



Leave Application Solution Phase 2



BizTalk Server / SQL Server - Case Study

The Summary

Client had an existing Leave Application Solution which AG Technologies developed solution using BizTalk Server 2004. The solution managed and automated the leave application process. The current solution did not provide the facility of integration with other applications nor did it have a facility of changing the business rules defined in the Leave Application System. The Phase II requirement was to enhance the existing solution. Leave Application Solution Phase 2 streamlined the leave application workflow which involved the following:

- Allowed user to define the dynamic leave approval workflow.
- Automated leave approval process according to the defined leave approval workflow.
- Integrated leave rules in BizTalk Rules Composer allowing the admin person to change them without the need of a technical person.
- Integrated with Novel Directory Services (NDS) for authentication.

The Client

Our client is the largest bank of the country in terms of assets, advances, deposits, net profit, branches and employees and also has advance investment NRI deposit Schemes

The Business Requirement

The client had an existing Leave Application system in place developed using BizTalk server 2004. Leave Application Solution streamlined the Leave Approval Workflow of the organization.

The Phase I LAS solution provided the following aspects:

- Automated the leave process through dynamic defined hierarchy of approvers.
- Incorporated custom rules for the various leave type.
- Integration with ADS, Exchange Server and BizTalk Server

Project Summary

Industry: Banking

Client Profile: Largest bank in the country

Business Requirements:

Client wanted to enhance the current Leave Application solution

Solution:

The current LAS solution was enhanced by automating leave approval process according to the defined leave approval workflow

Solution Benefits

- No source code modification is required.
- Business rules policy can be modified without modifying source code.

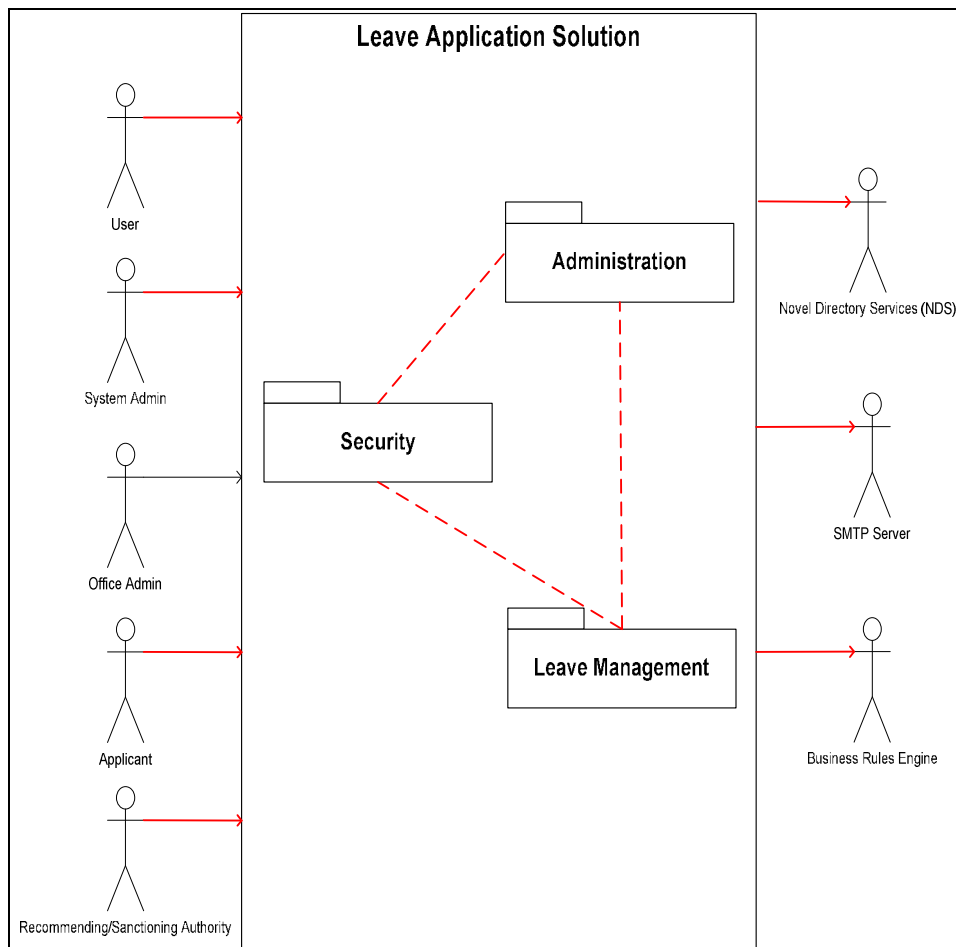


Client requirement was to enhance the LAS Phase 1 solution. These are summarized as follows:

- To Change ADS to NDS
- To Change Exchange Mail to SMTP
- Reports (Date wise user on leave, Half pay leaves report)
- Tour Application
- Migration Utility (for migrating current leave status into new system)
- BizTalk Rule Composer changes (LFC/HTC rules)

