

Analisa Teknis dan Optimasi Aplikasi A2P SMS Berbasis Protokol SMPP V3.4 Pada Sisi ESME

Luqman Hakim
2211100137

Dr. Istas Pratomo, S.T., M.T.

Ir. Djoko Suprajitno Rahardjo, MT.

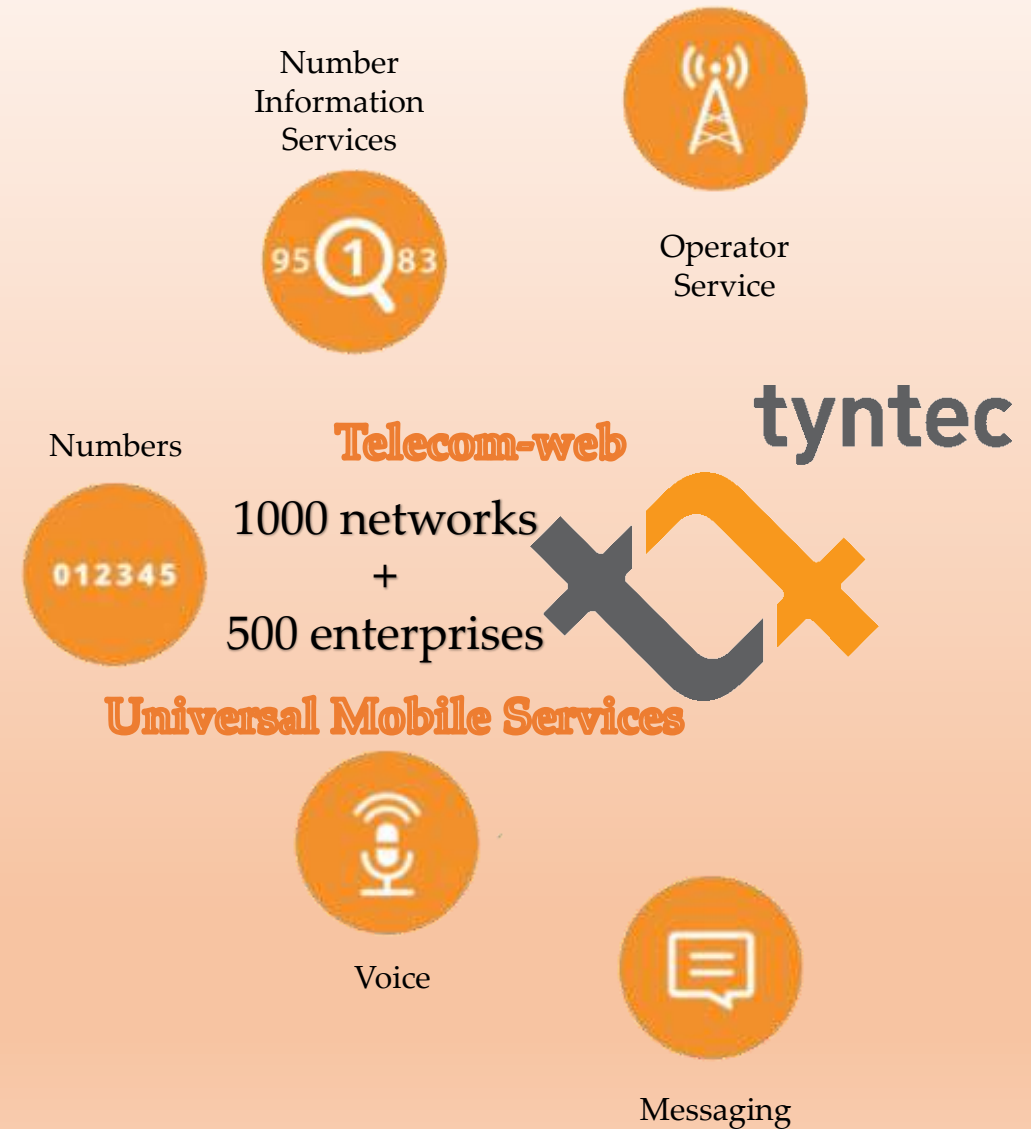


Pendahuluan

← SMPP

← SS7

← HTTP



SMS vs OTT

STATISTIK TRAFIK SMS

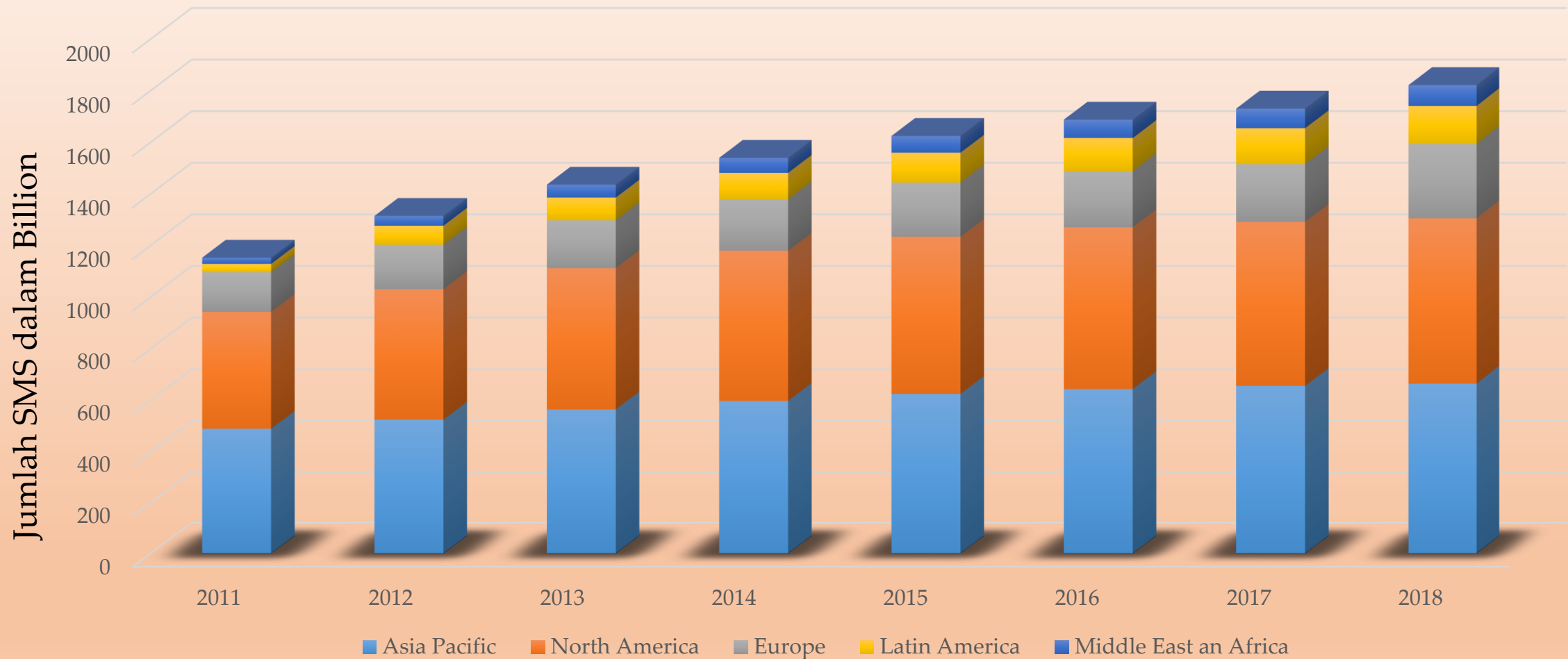


Aplikasi OTT



Kejayaan SMS

Trafik SMS di Berbagai Benua



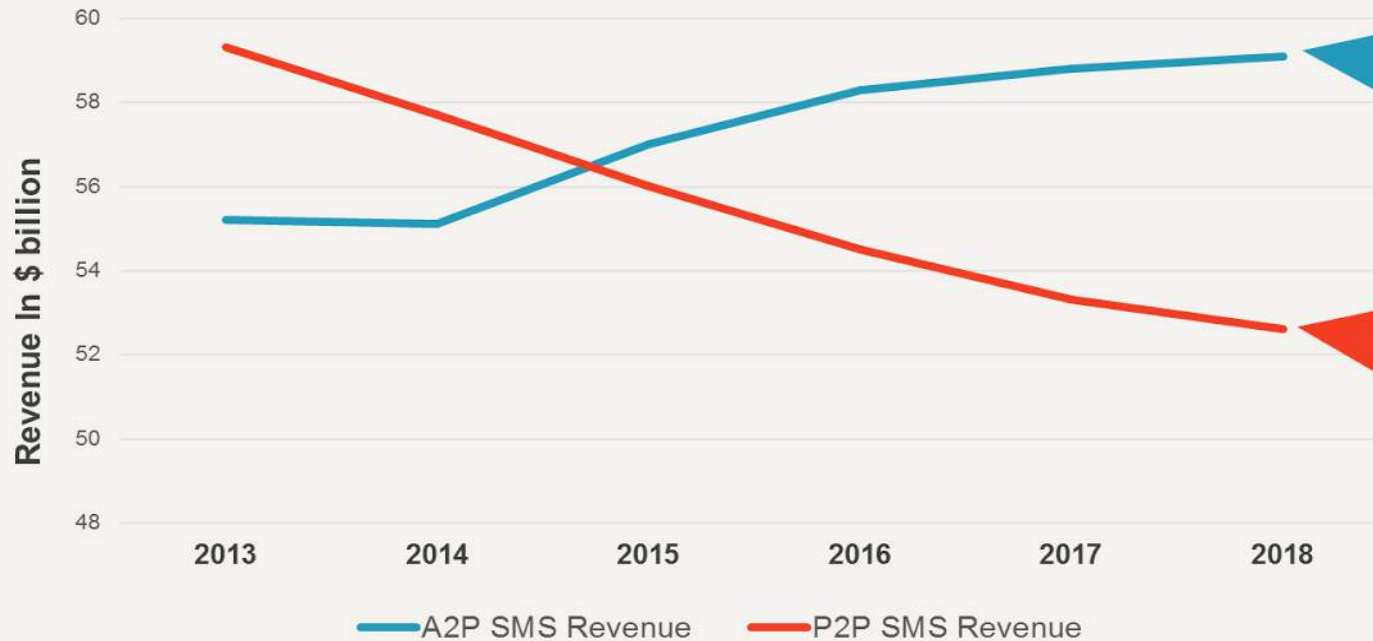
Sumber : <http://www.statista.com/statistics/485141/a2p-and-p2a-sms-traffic-worldwide-by-region/>

Why the A2P buzz?

