

CASE STUDY – TATA REFRACTORIES LIMITED
SMS FROM BAAN ERP BACKEND SYSTEM



TRL - A Global Refractories Company



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Section 1 Introduction & Overview

1.1 Case Study – TATA REFRACTORIES LIMITED

1.2 Blackberry business application integration with SAP ERP system

Objective: To deploy SMS solution for alert messaging from the field sales force about account receivable from debtors to be update in Baan ERP financial tables the moment Cheques/ Bank Draft collected by them

Customer Address: Tata Refractories Ltd, (TRL) Belpahar, Jharsuguda India

Brief Introduction of Customer: -

- Tata Refractories Ltd, (TRL) is India's No. 1 Refractories Producer. It was established in 1958 and is located at Belpahar in the District of Jharsuguda in the State of Orissa. TRL has been successfully meeting the growing needs of a wide variety of customers in the Steel, Cement, Glass, Copper, Zinc, Aluminium, Petro-Chemical industries etc. for over four decades.
- Well known for their quality as well as for customer satisfaction performance, TRL products have found ready acceptance in USA , Chili, Zambia, Zimbabwe, South Africa, Middle East and the Gulf countries, South East Asia, Far East Asia, Bangladesh etc. TRL has acquired world class reputation for timely delivery and after sales services to all customers.
- TRL has also acquired the capability to offer Total Refractories Solutions which inter-alia include design, procurement, re-lining applications etc.
- **BaaN IV C4 ERP System implemented to streamline the business operations. To provide on time information.**

Scenario before Mobile Computing Solution Was Implemented:

- The largest refractory company in the country has implemented Baan 4 for its enterprise applications.
- Due to the custom requirement of refractory of the client, the Sales team has to be in touch with the R& D team and the Stock availability to commit to the client deliveries.

Major Challenge for the Company.

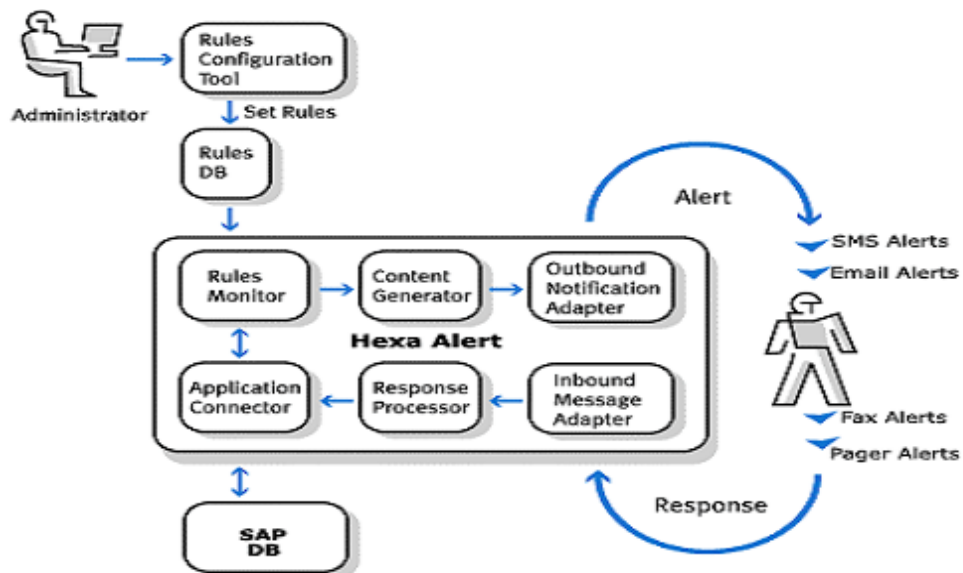
- Due to the existing client server architecture of the enterprise system, it is not extendable at a cost effective manner to the sales people. Thus the sales people resort to telephone and email communication for information.

Challenges / Problems encountered:

- Time lag of such information resulted in not so optimized utilization of the resources of the organization, which affected the profitability of the company.
- A lot time was spent in discussing with the R&D and the factory people in communicating the requirements of the clients.
- The service capability image of the company was getting affected.

