



**ANALYSIS PROVISIONING PROCESS IN SIM CARD
ACTIVATION AT TELECOMMUNICATION
OPERATOR USING BALANCE SCORECARD**

A MASTER THESIS

BY

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**UNIVERSITAS
MERCU BUANA**

**PROGRAM MAGISTER TEKNIK ELEKTRO
GRADUATE SCHOOL IN ELECTRICAL ENGINEERING
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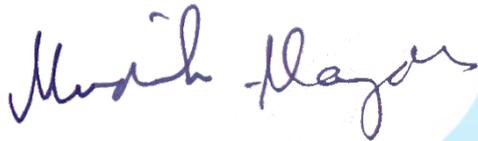
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Has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have cited and referenced all material and results that are not original to this work.

Jakarta, April 2014



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Preface

This master thesis research is the result of my graduation project which completes my Electrical Engineering study at Mercu Buana University. The research of this thesis is about one of project in IT Consultant Company in Jakarta Indonesia, the project is to handle provisioning process in SIM card activation for Telco operator. And the topic of the thesis project suits to the courses in the master course study and also suits my personal interest. I would like to thank several people for their support during my master thesis research project.

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Definitions, Acronyms, and Abbreviations

AuC	Authentication Center. *It protects against intruders in air interface, maintains authentication keys and algorithms and provides security triplets (RAND, SRES, Kc) and Generally associated with HLRP
ARS	Address Resolution System; Automatic Route Selection/Selector
BSC	Base Station Controllers
BTS	Base Transceiver Stations
CR	Change Request
EIR	Equipment Identifier *Database that is used to track handsets using the IMEI (International Mobile Equipment Identity). It is made up of three sub-classes: The White List, The Black List and the Gray List. Only one EIR per PLMN
GGSN	Gateway GPRS Support Node. It is a main component of the GPRS network. The GGSN is responsible for the internetworking between the GPRS network and external packet switched networks, like the Internet and X.25 networks.
GMSC	Gateway Mobile Services Switching Center
GPRS	General Packet Radio Service (GPRS) is a packet oriented mobile data service on the 2G and 3G cellular communication system's global system for mobile communications (GSM). GPRS was originally standardized by European Telecommunications Standards Institute (ETSI)
GSM	Global System for Mobile Communications, originally Groupe Spécial Mobile
HLR	Home Location Register is a central database that contains details of each subscriber that is authorized on core network. *It is a permanent database about mobile subscribers in a large service area (generally one per GSM network operator) database contains IMSI, MSISDN, prepaid/postpaid, roaming restrictions, and supplementary services.
ICC	Integrated Circuit Card
ICCID	Integrated Circuit Card Identifier
IMSI	International Mobile Subscriber Identity
IN	Intelligent Network (prepaid)
ISDN	Integrated Services Digital Network
ITU	The International Telecommunications Union
K _c	CipherKey K _c
K _i	AuthKey K _i
LAR	Load Activation Request
MS	Mobile Station
MSC	Mobile Switching Centre and central part of telecom system on network layer. The MSC

Server is standards-based and communicates with other distributed elements using industry open standards such as media gateway control protocol.

MSISDN	Mobile Subscriber Integrated Services Digital Network Number
OCS	Online Charging System, replacement of IN
PSDN	PSDN Packet Switched Data Network
PLMN	Public Land Mobile Network
PSTN	Public Switched Telephone Network
RAND	Random Number
SIM Card	Subscriber Identity Module Card or Subscriber Identification Module Card
SGSN	A Serving GPRS Support Node (SGSN) is responsible for the delivery of data packets from and to the mobile stations within its geographical service area.
SMSC	Short Message Service Center
SPR	Subscription Profile Repository; provides a live and accurate view of subscriber business data, including service configurations and allocated price plans (as Subscriber Data Management)
SRES	Signed Response
VLR	Visitor Location Register is a temporary database of the subscribers who have roamed into the particular network area. *Temporary database which updates whenever new MS enters its area, by HLR database that Controls those mobiles roaming in its area, Reduces number of queries to HLR, Database contains IMSI, TMSI, MSISDN, MSRN, Location Area, authentication key
VAS	Value Added Service (SMSC, VMC, USSCD, etc)

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