A2P revenues will overtake those of P2P SMS in 2015



A2P & P2P SMS Revenues Compared



Standard-Rate A2P SMS Market will be worth **\$53.4billion** by 2018

Why Mobile Operators **can't ignore** A2P messaging

(Forecasted by Juniper Research Mobile Messaging Market Report 2014-2018)

4

- A2P = Application to person
- P2P = Person to person

Aplikasi SMS

Dan Masih Banyak Lagi

P2P SMS

Voice & Messaging Services (OTT)

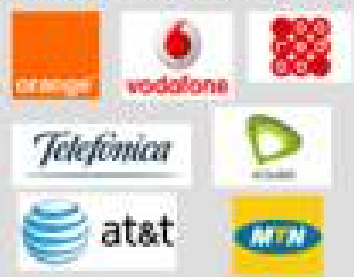


A2P SMS



Trafik Sangat Besar

Mobile Operators



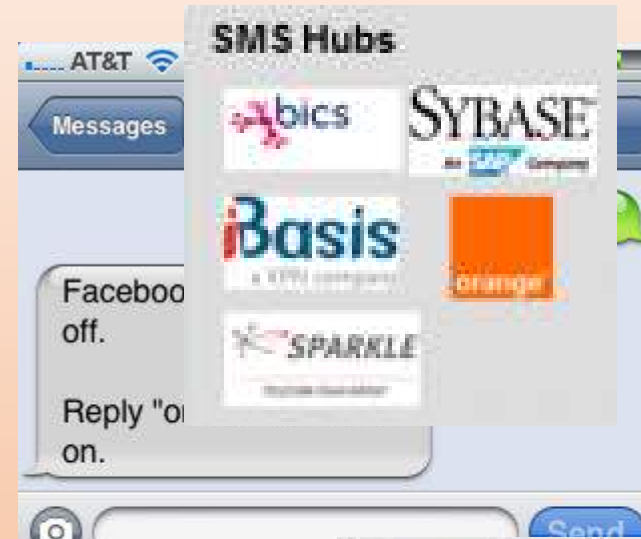
MVNO



Web SMS aggregators



Transport, online purchasing, streaming



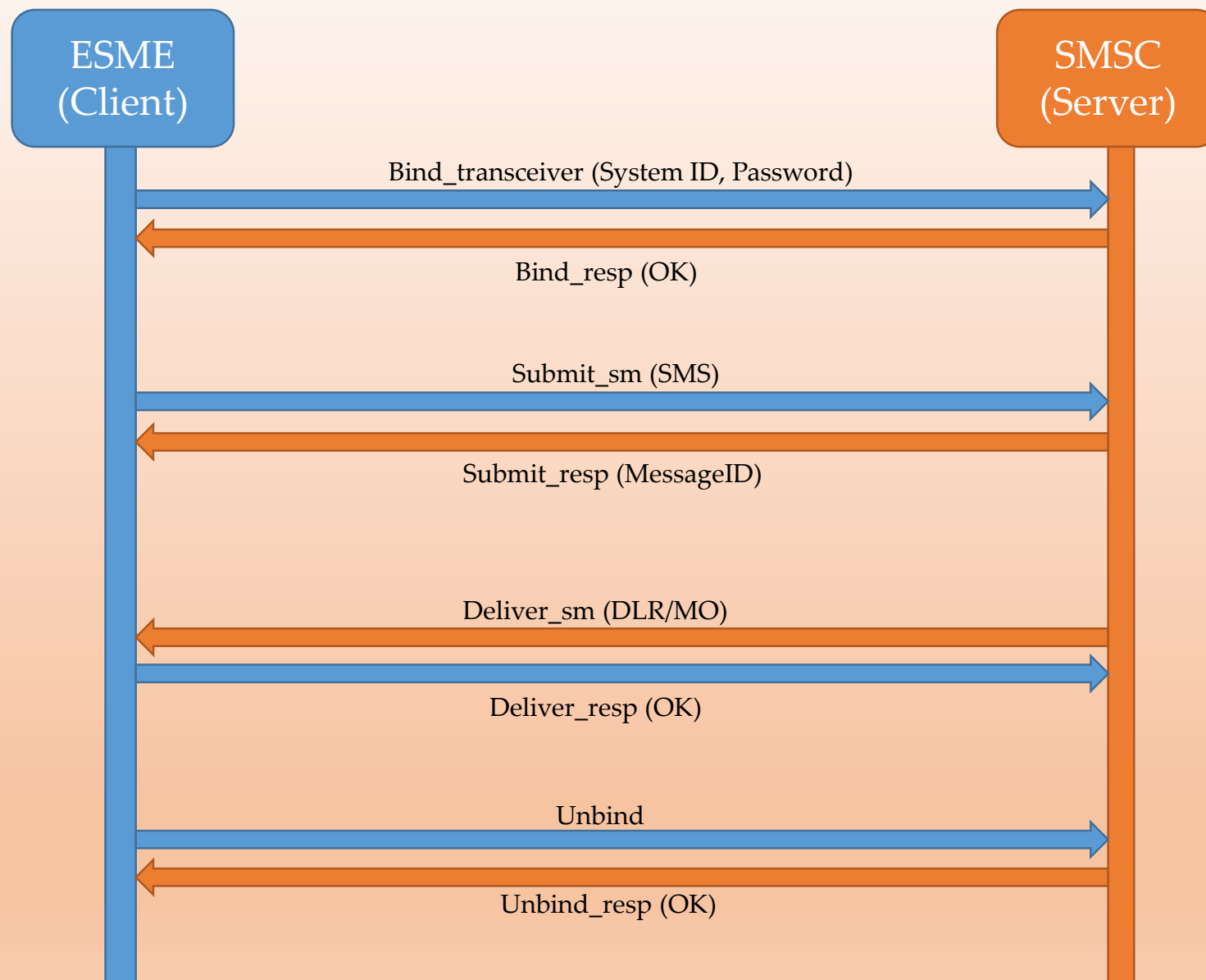
Kenapa SMS ?



NO INTERNET

personal password to
access our website is
TRRC01235. See you
soon on
www.BingRing.be

Simplicity is the Key



Peer to peer melalui Internet

Secure

Mendukung sender ID Short Code
dan Alphanumeric

Throughput besar (Hingga 200
pesan/detik)

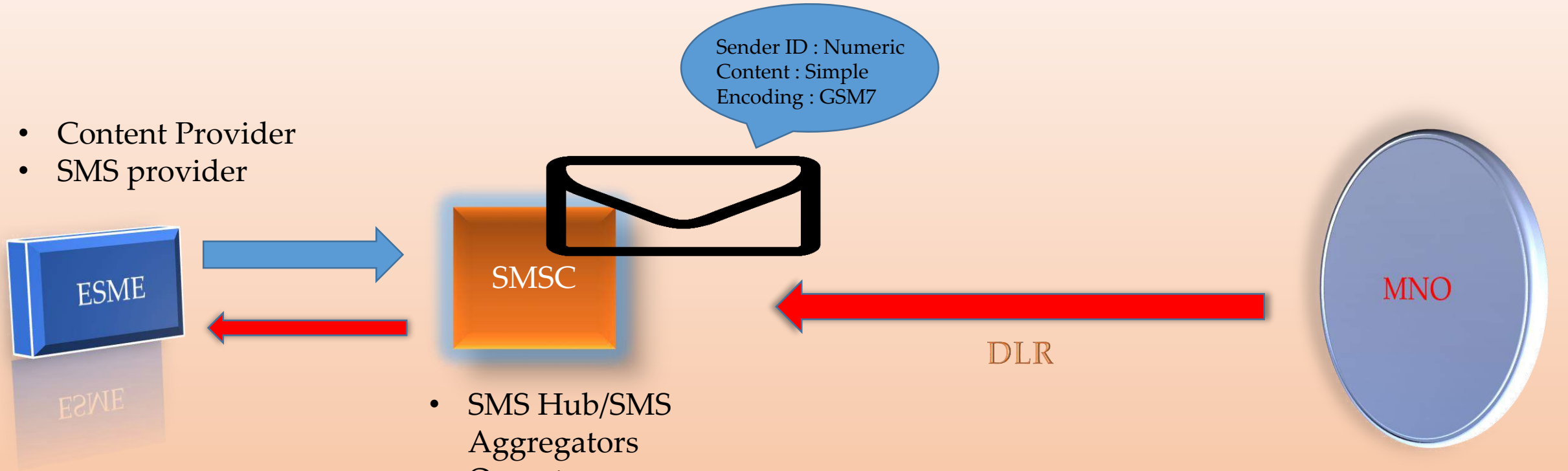
Delivery Receipt Support

Selalu Available

ESME = External Short Message Entity
SMSC = Short Message Service Center

Skenario Pengiriman SMS Menggunakan Protokol SMPP V3.4

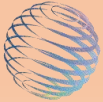
- Content Provider
- SMS provider



- SMS Hub/SMS Aggregators
- Operator



Restrictions in place :