Section 2 Solution: HexaALERT System Overview

Thus Avon proposed its solution, HexaALERT which was hybrid solution of accessing certain via web and PDA / Mobile devices interface for SMS to integrated with BaaN 4 CIV ERP System and the management can get the instant outstanding about customer and instant update can be sent through SMS about account receivable information as soon as payment received by cheques or Bank draft which updates the financial tables of backend Baan ERP .



Main subsystem modules of HexaALERT:

I Application Connector:

The application connector of **HexaALERT** will interface with the database and will poll for the data (events) from the database to throw the events to the core engine.

II Core SMS Engine:

- The core engine configures and processes the events, and according to the rules configured in the rules DB returns the data/event/custom message to the message router along with the phone number/fax number/email address/pager number etc to the message router. It has the following components apart from other core server functions
- Security, and access control
- User profile management
- Task scheduling.
- It can also be interfaced with the enterprise directories such as LDAP for email notifications.

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III Message Router:

- Handles routing of notification messages or alert content to a wide range of messaging and real-time communications devices and systems, such as wireless phones (SMS, WAP), pagers, PDAs, e-mail, voice mail and instant messaging (IM) to send individual or broadcast messages. The message router routes the custom message/event as configured to the recipient's access device.

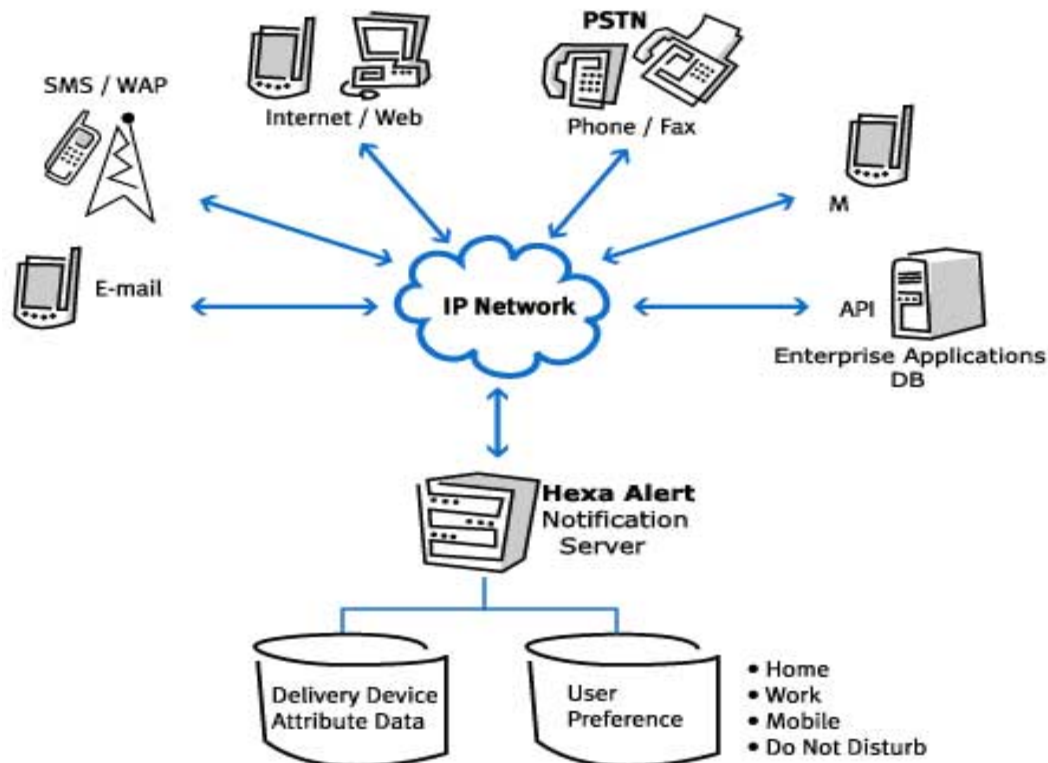
2.4 Capabilities of HexaALERT

2.4.1 Flexible Application Monitoring:

Monitoring for events from the BAAN IV system will be based on predefined schedule or a real-time event trigger. The application-monitoring interface of **HexaALERT** supports industry standard Java and XML technologies and standards such as J2EE.

