or query any information through SOAP calls.

CALL NOTIFICATION APPLICATION MODULE

- Call Notification Application used to set the outgoing notification voice template, access for the call engine and implement IP PBX for inbound/outbound calls.
- Uses an internal IP PBX to include features of branch exchange through the implementation of TCP/IP protocol stack. The IP PBX interconnects calls origination/termination from IP network to GSM network on SIP protocol.
- Multiple call retries option to make sure that call has been successfully notified to end recipient in case of failure.

NOTIFICATION RULES

Provides flexibility to Administrator and authorized users to define & modify Notification Rules/Policies based on different parameters/fields of Tables for individuals, groups, domains or any combination using multiple logical operators

ADMINISTRATION HIERARCHY

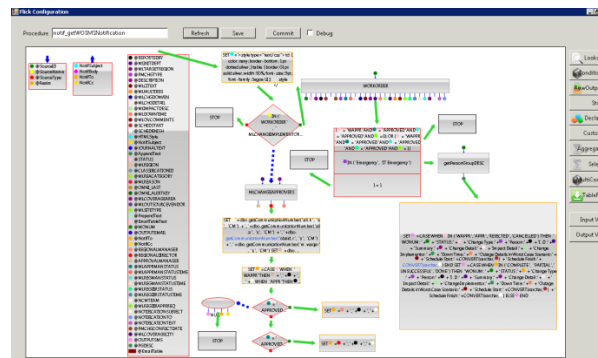
Facilitates administrator to define n-levels of administration hierarchy on the basis of Region, Sub-Region, Domain, Sites, Business Units or any other requirement for streamlined operations.

MANAGEMENT REPORT MODULE

- Scheduled customized sites alarms report generation for management view in the form of Tabular and Graphical Formats through Email notifications.
- Easy to define customized recipient of the information.
- Flexible to define customized formats for reports based on Vendors or Domains.
- Alarms and report attachment in email for detailed view

FLICK TOOL

- Core of system design
- Ease of Use
- Coder Independent
- Complex rules creation with customized logics
- Logical operators, decision making, tabular lookups and drag/drop facility
- On the fly rules and notification approval work flow creation and modification
- Facilitates debugging of work flows before execution of changes on live system
- Helps troubleshoot issues through Debugger to identify problems
- Flexible formatting of Email, SMS and Call notifications based on domains, vendors, alarms, reports etc.



ONDEMAND NOTIFICATION PORTAL

- Web based GUI used to generate on demand SMS, Email or Call to individuals or predefined group of persons which can be customer's Active Directory users/groups or Manually Created users/groups by administrator/authorized users.
- Webpage available to generate SMS, Email or Call with required notification information in case of emergency cases to a person, comma separated persons, group of persons, multiple groups, comma separated persons and groups.
- Details of successful/unsuccessful notifications sent to recipients.
- Ease of use to open and close emergency notifications status on portal to track the reporting history.

INTERACTIVE DASHBOARD AND CONFIGURATION PORTAL

- Admin web portal provided for end-to-end management of Notification Solution Defines Notification Rules, Node Ownerships, Internal Directory for Vendors, User Administration Hierarchy, User Groups ,Users Notification Settings, Notification Logs, System Logs, Dash Board View, On Demand GUI.

ADDITIONAL FEATURES

- Every income request is filtered via ACL to ensure the security of the information being sent, only relevant people will get the required information
- Every user can define its own personalized settings, Initiated via SMS, Email or over the portal
- Administrators have complete rights to enable/disable these settings for individuals. For Example, level 3 person (director) can silent his notifications from 12am to 9am by sending SMS
 - silent 0-9
- Team lead can define the ownership of site(s) under him to his team member by SMS
 - own ABC123 user.name

DASHBOARD VIEW

- Flexibility to view customized trends based on hours, days, weeks and months, Notification Type, Notification Module type
- Availability of multiple types of graphs and reports
- Able to find the notification count in specific time period
- Notification Success Rate chart for analysis
- Latest Notification Sent times against different notification modules
- Alerts generation after threshold time in case any notification module failed to send notifications.
- Every portlet in the dashboard can be:

Scheduled to Run
Sent via Email
With Graph and Report Attachment