Sender ID 
 Content 
 Encoding 
 Global Title

Rumusan Masalah

Oct 21, 14:20:00 - 14:35:00

Show filters

Query

Business Partner Traffic Status

Country Success Ratio



Operator tidak sepenuhnya mendukung tipe trafik A2P SMS

Show Traffic

North America

Middle America

South America

Europe

Africa

Middle East

Asia

Oceania

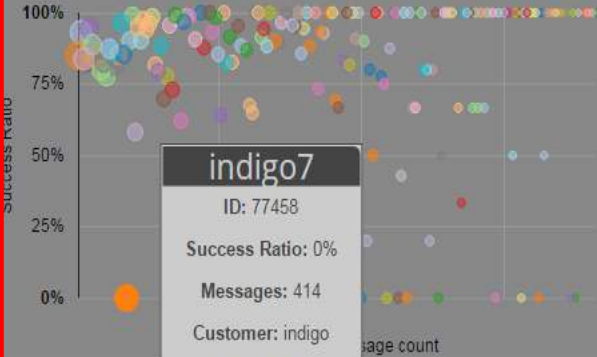
Customer Success Ratio

Customer ID



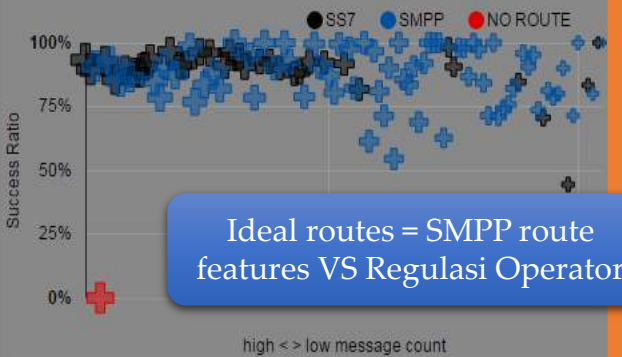
Account Success Ratio

Account ID



Partner Success Ratio

Partner ID



Traffic Count and Success Ratio (per 15s)

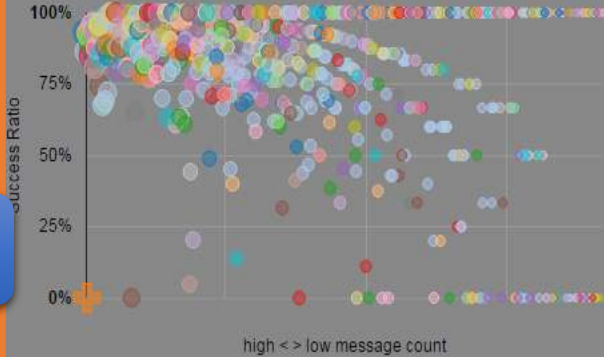


Customers missing their Success Ratio (per 15s)

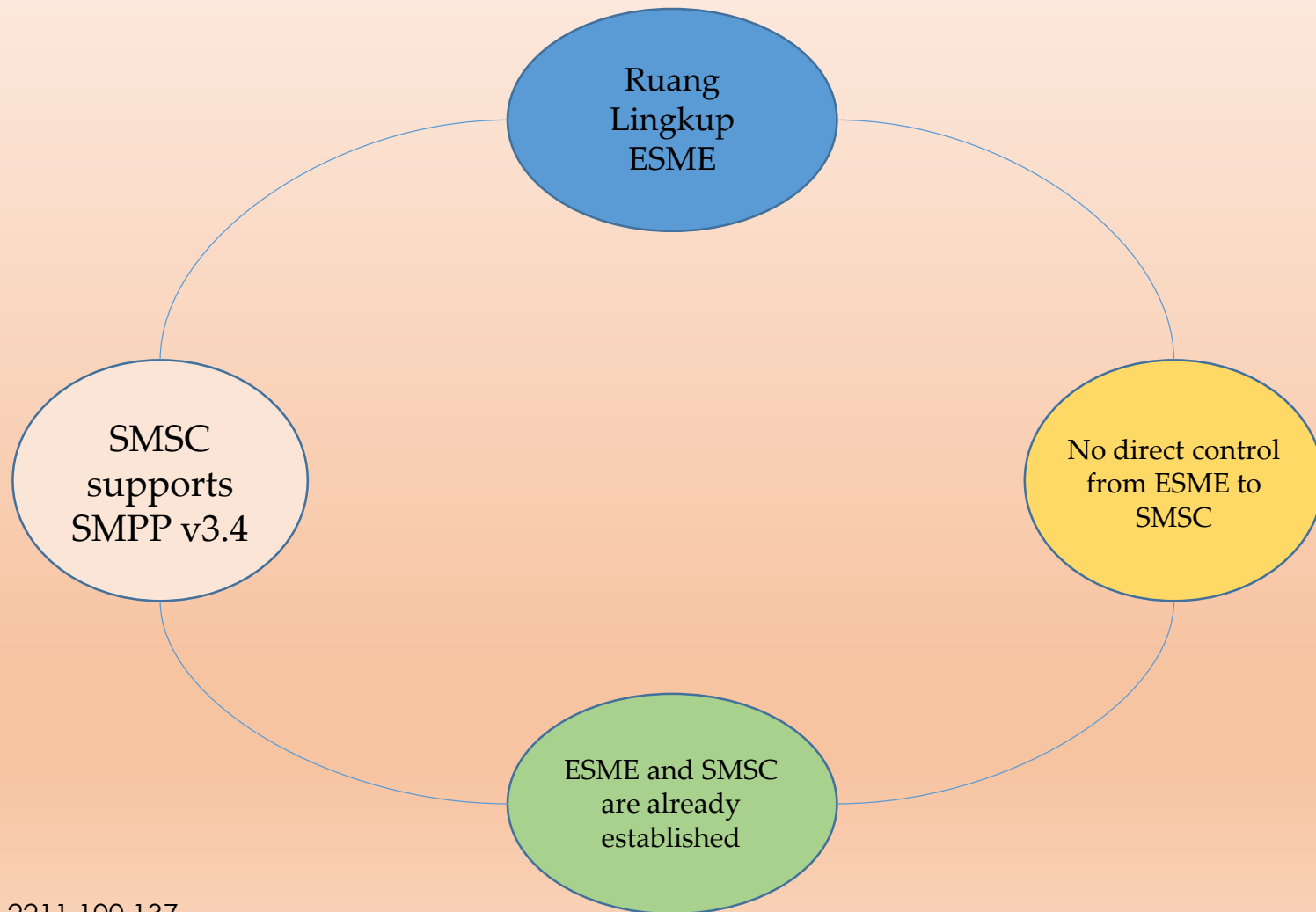


Operator Success Ratio

Operator ID



Batasan Masalah



Tujuan Penelitian

- Menentukan rute SMPP (server) yang ideal.
- Mengetahui indikasi adanya restriksi dari operator-operator lokal.
- Melakukan optimasi pada sisi ESME dengan membandingkan *SMPP route features* VS regulasi operator

Sistemesi Penelitian



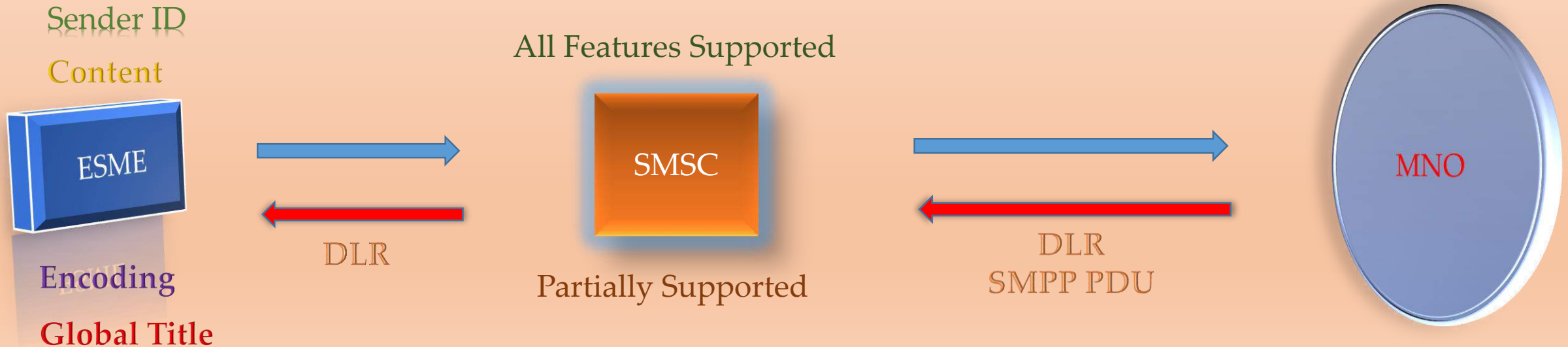
Koneksi SMPP

Testing Software

Pengujian rute SMPP dari ESME ke SMSC



Analisa fitur rute SMPP vs Dukungan jaringan



Analisa Koneksi SMPP

Requirement	(Y/N)	Comment
SMPPv3.4	Y	
Throughput of 50mps per bind	N	Each of your accounts are at default by 2 binds with each at 50mps.
Redundant Binds	Y	Only 2 binds are allowed for each accounts.
Sender ID	Y	AN, SC, LN (Int & Nat)
Encoding	Y	UCS2, GSM7, ASCII, Binary
DLR	Y	
Concatenated Msg	Y	
Bind modes supported		
Transmitter	Y	
Receiver	Y	
Transceiver	Y	
Login Details		
IP	195.88.183.14	
Port	2897	
Username	Tyntec1, tyntec2, tyntec3 & tyntec4	
Password	T12345 - same for all account	

```
Usage: /connect_partner.sh -n partner_name -p password -u user -a address -P port

-n      Type the partner name.
-p      Enter the password of the partner
-a      Enter the address (IP or domain) of the partner
-P      Enter the port of the partner
-u      Provide the account of the partner (login)

OPTIONAL PARAMETERS:

-m      Specify a bind mode
        default: transceiver
-c      Specify a SMPP session count
        default: 1
-t      Specify a system_type
        default: CMT
-T      Specify a addr_ton
        default: NULL
-N      Specify a addr_npi
        default: NULL
-r      Specify a address range
        default: NULL
-i      Specify a interface version
        default: 0x34

luqman@fokker: /home/marcel/scripts$ ./connect_partner.sh -n Silverstone -p T**t3c -a 195.88.183.14 -P 2675
```

Software Testing Utama : Ascade Assure

CSG Assure

CSG Assure Admin Window Help

Home Analyse Result Run Report Call Call Phone No Manage Call Set Schedule Task Build Query Build Report View Node Status