2.4.2 Comprehensive Real time Messing:

HexaALERT Message Router delivers notification messages or alert content to, a wide range of real-time communications devices and systems, such as cell phones, PDAs, e-mail, for fast, intelligent real-time alerting and messaging capabilities.



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2.4.3 Personalized User Profile Management:

User personal profile and preferences, that define how and when the user expects to receive messages using devices such as a PDA, PC or a phone (wireless and wire line), can be easily set up and changed via HTTP interface by the user.

2.4.4 LDAP Support with Single Integrated Login (Optional):

Directory support is provided through LDAP enterprise directory to eliminate multiple login or duplicated directory management requirement.

2.4.5 Real-time Message Tracking and Logging:

Complete real-time tracking and logging of alert content delivery record and message exchange logs allow the user to review system activity history and post-mortem analysis of alert-response interaction.

2.4.6 Messaging Requirements:

Wireless	SMSC gateway; or Nokia RS 232 data Cable, Nokia 6110 or a Nokia 5110 compatible phone;
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2.4.7 Optional Features of HexaALERT

1.1 Audible Alert – Provides audible notification that a problem has been encountered on a specific monitored item. You can configure the type of sound (.WAV file or Speaker Beep) as well as select a custom .WAV file for the alert.

1.2 Pager / Mobile Notification – This alert is ideal for manned installations where a human will be able to hear and respond to the alert immediately. The pager / mobile notification is by far the most complex notification option available. This area provides both modem based paging through various configuration, mobile alerts through SMS or WAP browser as well as email alerts to be included in the escalation schedule.

Section 3 Technical Specifications of HexaALERT:

3.1 The HexaALERT system for connectivity to BAAN IV applications

3.1.1 Server components are modular and use industry standard Application Programming Interfaces (API) for J2EE and SLML (Server Logic Markup Language).

3.1.2 HexaALERT server is the interface that talks to BAAN IV Logical Database Layer, Lotus Domino or MS Exchange server, manages sessions in peer-to-peer communication, takes care of routing to and from various mobile devices etc.

3.1.3 HexaALERT server also takes care of encryption, load balancing, replication standards, presentation logic and content styling for appropriate devices.

Built on open standards, **HexaALERT** server allows for scalability and addition of new applications that may become necessary in these changing business scenarios.

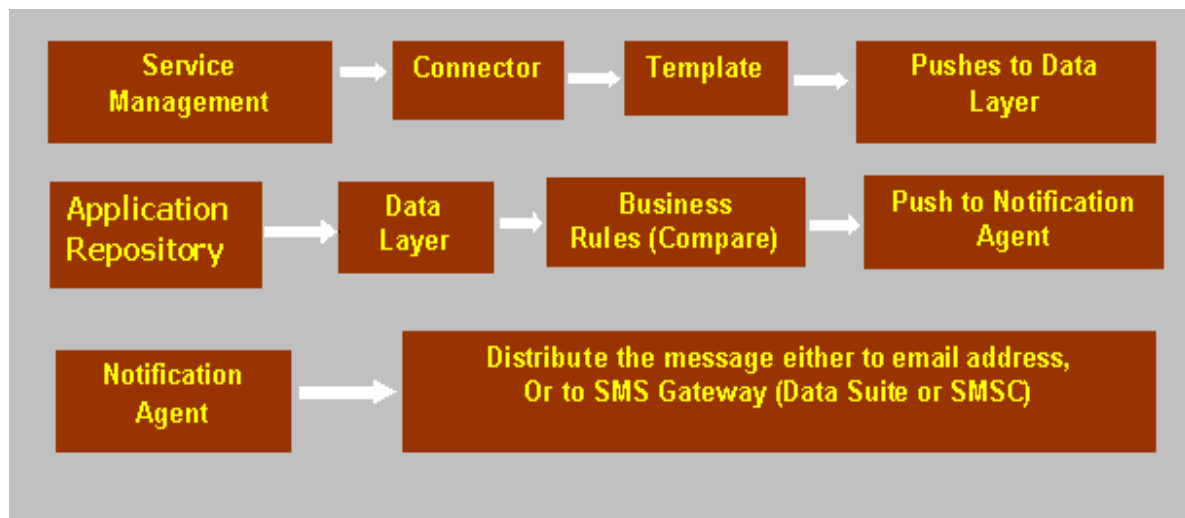
3.1.5 HexaALERT server administrator console is the beginning to applications management with drag and drop environments, privilege status flags, services set up, cross application sharing of services, connected data sources and user data management/administration. **HexaALERT** server admin console is used to add, modify or change user data relevant to corporate LAN/WAN. Various security and monitoring options also exist (login and data/message logs with time stamp, message archives, flexible client configuration, central administration etc.)

