**Software Architecture Document**

**Internet provider “Wind”**

**Solution Information**

|  |  |
| --- | --- |
|  | Information |
| Solution Name | WindBoreas |
| Solution Acronym | WB |
| Document Owner | Bed Anatolii |
| Version/Release Number | 1.0 |

**SAD Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 02.04.2014 | 1.0 |  | Bed Anatolii |

Definitions, Acronyms and Abbreviations

**UML:** Unified Modeling Language

**SI:** Service Instance

**RI:** Resource Inventory

Table of Contents

[Purpose 4](#_Toc384296949)

[1. Solution Overview 4](#_Toc384296950)

[2. Architectural Goals and Constraints 4](#_Toc384296951)

[3. Application Architecture 5](#_Toc384296952)

[3.1 Logical View 5](#_Toc384296953)

[3.2 User Interface 5](#_Toc384296954)

[3.3 Supported Business Processes 5](#_Toc384296955)

[3.4 Sequences 5](#_Toc384296956)

[3.5 ER-diagram 5](#_Toc384296957)

[3.6 UML-diagram classes 5](#_Toc384296958)

[3.7 Security Architecture 5](#_Toc384296959)

[4. Reporting and search profile 5](#_Toc384296960)

[5. Resource Inventory 6](#_Toc384296961)

# Purpose

The purpose of this document is to define the detailed Solution Architecture for “WindBoreas”. This system provide ability full-cycle service provisioning with the usage of self-service portal. The document ensures that the Solution Architecture is in compliance with enterprise application architecture principles, best practices, and conceptual target application architectures.

As the solution is designed, developed, and deployed the Solution Architecture is updated to reflect any architecturally-significant changes made to the solution architecture. Later as the solution is maintained and enhanced the document is updated as required by significant changes to the architecture.

# Solution Overview

The system is solution for internet providers. In the system can exist 5 roles: Administrator, Customer Support Engineer, Provisioning Engineer, Installation Engineer, Customer User. The system is a web-based tool that allows the user to select the service in his location and make an application to connect to the Internet. Basic operation items are Service Instance, Service Order and Quote. System hosted on cloud system. Integration with Google Maps.

# Architectural Goals and Constraints

This section describes the software requirements and objectives that have some significant impact on the architecture.

Technical Platform:

|  |  |
| --- | --- |
| IDE | NetBeans 8.0 |
| Server | GlassFish 4.0 |
| Databases | OracleXE 10g |
| Version Control System |  |
| Additional libraries |  |
| Technologies | Servlet, JSP, JSTL, HTML, JavaMail Session + Apache James |
| Additional APIs | Google Maps API |

# Application Architecture

## 3.1 Logical View

The application is divided into layers based on the N-tier architecture



This strategy improves system development and maintenance.

## 3.2 User Interface

## 3.3 Supported Business Processes

## 3.4 Sequences

## 3.5 ER-diagram

## 3.6 UML-diagram classes

## 3.7 Security Architecture

Any user from internet can register in system. Only provider employee can perform administrative task.

Security for Internet provider “Wind” integrated with existing security mechanism JavaSecurity and GlassFish Security.

# Reporting and search profile

The system provide a possibility to generate and to export reports to Excel, CSV format.

The system can generate:

1. RI reports:   
   - Routers utilization and capacity %  
   - Most profitable router  
   Reports are available to restricted user groups.
2. SI reports  
   - New orders per period  
   - Profitability by month  
   - Disconnect orders per period
3. CIA report  
   - Impact Propagation Tree

# Resource Inventory

The system can store information about devices(Cisco 7606), connected cables, installed ports and their location. It is possible to add new devices in a selected location.