Home Query: Details : SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT Call SMS MT

Run Test Call

No of Executions: 1 Total Number of Calls: 8

SMS Templates (Selected: 2)

SMS Routes (Selected: 4)

Carrier	SMS Route	Importance	SMS Route Class
(ST) Test Case - Alphanumeric SenderID			

CSG Assure

CSG Assure Admin Window Help

Home Analyse Result Run Report Call Call Phone No Manage Call Set Schedule Task Build Query Build Report View Node Status

Home Query: Details : SMS MT Call SMS MT Call SMS MT Call Phone No SMS MT Call SMS MT

Run Test Call Add Call Set Items

Status	Result	Network	Test Node	Supplier	Route	Sent Time	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner	OA (S)	OA (R)
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_ICE	04.11.2015 14:...	✓	✓	✗	✗	✓	✓	24	+62816124	(Indonesia)	ttSMS	6281513220725
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_ICE	04.11.2015 14:...	✓	✓	✗	✓	✓	✓	3	+62816124	(Indonesia)	491735189907	6281513223548
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Nex	04.11.2015 14:...	✓	✓	✓	✓	✓	✓	6	+16002000001	(Canada)	ttSMS	ttSMS
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Nex	04.11.2015 14:...	✓	✓	✗	✓	✓	✓	9	+62816124	(Indonesia)	491735189907	6285718812891
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Silver	04.11.2015 14:...	✓	✓	✗	✗	✓	✓	7	+62816124	(Indonesia)	ttSMS	6285792658329
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Silver	04.11.2015 14:...	✓	✓	✗	✓	✓	✓	6	+62816124	(Indonesia)	491735189907	6281513693350
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Tat	04.11.2015 14:...	✓	✓	✓	✓	✓	✓	7	+16002000001	(Canada)	ttSMS	ttSMS
Successful	SMS delivery su...	Indonesia - Indo...	Ascade Test No...	SMPP	RT_Tat	04.11.2015 14:...	✓	✓	✗	✓	✓	✓	7	+62816124	(Indonesia)	491735189907	6285792658372

SMSC

Message ID	Error Msg.	S. TON (S)	S. TON (R)	Alpha (S)	Alpha (R)	S. Num. Plan (S)	S. Num. Plan (R)	Text (S)	Text (R)	No of Seg (S)	No of Seg (R)
92837-1445242...		(101) Alphanum...	(101) Alphanum...	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0000) Unknown	Qoj wo usr lysv...	Qoj wo usr lysv...	1	1
92837-1445242...		(010) National n...	(001) Internation...	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Lyevo xu wsk qa...	Lyevo xu wsk qa...	1	1
92837-1445242...		(001) Internation...	(001) Internation...	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Oj leij rjgxr kg 26...	Oj leij rjgxr kg 26...	1	1
92837-1445242...		(001) Internation...	(001) Internation...	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Tepvi 59074 npn...	Tepvi 59074 npn...	1	1
92837-1445242...		(000) Unknown	(000) Unknown	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Hi wxij vlxg vrp...	Hi wxij vlxg vrp...	1	1
92837-1445242...		(110) Abbreviate...	(000) Unknown	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Rgxhg jafe 238...	Rgxhg jafe 238...	1	1
92837-1445242...		(101) Alphanum...	(101) Alphanum...	(10) UCS2	(10) UCS2		(0000) Unknown	Vr 89776 yj ygdx...	Vr 89776 yj ygdx...	1	1
		(001) Internation...	(001) Internation...	(00) GSM 7-bit d...	(00) GSM 7-bit d...		(0001) ISDN/tele...	Wpx bi xqmue 8...	Wpx bi xqmue 8...	2	2
		(001) Internation...	(001) Internation...	(10) UCS2	(10) UCS2		(0001) ISDN/tele...	Jb ad cq dst smy...	Jb ad cq dst smy...	3	3

Software Testing Lainnya

Traffic statistics

Operator ID (mandatory)	143
Account ID (optional;specific account)	
BP ID (optional;whole customer)	

Run

Timeframe for data

from	to
2015-07-28	2015-10-20

Operator Info

country	operator	opid	subscrib
China	China Unicom	143	

Sender Type

All customers (details)

sendertype	count	percent
shortcode	89646	82.00%
alphanumeric	12503	11.00%
international	7566	7.00%
national	5	0.00%

Selected customer / account

Sender ID replacements for selected customer / account

3	00000011	ascii	159	0.00%
25	00011001		140	0.00%
-15	11110001	latin-1 ?	119	0.00%
-16	11110000	gsm7 ?	18	0.00%
-64	11000000	gsm7 ?	13	0.00%
4	00000100	binary	2	0.00%

tyntec

Services» Messages Tracker

Search for message id

Search

Old UI

Search for request id

Search

Search by details

Bp

Receiver

From

Till

```
luqman@fokker2:~$ /home/michaelst/scripts/number-info 919715846321
```

```
SRISM via CW-KNA ... 0xe300
SRISM via CW-LCA ... 0xe300
SRISM via CW-MSR ... 0xe300
SRISM via CW-TCA ... 0xe300
SRISM via CW-VCT ... 0xe300
SRISM via Airtel-JEY ...
SRISM via AWCC-AFG-NL ... 0xe300
SRISM via Digicel-FJI-BICS ... 0x0001
SRISM via Digicel-GUY ... 0x0001
SRISM via Digicel-TON-BICS ... 0xe300
SRISM via Digicel-VUT-BICS ... 0x0001
SRISM via Digicel-WSM-BICS ... 0x0001
SRISM via ICE-CRI-SIG ... 0xe140
SRISM via ManxNeustar ... 0x0001
SRISM via ManxValidsoft ... 0x0001
SRISM via Roshan-AFG-MT ... 0xe300
SRISM via Roshan-AFG-NL ... 0xe300
SRISM via Telefonica-ESP ... 0x0001
SRISM via Telkomsel-IDN-Orange ... 0xe040
SRISM via TGS-NOR-Orange ... 0x0001
SRISM via ttOneP4PlayPL ... 0x0001
SRISM via tyntecAA60 ... 0xe040
SRISM via VF-Hub ... 0xc006
```

Number-Info partially successful

No IMSI and MSC received but an HLR responded

```
MSISDN 919715846321 (Prefix: 919715)
NRH 63075 - Aircel Cellular Ltd. (TamilNadu) / India

HLR 34607008052 (Prefix 34607008052)
SUBSCR 80120 - Vodafone Group / Satellite network (worldwide)
```

STATE ported, roaming unknown
CHECK porting across borders!
H-ROUTER (Confidence , based on month)

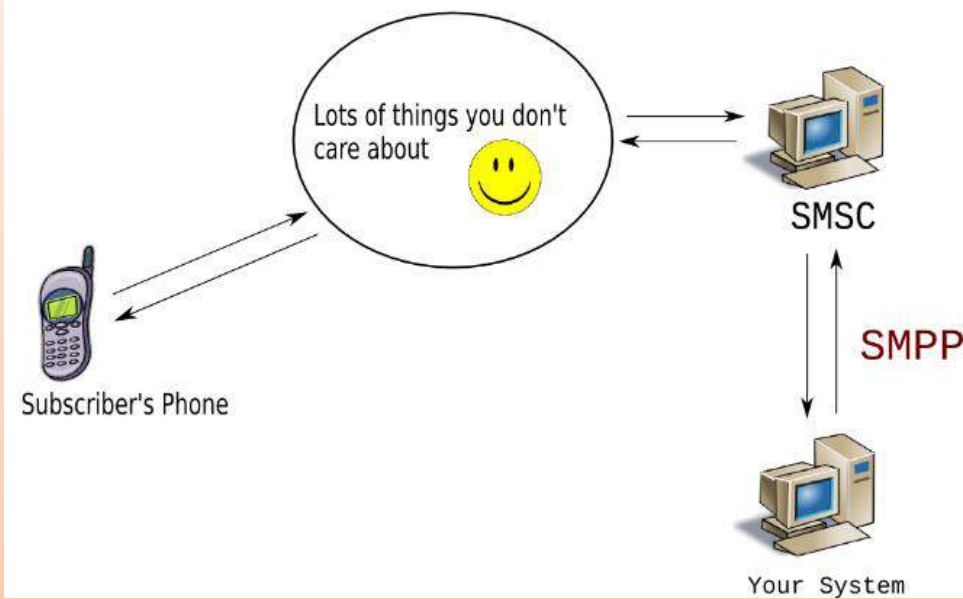
ERROR 0xc006

ROUTE VF-Hub

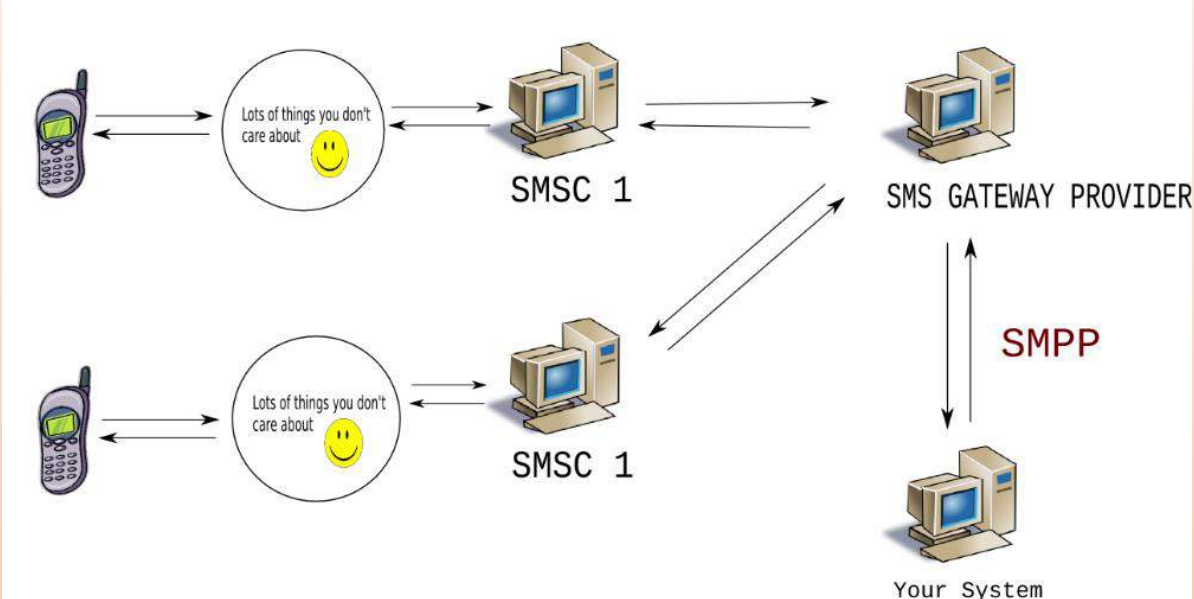
```
luqman@fokker2:~$
```

Pengujian dan Analisa Global Title (GT)