The system has advanced features that seamlessly integrate with BAAN IV applications without compromising on security. The riders for integration of the

3.2 HexaALERT systems for BAAN IV applications are:

- Client should have BAAN IV implemented on their network.
- Database can be Oracle, SQL, etc. This is transparent to the system.
- Client will have to specify the list of events for which the alerts needs to be generated and the access (mobile, fax, pager, e-mail) numbers of the concerned officials.

3.3 System Information Flow for Scheduler based Services



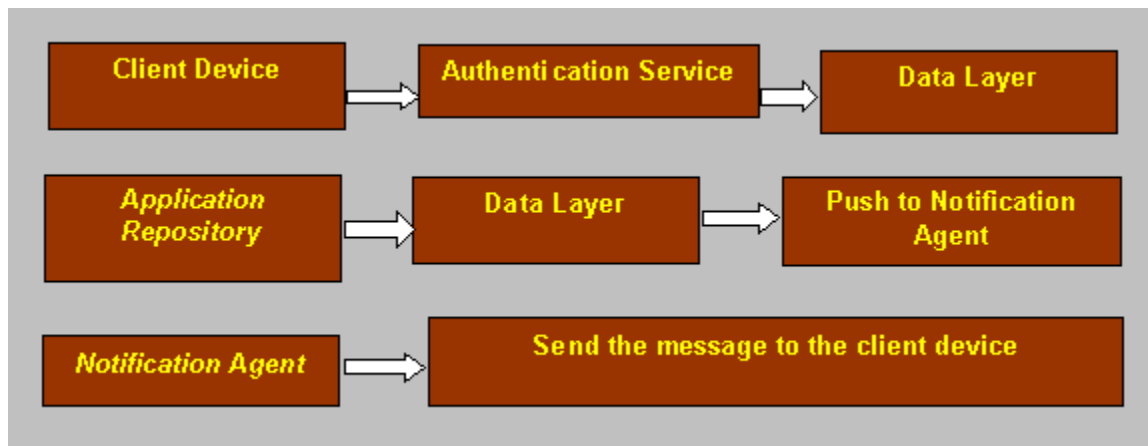
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Administrators will start the **HexaALERT** through the Service Manager. The Connector component will connect to the BAAN IV Logical and Oracle Database Layer, which abstracts any database available, and polls for data (events) from the Database Layer as per details set in the Templates. The data received from the Database Layer will be pushed to the Data Layer, which holds the data in a device independent format.

User Personal Profiles like how, when and on which device the user expects to receive alerts/notifications are stored in the Business Rules Definition. These rules can be set and modified through a web interface.

The Application Repository will act on the basis of the rules set in the Business Rules Definitions and send the data to the appropriate devices through the Notification Gateway.

3.4 System Information Flow for Request based Services.



The request for data will essentially be requested by the client device, which will send some identification along with the request. The Authentication Layer will first authenticate the request. On authorization, the relevant data will be picked up from the Data Layer or from files through the LDAP Layer. The application repository will then push the data to the Notification Agent, which in turn will send it to the client device that requested the service. In this case, the data is regularly updated in the Data Layer through a Synchronization service running periodically.

Advantage / Benefits:

The finance department can rework and negotiate the Cash Credit Limit with the bank with upto date information in hand.

After Implementation:

- The Sales people were able to quickly access information and communicate back to the client.
- The custom made to order nature of the business was mapped effectively.
- Customer satisfaction was achieved quickly.
- Huge time savings per day per person, which means more time, can be spent with the client.
- Tracking and monitoring possible using the time and date stamp.

CONCLUSION

The case study demonstrates and establishes the SMS business application PULL & PUSH and its seamless integration with BaaN 4 C IV ERP system.