The Solution

The following are the modules and sub-modules of the LAS Solution





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- **User:** This user represents general employee base having access to Leave Application Solution. This is not necessarily being a valid user for LAS.
- **System Admin:** Admin user is responsible for initial configuration and day to day master maintenance activities of LAS.
- **Office Admin:** Admin user is responsible for business rules and employee maintenance.
- **Applicant:** By default every user successfully logged in LAS is considered as applicant.
- **Approver:** Every applicant is assigned leave application approvers at each approval level. LAS don't have a static approver defined for any applicant at any of the levels. Admin user can define the levels; allocate the approvers to the applicants dynamically.
- **Novel Directory Services (NDS):** Novel Directory Services is an external interface LAS deals with and so represents secondary actor for LAS. It is used as a centralized User credentials repository for LAS. In order to access LAS functionalities every user needs to have NDS credentials.
- **SMTP Server:** SMTP Server is the external interface LAS deals with and so the secondary actor for LAS. It is mainly used for mail.
- **BizTalk Rules Engine:** This is third secondary actor used as the business rules repository by LAS. User can configure these rules at his own ease without programmer intervention.

As stated above user, admin, applicant, and approver requests the LAS functionalities and NDS, SMTP Server, and BizTalk Rules Engine actors are used by LAS in order to accomplish these functionalities. Functionalities in LAS are primarily divided into three sub modules. These sub module's Internal and external interface requirements are captured in "includes", "extends" and "actors" sections of the individual use cases.

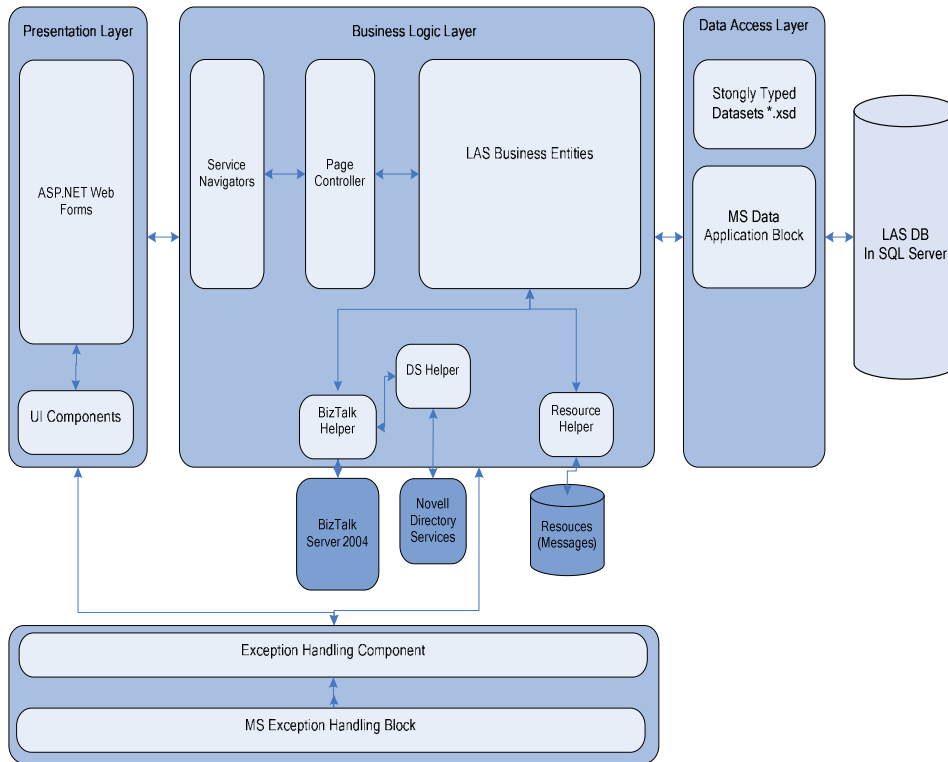
These sub modules are:

- **Administration:** Administration sub module covers master management, leave approval workflow configuration and reporting functionalities.
- **Security:** Security sub module covers authentication and role to functionality access management. LAS don't provide the functionality for creating and updating the User credentials.
- **Leave Management:** Leave Management sub module covers the functionalities starting from Leave approval workflow execution till the leave balance transfer.



The Solution Architecture

LEAVE APPLICATION SOLUTION ARCHITECTURE



Technology and Tools:

Operating System:

- Microsoft Windows Server 2003

Framework:

- Microsoft .Net Framework (ASP.NET, C#)
- Novell Directory Services
- Microsoft BizTalk Server 2004

Database

- Microsoft SQL Server 2000

3rd Party integration:

- None



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The Solution Benefit

- Leave approval hierarchy is defined in Novell Directory Services, no source code modification is required for any amendment in leave approval hierarchy
- Since business rules are defined in BizTalk Server 2004 business rules policy, rules can be modified without modifying source code
- User can define dynamic leave approval workflow