SCENARIO 1 - DIRECT CONNECTION WITH SMSC



SCENARIO 2 - Going through an SMS Gateway



	Status	Network	Route	SMSC	SMSC Owner
✓	Successful	Germany - T-Mobile	RT_W	+491710760315	(Germany-Mobile-T-Mobile)
✓	Successful	Germany - Vodafone	RT_W	+447958879831	Everything Everywhere Limited (United Kingdom-Mobile-T-Mobile)
✓	Successful	Germany - O2	RT_W	+16494332009	(Turks and Caicos Islands)

tt >> RT_W >> T-Mobile Germany >> T-Mobile Germany
tt >> RT_W >> VF UK >> VF Germany
tt >> RT_W >> O2 Entities

Route	Origin
RT_W	Germany

Pengujian dan Analisa Global Title (GT)

	Status	Network	Route	SMSC	SMSC Owner
✓	Successful	Romania - Orange	RT_LANC	+40744007506	(Romania-Mobile-Orange)
✗	Failed	Russia - MegaFon	RT_LANC	+79001949997	(Russia-Mobile)
✓	Successful	Romania - Vodafone	RT_LANC	+346070080456060	(Spain-Mobile-Vodafone)

tt >> RT_LANC >> Orange Rom >> Orange Rom
tt >> RT_LANC >> Megafon Rus >> Megafon Rus
tt >> RT_LANC >> VF Rom >> VF Spain

	Status	Network	Route	SMSC	SMSC Owner
✓	Successful	Indonesia - Indosat	RT_Silv	+62816124	(Indonesia)
✓	Successful	Indonesia - Indosat	RT_MOc	+46731213045	(Sweden)
✓	Successful	Indonesia - Indosat	RT_ICE	+62816124	(Indonesia)
✓	Successful	Indonesia - Indosat	RT-Ta	+16002000001	(Canada)
✓	Successful	Indonesia - Indosat	RT_Nex	+16002000001	(Canada)
✗	Failed	Indonesia - Indosat	RT_Eti		

tt >> RT_Sil >> Indonesian OP >> Indonesia Indosat (offnet)
tt >> RT_MOc >> No Indosat entities no Indonesian OP
tt >> RT_ICE >> Indonesian OP >> Indonesia Indosat (offnet)
tt >> RT-Ta >> No Indosat entities no Indonesian OP
tt >> RT_Nex >> No Indosat entities no Indonesian OP
tt >> RT_Eti >> No Route

Route	Origin
RT_W	Germany
RT_LANC	Russia
RT_Silv	Netherlands
RT_MOc	Malaysia
RT_ICE	Malaysia
RT-Ta	India
RT_Nex	USA
RT_Eti	UAE

	Status	Network	Route	SMSC	SMSC Owner	OA (S)	OA (R)
✓	Successful	Indonesia - Indosat	RT_ICE	+62816124	(Indonesia)	ttSMS	6285737255973
✓	Successful	Indonesia - Indosat	RT-Ta	+16002000001	(Canada)	ttSMS	ttSMS
✓	Successful	Indonesia - Indosat	RT_ICE	+62816124	(Indonesia)	491735189907	6285792657804
✓	Successful	Indonesia - Indosat	RT-Ta	+62816124	(Indonesia)	491735189907	6281513693862

Pengujian dan Analisa Konten SMS - Concat

GSM7 = 160 Karakter
Unicode = 70 Karakter



```
techonair@cow4:~$ grep 91006-1449673890714+31625336 /var/log/techonair/SMPPDaemon.log
[MNPRResolver-thread-4 Wed Dec 09 16:11:53 CET 2015 <4>] Trying to send MixaMessage: RoutableMessage: [routingType: SMPP_SIGNAL_RETRY, lastCallbackRoute: null, currentRoute: 1799, deliveryRoutes=()], [err
rCode: 0, lookupSource=(sourceType: LS_MNP_DB, sourceID: MNP_Telcordia_ENUMLookup), imsiData=(entity: , entityType: UNAVAILABLE, operatorID: 8), hlrData=(entity: , entityType: UNAVAILABLE, operatorID: 8),
mscData=(NULL)] [Stored-Status: PENDING [I Message(s), for BP 91006, Mode STORE_FORWARD,Receiver +31625336 (ton 1/np1 1/nrhID 8/subscrNWID 8),del.Start Wed Dec 09 16:11:51 CET 2015,del.End Fri Dec 11 1
6:11:31 CET 2015,pid 0: (1.:dbID: 97070830, state: PENDING sms_raw with dcs 8[91006-1449673890714+31625336 ]From 971501005341(ton 2/np1 1/origNW noHubbing/origNWID -1/origHubID -1/userContext null/
foreignMsgID null) with Text >050003290303064506270646064a062706450631062d062806270020062706440639062706440645002006450646002006230644064506270646064a062706450631062d06280627002006270644063906270644064500
2006450646002006230644064506270646064a062706450631062d062806270020062706440639062706440645002006450646002006230644064506270646064a062706450631062d06280627002006270644063906270644064500
[MNPRResolver-thread-4 Wed Dec 09 16:11:53 CET 2015 <4>] Setting VALIDITY_PERIOD to: 151211161131004+ for submitSM (MsgID=91006-1449673890714+31625336 )
[MNPRResolver-thread-4 Wed Dec 09 16:11:53 CET 2015 <4>] Required DLRMode for MsgID=91006-1449673890714+31625336 , protocol=smpp, customer_bpID=91006, provider_bpID=1799 is: MAPPING_DLR
[MNPRResolver-thread-4 Wed Dec 09 16:11:53 CET 2015 <4>] Sending PDU to bics-bel_partner [sessionID: 1041259] [bound: transceiver] (extInfo: MessageID 91006-1449673890714+31625336304): (submit: (pdu: 0 4
063081706 ) (addr: 1 1 971501005341) (addr: 1 1 31625336304) (sm: enc: UTF-16 msg: مايا مرحبا العالم من المانيا (opt: ) )
[Thread-2082814 Wed Dec 09 16:11:53 CET 2015 <4>] SMSCSession response (extInfo: MessageID 91006-1449673890714+31625336304) (submit_resp: (pdu: 25 80000004 0 63081706) 10D627B4 ) from bics-bel_partner [se
ssionID: 1041259] [bound: transceiver] [receiverDelay: 0 ms]
techonair@cow4:~$
techonair@cow4:~$
techonair@cow4:~$
techonair@cow4:~$ grep 91006-1449671311602+31625336 /var/log/techonair/SMPPDaemon.log
[MNPRResolver-thread-26 Wed Dec 09 15:28:51 CET 2015 <4>] Trying to send MixaMessage: RoutableMessage: [routingType: SMPP_SIGNAL_RETRY, lastCallbackRoute: null, currentRoute: 1799, deliveryRoutes=()], [err
rCode: 0, lookupSource=(sourceType: LS_MNP_DB, sourceID: MNP_Telcordia_ENUMLookup), imsiData=(entity: , entityType: UNAVAILABLE, operatorID: 8), hlrData=(entity: , entityType: UNAVAILABLE, operatorID: 8),
mscData=(NULL)] [Stored-Status: PENDING [I Message(s), for BP 91006, Mode STORE_FORWARD,Receiver +31625336 (ton 1/np1 1/nrhID 8/subscrNWID 8),del.Start Wed Dec 09 15:28:49 CET 2015,del.End Fri Dec 11
15:28:32 CET 2015,pid 0: (1.:dbID: 97035899, state: PENDING sms_simple with dcs 0[91006-1449671311602+31625336 ]From 55224(ton 6/np1 0/origNW noHubbing/origNWID -1/origHubID -1/userContext n
ull/foreignMsgID null) with Text >Ak kjq ni qbhrx. s CTi h si saS ms.<)]
[MNPRResolver-thread-26 Wed Dec 09 15:28:51 CET 2015 <4>] Setting VALIDITY_PERIOD to: 151211152832004+ for submitSM (MsgID=91006-1449671311602+31625336 )
[MNPRResolver-thread-26 Wed Dec 09 15:28:51 CET 2015 <4>] Required DLRMode for MsgID=91006-1449671311602+31625336 , protocol=smpp, customer_bpID=91006, provider_bpID=1799 is: MAPPING_DLR
[MNPRResolver-thread-26 Wed Dec 09 15:28:51 CET 2015 <4>] Sending PDU to bics-bel_partner [sessionID: 1041257] [bound: transceiver] (extInfo: MessageID 91006-1449671311602+31625336304): (submit: (pdu: 0 4
0 63051315) (addr: 6 0 55224) (addr: 1 1 31625336304) (sm: msg: Ak kjq ni qbhrx. s CTi h si saS ms.) (opt: ) )
[Thread-2082810 Wed Dec 09 15:28:51 CET 2015 <4>] SMSCSession response (extInfo: MessageID 91006-1449671311602+31625336304) (submit_resp: (pdu: 25 80000004 0 63051315) 10CBFB10 ) from bics-bel_partner [se
ssionID: 1041257] [bound: transceiver] [receiverDelay: 0 ms]
techonair@cow4:~$
```

Concat

simple

Status	Network	Supplier	Route	Del. Time	Content	OA	S. TON	Alpha	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner	OA (S)	OA (R)	No of Seg (S)	No of Seg (R)
Failed	Indonesia - Excelcomindo	SMPP	RT_Nex										4915731855352		2	
Successful	Indonesia - Excelcomindo	SMPP	RT_Nex	✓	✓	✗	✓	✓	✓	14	+62818445009	(Indonesia)	491735189907	6281808508521	1	1
Text (S)													Text (R)			
Yihe1 cltf 729 rocqfr. 1>te ---1 T -- 0- >--> >i1-- -5se -u <<n-< 12 <- 1-6i --- > /t ---i --1< -1l -491<C ->0-3 1 n>-1- -8--L- >-->---l -M <----< <- >!-- e --- t1--- -- <0.																
Vpe if xxs mmxq 0920 boxxld. Hl r del wool.													Vpe if xxs mmxq 0920 boxxld. Hl r del wool.			

