# Implementation of TINA Service Subscription Information Management using ODBMS

**Jimmy C.K. Lee**

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# Declaration

I declare that this project report is my own, unaided work, except where otherwise acknowledged. It is being submitted for the degree of Master of Science in Engineering in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.
Signed this day of 20
Jimmy C.K. Lee.


# Abstract

The next generation telecommunication networks will offer users a range of services. These future telecommunication services are envisaged to be tailored services that are customizable in order to satisfy specific requirements of a variety of customers. Service subscribers and users should be offered some direct control in managing their services. Customization in a multi-service environment introduces the requirement for multiple service profiles for each user. Having user service profiles enable universal service access. The current telecommunication service subscription model is no longer viable for the next generation or TINA-based services. This work proposes a subscription and service information management system that is integrated into the existing TINA-structured platform in the South African TINA (SATINA) Trial. The system developed here realizes the object-oriented TINA subscription information management model. The information model defines all the information and relationships required to handle users, subscribers and the subscription life cycle. The project employs the emerging Object Database Management System (ODBMS) to manage the object oriented telecommunication subscription data. ODBMS provides a powerful and efficient way to managed these object oriented information as information and the relationships are stored as they are used in the application. The proposed subscription and service information management system is a distributed application based on the widely used three-tier architecture model. The three-tier model enables distributed access to the centrally managed subscription and service information regardless of the implementation adopted. Visual modeling technique is used to develop the application and convey the design principles. Application of the subscription and service information management system in the service provider domain is demonstrated by the domain administrator's usage of the system's graphical management console. The integration of the information management system and the SATINA Trial's service platform is indicated through the usage of the TINA compliant Online Subscription service.


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# Contents

**Declaration i**
**Abstract ii**
**Acknowledgements iii**
**Contents iv**
**List of Figures viii**
**List of Tables xi**
**Glossary xii**
**1 Introduction 1**
1.1 Subscription Model . . . . . 1
1.2 South African TINA Trial . . . . . 2
1.3 Objectives of the Project . . . . . 2
1.4 Overview of the Report . . . . . 3
**2 TINA Subscription Model 5**
2.1 Subscription Business Model . . . . . 5
2.2 Service Profile Model . . . . . 7
2.3 Subscription Management Information Model . . . . . 9

2.4 Subscription Management Component . . . . . 9
2.5 Chapter Summary . . . . . 14
**3 Multi-Tier Software Architecture for the Information Management System 15**
3.1 Three-Tier Software Architecture Model . . . . . 15
3.2 Proposed Information Access Architecture . . . . . 16
3.3 Front Tier - Subscription Management Component . . . . . 17
3.4 Middle Tier - ODBCommunicator . . . . . 18
3.5 Back Tier - Database Management System . . . . . 19
3.5.1 ObjectStore - Object Database Management System . . . . . 22
3.6 Communication Bus Between The Tiers . . . . . 25
3.6.1 CORBA . . . . . 25
3.7 Chapter Summary . . . . . 26
**4 Middle Tier Software Component - ODBCommunicator 27**
4.1 Visual Modeling Technique . . . . . 27
4.2 Analysis Model - Use Case View . . . . . 28
4.2.1 Create Subscription Contract Use Case . . . . . 31
4.2.2 Add New Service Offered Use Case . . . . . 36
4.2.3 Display Services And Subscription Contract Information Use Case . 37
4.2.4 Browse Available Services Use Case . . . . . 42
4.2.5 Contract Services Use Case . . . . . 42
4.2.6 List Subscribed Services Use Case . . . . . 44
4.2.7 ODBCommunicator Use Case Summary . . . . . 44

4.3 Design Model - Logical View . . . . . 50
4.3.1 CORBA Interfaces . . . . . 50
4.3.2 Server Package - DBMS Connection And Service . . . . . 53
v
4.3.3 Server Package - ODBCommunicator Subscription And Service Business Classes . . . . . 58
4.3.4 Server Package - Subscription Information Classes . . . . . 60
4.3.5 Client Package - Callback Class . . . . . 65
4.3.6 Client Package - Retailer Subscription Management Console . . . . 65
4.4 Design Model - Component View . . . . . 67
4.5 Deployment View . . . . . 70
4.6 ODBCommunicator CORBA Access Rationale . . . . . 70
4.7 Chapter Summary . . . . . 73
**5 Illustrative TINA Service Subscription 75**
5.1 Re-implemented TINA SUBS . . . . . 76
5.2 Subscription Information Management System Setup . . . . . 76
5.3 Retailer Subscription And Service Administration . . . . . 78
5.3.1 Create New Subscription Contract . . . . . 78
5.3.2 Add New Service . . . . . 82
5.3.3 Display Subscription and Service Data . . . . . 85
5.4 Online Subscription Service Usage . . . . . 85
5.5 Chapter Summary . . . . . 89
**6 Conclusion 90**
6.1 Discussion . . . . . 90
6.2 Conclusions . . . . . 91
6.2.1 Realization of TINA Subscription Management Information Model 91
6.2.2 Efficiency Provided by ODBMS . . . . . 92
6.2.3 Distributed Access Architecture . . . . . 93
6.2.4 Visual Modeling Technique . . . . . 94
vi
6.2.5 Recommendation for Future Work . . . . . 94
**References 96**
**A IDL Description OF The Subscription Information Objects 99**
**B IDL Description Of The SUBS Interfaces 102**
B.1 Subscriber Management Interfaces . . . . . 102
B.1.1 i_SubscriberInfoquery . . . . . 102
B.1.2 i_SubscriberInfoMgmt . . . . . 103
B.2 Service Contract Management Interface . . . . . 103
B.2.1 i_ServiceContractInfoMgmt . . . . . 103
B.3 Subscription Initial Interfaces . . . . . 104
B.3.1 i_InitialAccess . . . . . 104
B.3.2 i_Subscribe . . . . . 105
**C A Comparison of RDBMS, ORDBMS and ODBMS 106**
C.1 RDBMS . . . . . 106
C.2 ORDBMS . . . . . 106
**D ODBCommunicator CORBA Related Class Diagrams 108**
**E ODBCommunicator Retailer Management Console GUI Classes 112**
**F CD-ROM Guide 115**
vii