Pengujian dan Analisa Konten SMS - Concat

Split Sempurna

Route	Sent Time	Alpha (R)	Alpha (S)	Template	No of Seg (S)	No of Seg (R)	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK
RT_Silver	05.11.2015 14:...	(00) GSM 7-bit d...	(00) GSM 7-bit d...	(ST) Test Case - Concat SMS - Numeric	2	2	✓	✓	✗	✓	✓	✓
RT_Silver	05.11.2015 14:...	(10) UCS2	(10) UCS2	(ST) Test Case - Concat SMS Intl Unicode	3	3	✓	✓	✗	✓	✓	✓

Text (S)	Text (R)
Covs srsdy lxug dnp vqd efoek vklbf. - -<n -< -9--4> t8 s-1 <<1 -1-- >- 5--1t -<-C /1 0-2<-> 1l>T1 <-6 M-L 3-< -0---- 1li ----i u- ->e t-<>1n- e -----i -0-1> 1> <-e> - ->.	Covs srsdy lxug dnp vqd efoek vklbf. - -<n -< -9--4> t8 s-1 <<1 -1-- >- 5--1t -<-C /1 0-2<-> 1l>T1 <-6 M-L 3-< -0---- 1li ----i u- ->e t-<>1n- e -----i -0-1> 1> <-e> - ->.
Nrbbf gjxn 7549 ghck krhpdv. 1 -- <-115-- ie- s -><-114-- 0<-e->> -> 2-< 6n-1-10 1- -L> >-<- <-tM -t9> -<i- -C-> -iT-u n<>> 8l--< 0t>1- -- <----l --e-3 -l -1 /----- -1.	Nrbbf gjxn 7549 ghck krhpdv. 1 -- <-115-- ie- s -><-114-- 0<-e->> -> 2-< 6n-1-10 1- -L> >-<- <-tM -t9> -<i- -C-> -iT-u n<>> 8l--< 0t>1- -- <----l --e-3 -l -1 /----- -1.

Pengujian dan Analisa Konten SMS - Concat

Concat not supported in Mexico

Split Sebagian

Sent Time	Status	Supplier	Network	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	No of Seg (S)	No of Seg (R)	OA (S)	OA (R)	SMSC	SMSC Owner	Del. Time (sec)	Alpha (S)	Alpha (R)
17.11.2015 14:27:17	Failed	SMPP	Mexico - Iusacell	RT_Telin GOLD	✓	✗	✗	✗	✓	✓	2	1	4915731855352	4491964881	+523331466376	(Mexico)	85	(00) GSM 7-bit d..	(00) GSM 7-bit d..
17.11.2015 14:26:52	Failed	SMPP	Mexico - Iusacell	RT_Quintal	✓	✗	✗	✓	✓	✓	2	1	4915731855352	40731917256	+40722005413	(Romania-Mobile-Mobilefon)	8	(00) GSM 7-bit d..	(00) GSM 7-bit d..
17.11.2015 14:27:05	Failed	SMPP	Mexico - Iusacell	RT_Quintal	✓	✗	✗	✓	✓	✓	3	1	491735685448	40731734066	+40722005413	(Romania-Mobile-Mobilefon)	16	(10) UCS2	(10) UCS2

S	S. Num. Plan (R)	No of Seg (S)	Text (S)	No of Seg (R)	Text (R)
(0001) ISDN/tele..		2	Ex 307 56 oihpq hfabdse. ---8 -- 90 --es< 1-1 <-- <---C1n -t3> 2- 1-i1-16 -- e ->0 u-l - 4 -1- -0>>> -T- -L15 M-i -1</< <-- --i <----> l>1 1> -<<-e --< ---n-t-1>.	1	Ex 307 56 oihpq hfabdse. ---8 -- 90 --es< 1-1 <-- <---C1n -t3> 2- 1-i1-16 -- e ->0 u-l - 4 -1- -0>>> -T- -L15 M-i -1</< <-- --i <----> l>1 1> -<<-e --< ---n-t-1>.
(0001) ISDN/tele..		2	Tiwttd 70586 wcibx td vntium. -l- --<-e -< 1---t>- -i- - 11t -e ->>>T-- I0- --<>- -->- 1>>- -1M63 1--5<- ->- <-0- -<- <---> - --- -2 ei1L8-- Ctlhu -1 i0 ->9- n1<-1--- 1- s / -<4.	1	ETiwttd 70586 wcibx td vntium. -l- --<-e -< 1---t>- -i- - 11t -e ->>>T-- I0- --<>- -->- 1>>- -1M63 1--5<- ->- <-0- -<- <---> - --- -2 ei1L8-- Ctlhu -1 i0 ->9- n1<-1--- 1- s / -<4.
(0001) ISDN/tele..		3	Xyebu iso bwisp oikef vsepwlj. --T -<-s- -96 t4u1 ---i -/i->1 1-- M e0t- n--->-n<2e- -1 --1<- i0 ---->->-t<< 11 e---- 1 ---5 --<- Cl< 1- ----- >3>L> 1<>-<-> I1>0 --->I <-8.	1	Xyebu iso bwisp oikef vsepwlj. --T -<-s- -96 t4u1 ---i -/i->1 1-- M

Encoding Setting

Alpha (S)	Alpha (R)	Text (S)	Text (R)	No of Seg (S)	No of Seg (R)
(10) UCS2	(00) GSM	Ojwfv rvy svb nfvlyk. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	Ojwfv rvy svb nfvlyk. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	3	1
(10) UCS2	(00) GSM	Nh ili 70 qnu 47376 xnd jhgh hovlmk. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	Nh ili 70 qnu 47376 xnd jhgh hovlmk. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	3	2
(10) UCS2	(00) GSM	Vnxv 51 ue dijp fetzl. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	Vnxv 51 ue dijp fetzl. <--TCL1/1--> Multi line test line 1<---08---><---09---><---10---><---11---><---12---><---13---><---14---><---15---><---16---	3	1

GSM = 160 Karakter
Unicode = 70 Karakter

Pengujian dan Analisa Konten SMS - Symbols

Currency symbol tidak didukung di Indonesia

Status	Sent Time	Supplier	Network	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner	OA (S)	OA (R)	Text (S)	Text (R)	S.
Failed	17.11.2015 12:46:48	SMPP	Indonesia - Excelcomindo	RT_Nexi												Lkhc 0758 nuvy pgxrq 288 52 exjdrpn. Symbols @ € £ ¥ \$		(1)
Successful	17.11.2015 12:46:59	SMPP	Indonesia - Excelcomindo	RT_Nexi	✓	✓	✗	✗	✓	✓	12	+62818445009	(Indonesia)	ttSMS	6281808509041	Wtk xei kxyfd cnud kiq tamjchf. Simple SMS	Wtk xei kxyfd cnud kiq tamjchf. Simple SMS	(1)

Status	Supplier	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Route	Network	Alpha (S)	Alpha (R)	Text (S)	Text (R)	OA (S)	OA (R)
Failed	SMPP	✓	✗	✗	✗	✓		RT_Llei	Peru - Movistar	(00) GSM 7-bit d.	(00) GSM 7-bit d.	Kqjr dv xr 0152 mthkbn. s¥ TS \$€a h MsA @i i £ S N .	Kqjr dv xr 0152 mthkbn. s£ TS £€a h MsA £i i £ S N .	ttSMS	76555
Successful	SMPP	✓	✓	✓	✓	✓	✓	RT_Llei	Spain - Movistar	(00) GSM 7-bit d.	(00) GSM 7-bit d.	Ce 79302 5132 rblx roe dl irkew. \$T€ s¥ aS M£is iN A S @ h.	Ce 79302 5132 rblx roe dl irkew. \$T€ s¥ aS M£is iN A S @ h.	ttSMS	ttSMS
Successful	SMPP	✓	✓	✗	✗	✓	✓	RT_Llei	Peru - Movistar	(10) UCS2	(10) UCS2	Ejl 72377 mbjn inkwsug. £@ \$ ¥ £ .	Ejl 72377 mbjn inkwsug. £@ \$ ¥ £ .	ttSMS	76555
Successful	SMPP	✓	✓	✓	✓	✓	✓	RT_Llei	Spain - Movistar	(10) UCS2	(10) UCS2	Glnd fmvxe evo xkjinx fgqtlvj. @ £¥ £ .	Glnd fmvxe evo xkjinx fgqtlvj. @ £¥ £ .	ttSMS	ttSMS

Mexico : Partially supported
Spain : Fully supported

\$ = Dollar
& = Dan
€ = Euro
£ = Pound dst. . .

Pengujian dan Analisa Konten SMS - Encoding

Karakter non alphabet harus dikirim dengan Unicode

Status	Network	Supplier	Route	S	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Text (S)	Text (R)	Alpha (S)	Alpha (R)	Error Msg.
Successful	Germany - Vodafone	SMPP	RT_W	1	✓	✓	✓	✓	✓	✓	lh aymc sn 03 kej qndp. This is just an encoding test	lh aymc sn 03 kej qndp. This is just an encoding test	(00) GSM 7-bit d..	(00) GSM 7-b..	
Invalid	Germany - Vodafone	SMPP	RT_W	1							Fc 00 durwg 79 ywjnpnb. Код подтверждения или перейдите на		(00) GSM 7-bit d..		Character K is not supported in GSM 7.
Successful	Germany - Vodafone	SMPP	RT_W	1	✓	✓	✓	✓	✓	✓	ldj bifdd 5181 fcknwjv. Код подтверждения или перейдите на	ldj bifdd 5181 fcknwjv. Код подтверждения или перейдите на	(10) UCS2	(10) UCS2	

Mexico tidak mendukung tipe encoding Unicode (UCS2)

Supplier	Status	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	Network	Route	Alpha (S)	Alpha (R)	Text (S)	Text (R)	OA (S)	OA (R)	SMSC	SMSC Owner
SMPP	Failed	✓	✗	✗	✗	✗	✓	16	Mexico - Movistar	RT_Telin	(10) UCS2	(00) GSM 7-bit d..	Elvyn sy efuq eqwht. uē ā flou j l ldie wōré lHo.	Elvyn sy efuq eqwht. a nou l ldie wore lHo.	tsms	tsms	524491964987	+525512235100 (Mexico)
SMPP	Successful	✓	✓	✓	✓	✓	✓	6	Spain - Movistar	RT_Telin	(10) UCS2	(10) UCS2	Hkf brg vm idhn. olHóuā lor lé fléjld žwü.	Hkf brg vm idhn. olHóuā lor lé fléjld žwü.	tsms	tsms	+34607003110	(Spain-Mobile-Vodafone)

Fitur adaptive routing terhadap tipe encoding

el. Time (sec)	SMSC	SMSC Owner	Network	Route	Alpha (S)	Alpha (R)	Text (S)	Text (R)	No of Seg (S)	No of Seg (R)	OA (S)	OA (R)	S. TON (S)	S. TON (R)	S. Num. Plan (S)	S. Num. Plan (R)
16	+966592631383	(Saudi Arabia-Mobile)	Saudi Arabia - Zain	RT_Solution	(10) UCS2	(00) GSM 7-bit d..	lkol 73 njy qryrr frm krme. £@ ¥\$ € .	lkol 73 njy qryrr frm krme. Lat YS ? .	1	1	tsms	tsms	(101) Alphanum..	(101) Alphanum..		(0000)
24	+966592631383	(Saudi Arabia-Mobile)	Saudi Arabia - Zain	RT_Solution	(10) UCS2	(10) UCS2	Frldu qfi sjgdg um 1250 mps dscus. @ € £ ¥ \$ € .	Frldu qfi sjgdg um 1250 mps dscus. @ € £ ¥ \$ € .	1	1	tsms	tsms	(101) Alphanum..	(101) Alphanum..		(0000)

Fitur adaptive routing terhadap tipe encoding

Sent Time	Network	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Alpha (S)	Alpha (R)	Text (S)	Text (R)	OA (S)	OA (R)	Del. Time (sec)	SMSC	SMSC Owner
21.01.2016 13:...	Ukraine - UMC	RT_LANC	✓	✓	✓	✓	✓	(10) UCS2	(10) UCS2	Jgjc qdmf qpd vtb cduxaew. Код подтверждения или	Jgjc qdmf qpd vtb cduxaew. Код подтверждения или	tsms	tsms	10	+380442379984	(Ukraine-Kiev Cl..)
21.01.2016 13:...	Ukraine - UMC	RT_LANC	✓	✓	✓	✓	✗	(10) UCS2	(00) GSM 7-bit default alphabet	Gli eg wtu 66 irf bawi. £\$ @€¥.	Gli eg wtu 66 irf bawi. £\$ @€¥.	tsms	tsms	9	+380442379984	(Ukraine-Kiev Cl..)

Pengujian dan Analisa Konten SMS – Sender ID

National
082345678923

Your
Business
Name Here

International
+6283906356677

Alphanumeric

Sender ID dikirim =
Sender ID diterima
(Dynamic Sender
ID)

Status	Network	Supplier	Route	Sent Time	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	OA (S)	OA (R)
Successful	United Kingdom - Vodafone	SMPP	RT_C	10.11.2015 10:...	✓	✓	✓	✗	✓	✓	07340001196	07340001196
Successful	United Kingdom - Vodafone	SMPP	RT_C	10.11.2015 10:...	✓	✓	✓	✓	✓	✓	ttSMS	ttSMS
Successful	United Kingdom - Vodafone	SMPP	RT_C	10.11.2015 10:...	✓	✓	✓	✓	✓	✓	491735189907	491735189907
Successful	United Kingdom - Vodafone	SMPP	RT_C	10.11.2015 10:...	✓	✓	✓	✗	✓	✓	55224	55224

Status	Supplier	Network	Route	Sent Time	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner	OA (S)	OA (R)	Text (S)
Failed	SMPP	Indonesia - Excelcomindo	RT_GT	17.11.2015 09:39:31	✗	✗	✗	✗	✗	✗				491735685448		Servu 26427 zh 77304 eqsbn. 1e 18 --- t1i -li-0 3- ---1-i > n> -1 --9-< ---1 -<0 u1- --> - -1>t >-- >s- ->M--1
Failed	SMPP	Indonesia - Excelcomindo	RT_GT	17.11.2015 09:39:43	✗	✗	✗	✗	✗	✗				ttSMS		Lach 24156 etque 08103 wndjsdv. iS M\$ h&E ai@s\$ N T S A s .
Failed	SMPP	Indonesia - Excelcomindo	RT_GT	17.11.2015 09:39:55	✗	✗	✗	✗	✗	✗				ttSMS		Gcd mr zwc abvb. @\$ ¥ £€ .
Failed	SMPP	Indonesia - Excelcomindo	RT_GT	17.11.2015 09:59:49	✗	✗	✗	✗	✗	✗				ttSMS		Klka 8678 rwkplf. s h SsMa¥ TE Nii€SA S @.
Successful	SMPP	Indonesia - Excelcomindo	RT_GT	17.11.2015 10:16:11	✓	✓	✓	✓	✓	✓				Jebhol		Giv SMS ku masuk gak?

Dynamic Sender ID
tidak didukung di
Indonesia

Route	Network	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	OA (S)	OA (R)
RT_SAF	Indonesia - Excelcomindo	✓	✓	✗	✓	✓	✓	5	ttSMS	GLOBALSMS
RT_Nex	Indonesia - Excelcomindo	✓	✓	✗	✓	✓	✓	8	ttSMS	6281808527067
RT_GM	Indonesia - Excelcomindo	✓	✓	✗	✓	✓	✓	10	ttSMS	6281808512213
RT_GT	Indonesia - Excelcomindo	✓	✓	✗	✓	✓	✓	10	ttSMS	6281808398435
RT_Nex	Indonesia - Excelcomindo	✓	✓	✗	✓	✓	✓	290	491735189907	6281808393686
RT_GT	Indonesia - Excelcomindo	✗	✓	✗	✓	✓	✓	305	491735189907	6281808525871

Fitur pengganti
sender ID (Sender
ID Replacement)

Status	Supplier	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	Network	Route	OA (S)	OA (R)
Successful	SMPP	✓	✓	✓	✓	✓	✓	4	Vietnam - Mobifone	RT_VN	AppleID	AppleID
Failed	SMPP								Vietnam - Mobifone	RT_VN	appleid	
Failed	SMPP								Vietnam - Mobifone	RT_VN	Cunam	
Failed	SMPP								Vietnam - Mobifone	RT_VN	Google	
Failed	SMPP								Vietnam - Mobifone	RT_VN	Yahoo	

Fitur registrasi
sender ID

Supplier	Status	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Network	Route	OA (S)	OA (R)
SMPP	Successful	✓	✓	✓	✓	✓	✓	Qatar - Vodafone	RT_Ceq -DLR	MEMO	MEMO
SMPP	Failed						✗	Qatar - Vodafone	RT_Ceq -DLR	MEME	
SMPP	Failed						✗	Qatar - Vodafone	RT_Ceq -DLR	Youtube	
SMPP	Failed						✗	Qatar - Vodafone	RT_Ceq -DLR	ELITS	

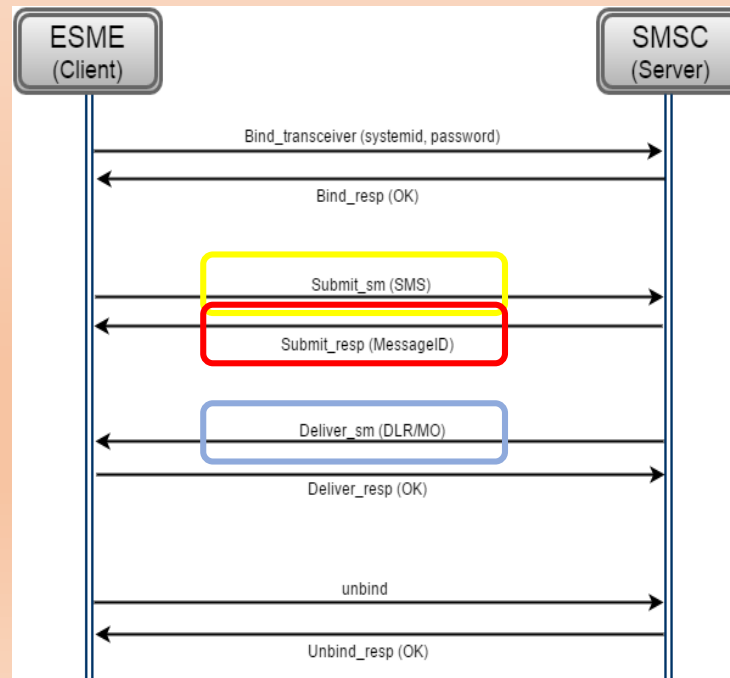
Fitur registrasi
sender ID

Pengujian dan Analisa Konten SMS – Delivery Receipt (DLR)