# List of Figures

2.1 TINA Subscription Business Model . . . . . 6
2.2 TINA Service Profiles . . . . . 8
2.3 TINA Subscription Management Information Model . . . . . 10
2.4 TINA Subscription Management Component Interactions . . . . . 12
3.1 Proposed Subscritpion Information Access Architecture . . . . . 17
3.2 ObjectStore Processes . . . . . 24
4.1 Use Case Diagram For The ODBCommunicator Application . . . . . 30
4.2 Create Subscription Contract Use Case Sequence Diagram . . . . . 32
4.3 Activity Diagram For The Add Entry Service Object . . . . . 34
4.4 Activity Diagram For The Set Details Object . . . . . 35
4.5 Add New Services Offered Use Case Sequence Diagram . . . . . 38
4.6 Activity Diagram For The Add New Service Object . . . . . 39
4.7 Display Services and Subscription Contract Information Use Case Sequence Diagram . . . . . 40
4.8 Activity Diagram For The List All Services Object . . . . . 41
4.9 Activity Diagram For The List Subscriber Account NO. Object . . . . . 41
4.10 Activity Diagram For The Get Contract Info. Object . . . . . 42
4.11 Browse Available Services Use Case Sequence Diagram . . . . . 43
4.12 Activity Diagram For The List Services Object . . . . . 43
4.13 Contract Services Use Case Sequence Diagram . . . . . 45
viii
4.14 Activity Diagram For The Add Service To Subscriber's Profile . . . . . 46
4.15 List Subscribed Services Use Case Sequence Diagram . . . . . 47
4.16 Activity Diagram For The List Subscribed Services Object . . . . . 48
4.17 DBMS Connection . . . . . 55
4.18 Relationships Between Database Service, Connection and Pool Manager Classes . . . . . 57
4.19 Subscribe Manager Business Class . . . . . 59
4.20 Subscriber Business Class . . . . . 61
4.21 Service Manager Business Class . . . . . 62
4.22 TINA Subscription Information Class Diagram . . . . . 63
4.23 Subscription Information In ObjectStore . . . . . 64
4.24 Callback Classes . . . . . 66
4.25 ODBCommunicator Client Package Components . . . . . 68
4.26 ODBCommunicator Server Package Components . . . . . 69
4.27 Software Libraries Used By ODBCommunicator Application . . . . . 70
4.28 ODBCommunicator Deployment Diagram . . . . . 71
4.29 ODBCommunicator's CORBA Request Flow . . . . . 72
5.1 SATINA Trial's Subscription and Service Information Management System Setup . . . . . 77
5.2 Add New Subscriber, Part One . . . . . 79
5.3 Add New Subscriber, Part Two . . . . . 79
5.4 New Subscriber Entry In The Database . . . . . 80
5.5 Subscriber's Data Navigation Point . . . . . 81
5.6 Service Contract For The Online Subscription Service . . . . . 81
5.7 Service Profile For The Online Subscription Service . . . . . 82
5.8 Add New Service, Part One . . . . . 83
ix
5.9 Add New Service, Part Two . . . . . 83
5.10 Add New Service, Part Three . . . . . 84
5.11 Add New Service, Part Three . . . . . 84

5.12 Display Subscription And Service Information . . . . . 86
5.13 PA Screen Capture Before Contracting New Service . . . . . 87
5.14 Online Subscription Service Screen Capture . . . . . 87
5.15 Customizable Service Parameters Screen Capture . . . . . 87
5.16 PA Screen Capture After Contracting New Service . . . . . 88
5.17 Subscriber - John Doe Subscription Information In ObjectStore After Service Subscription . . . . . 88
D.1 Subscribe Manager CORBA Classes . . . . . 108
D.2 Subscriber CORBA Classes . . . . . 109
D.3 Service Manager CORBA Classes . . . . . 110
D.4 Callback CORBA Classes . . . . . 111
E.1 Retailer Subscription Administration Window Classes . . . . . 112
E.2 Retailer Service Administration Windows Classes . . . . . 113
E.3 Retailer Subscription and Service Information Lookup Window Classes . . 114
x

# List of Tables

2.1 Information Objects in Model . . . . . 11
2.2 SUBS Interfaces . . . . . 13
4.1 ODBCommunicator - Actors, Use Cases And Relationships . . . . . 29
4.2 Subscription Object Data Containers . . . . . 56
C.1 A Comparison of RDBMS, ORDBMS and ODBMS . . . . . 107
xi

# Acronym

DBMS Database Management System
GUI Graphical User Interface
IDL Interface Definition Language
JDBC Java Open Database Connectivity
ODBMS Object Database Management System
ODBC Open Database Connectivity
OID Object Identifier
OMG Object Management Group
OO Object Oriented
ORB Object Request Broker
ORDBMS Object Relational Database Management System
PA Provider Agent
POA Portable Object Adapter
RDBMS Relational Database Management System
RFP Request For Proposal
SAE Subscription Assignment Entity
SAG Subscription Assignment Group
SF Service Factory
SLCM Service Life Cycle Management
SATINA South African TINA Trial
SQL Structured Query Language
SSM Service Session Manager
SSUAP Service Session User Application
SUBS Subscription Management
UA User Agent
UML Unified Modeling Language