Successful DLR

Status	Network	Supplier	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	OA (S)	OA (R)	Del. Time (sec)	SMSC	SMSC Owner	S. TON (S)	S. TON (R)	Alpha (S)	Alpha (R)
Successful	Saudi Arabia - Al Jawal	SMPP	RT_Cequens-DLR	✓	✓	✓	✓	✓	✓	Facebook	Facebook	3	+966505031999	Saudi Telecom (Saudi Arabia-Mobile)	(101) Alphanum..	(101) Alphanum..	(10) UCS2	(10) UCS2
Successful	Saudi Arabia - Al Jawal	SMPP	RT_Nexmo	✓	✓	✓	✓	✓	✓	Facebook	Facebook	2	+966505031999	Saudi Telecom (Saudi Arabia-Mobile)	(101) Alphanum..	(101) Alphanum..	(10) UCS2	(10) UCS2

```
[MNPResolver-thread-20 Mon Nov 09 10:36:45 CET 2015 <4>] Required DLRMode for msg: 93006-1447061804131+573007267, protocol: smpp, customer_ppid: 93006, provider_ppid: 1032, is: PENDING_DLR
[Thread-1048676 Mon Nov 09 10:36:45 CET 2015 <4>] Sending PDU to teli_partner [sessionID: 524213] [bound: transceiver] (extInfo: MessageID 93006-1447061804131+573007267) : (submit: (pdu: 0 4 0 39234621) (addr: 5 0 ttSMS) (addr: 1 1 573007267) (sm: msg: id:1fe069b9 sub:001 dlvrd:001 submit date:1511090436 done date:1511090436 stat:DELIVRD err:000 text:00 hc:00 mpd:11) (opt: ))
[Thread-1048676 Mon Nov 09 10:36:45 CET 2015 <4>] SMSCSession response (extInfo: MessageID 93006-1447061804131+573007267) (submit_resp: (pdu: 25 80000004 0 39234621) 1fe069b9) from teli_partner [s
essionID: 524213] [bound: transceiver] [receiverDelay: 0 ms]
[Thread-1048682 Mon Nov 09 10:36:50 CET 2015 <4>] SMSCSession request (deliver: (pdu: 170 5 0 286) (addr: 1 1 573007267) (addr: 5 0 ttSMS) (sm: msg: id:1fe069b9 sub:001 dlvrd:001 submit date:15110904
36 done date:1511090436 stat:DELIVRD err:000 text:00 hc:00 mpd:11) (opt: )) from teli_partner [sessionID: 524216] [bound: transceiver] [receiverDelay: 0 ms]
```



Pengujian dan Analisa Konten SMS – Delivery Receipt (DLR)

Failed DLR

Template	Network	Route	S	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	OA (S)	OA (R)	Message ID
(ST) Test Case - Concat SMS - Numeric	India - Vodafone	RT_Route	2						✗	4915731855352		
(ST) Test Case - International	India - Vodafone	RT_Route	2	✓	✓	✗	✓	✓	✓	491735189907	61412437341	96152-1448358967090+919999086

```
[Thread-217 Tue Nov 24 10:55:57 CET 2015 <4>] Successfully registered foreign MsgID 1919-569f0db3-4b81-4331-ad18-ede9d23ec087 for inbound mapping (MsgID:96152-1448358955077+919999086)
[Thread-1634229 Tue Nov 24 10:56:08 CET 2015 <4>] Found match for foreign MsgID 1919-569f0db3-4b81-4331-ad18-ede9d23ec087 (MsgID:96152-1448358955077+919999086) => processing inbound DLR
[Thread-1634229 Tue Nov 24 10:56:08 CET 2015 <4>] SMPP-DLR error code 401 was mapped to error code -1015 for foreign MsgID 1919-569f0db3-4b81-4331-ad18-ede9d23ec087 (DLR state:UNDELIV, MsgID:96152-1448358955077+919999086)
[Thread-1634229 Tue Nov 24 10:56:08 CET 2015 <4>] Successfully triggered log-type "failure" [mapped dlr state: UNDELIV] for foreign MsgID 1919-569f0db3-4b81-4331-ad18-ede9d23ec087 (MsgID:96152-1448358955077+919999086)
```

Reserved for SMSC vendor specific errors	0x00000400-0x000004FF	Reserved for SMSC vendor specific errors
--	-----------------------	--

Status	Network	Supplier	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	OA (S)	OA (R)
✗ Failed	Saudi Arabia - AL	SMPP	RT_Ceq						✗	ttSMS	
✓ Successful	Saudi Arabia - AL	SMPP	RT_Nex	✓	✓	✓	✓	✓	✓	ttSMS	ttSMS

```
techonair@cow8:~$ grep c7d79091-b58d-4cd6-a7b6-ea5dbc49f193 /var/log/techonair/SMPPDaemon.log
[Thread-1276608 Wed Nov 25 14:27:27 CET 2015 <4>] SMSCSession response (extInfo: MessageID 92806-1448458046062+966537510 ) (submit_resp: (pdu: 53 80000004 0 29337183) c7d79091-b58d-4cd6-a7b6-ea5dbc49f193) from ceq -dlr_partner [sessionID: 638187] [bound: transceiver] [receiverDelay: 0 ms]
[Thread-1276606 Wed Nov 25 14:27:28 CET 2015 <4>] SMSCSession request (deliver: (pdu: 237 5 0 14449) (addr: 0 0 00966537510500) (addr: 0 0 ttSMS) (sm: msg: id:c7d79091-b58d-4cd6-a7b6-ea5dbc49f193 sub:001 dlvr:001 submit date:1511251527 done date:1511251527 stat:NACKED err:00 text:NACK/no SMSC) (opt: (byte: (tlv: 1063) 8) (str: (tlv: 30) c7d79091-b58d-4cd6-a7b6-ea5dbc49f193) ) ) from ceq -dlr_partner [sessionID: 638186] [bound: transceiver] [receiverDelay: 0 ms]
techonair@cow8:~$
```

```
MNPResolver-thread-50 Wed Jan 20 10:12:08 CET 2016 <4>] Setting VALIDITY_PERIOD to: 160122101036004+ for submitSM (MsgID=106453-1453281035532+821088181 )
MNPResolver-thread-50 Wed Jan 20 10:12:08 CET 2016 <4>] Required DLRMode for MsgID=106453-1453281035532+821088181 , protocol=smpp, customer_bpID=106453, provider_bpID=2126 is: MAPPING_DLR
MNPResolver-thread-50 Wed Jan 20 10:12:08 CET 2016 <4>] Sending PDU to surem_partner [sessionID: 157652] [bound: transmitter] (extInfo: MessageID 106453-1453281035532+821088181 ) : (submit: (pdu: 0 4 0 6693573) (addr: 5 0 ttSMS) (addr: 1 1 821088181) (sm: msg: Nfx hn of 00974 2138 ecq immgvn. i € TSh s AS MN $% f sa i@.) (opt: ) )
Thread-315569 Wed Jan 20 10:12:08 CET 2016 <4>] SMSCSession response (extInfo: MessageID 106453-1453281035532+821088181 ) (submit_resp: (pdu: 17 80000004 a 6693573) ) from sur_partner [sessionID: 15652] [bound: transmitter] [receiverDelay: 0 ms]
```

ESME_RINVSRCADR	0x0000000A	Invalid Source Address
-----------------	------------	------------------------

Pengujian dan Analisa Konten SMS – Delivery Receipt (DLR)

- No DLR dan Buffered DLR*

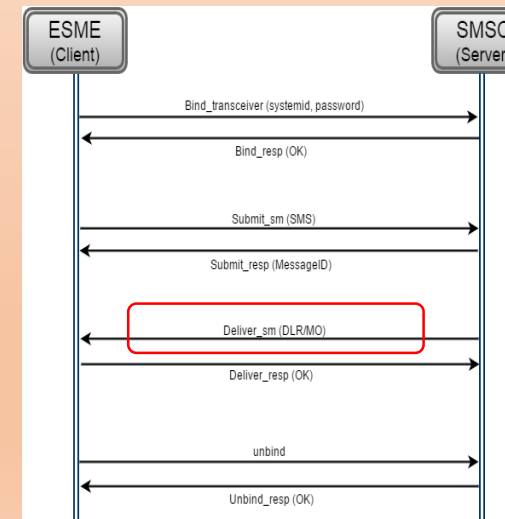
Supplier	Del. Time (sec)	SMSC	SMSC Owner	Template	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Network	Route	OA (S)	OA (R)	Message ID
SMPP	7	+447802000332	Telefonica O2 (...)	(ST) Test Case - Alphanumeric SenderID	✓	✓	✓	✓	✓	✓	Germany - Vodafone	RT_W...	ttSMS	ttSMS	92848-1447858856984+4915252954
SMPP	4	+447958879832	Everything Ever...	(ST) Test Case - Unicode	✓	✓	✓	✓	✓		Germany - Vodafone	RT_W...	ttSMS	ttSMS	92848-1447858868930+4915252954

Supplier	Sent Time	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Network	Route	Del. Time (sec)	Message ID
SMPP	18.11.2015 15:01:08	✓	✓	✓	✓	✓	✓	Germany - Vod...	RT_W...	4	92848-1447858868930+4915252954
SMPP	18.11.2015 15:00:56	✓	✓	✓	✓	✓	✓	Germany - Vod...	RT_W...	7	92848-1447858856984+4915252954

- Fake DLR*

Status	Supplier	Network	Route	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner
✓ Successful	SMPP	Finland - Sonera	RT_SA	✓	✓	✓	✗	✓	✓	3	+358508771010	Elisa Finland...
✓ Successful	SMPP	Algeria - Mobilis	RT_SA-noDLR	✓	✓	✓	✓	✓	✓	6	+320335320086	(Belgium)
✗ Failed	SMPP	Egypt - Vodafone	RT_Ceq						✓			
✓ Successful	SMPP	Tunisia - Orange	RT_Ceq-DLR	✓	✓	✗	✗	✓	✓	20	+21698390084	(Tunisia)

```
techonair@cow10:~$
techonair@cow10:~$ grep 106054-1447939451296+213664719 /var/log/techonair/InboundDeliveryReceiptMatcher.log
[Thread-216 Thu Nov 19 14:24:11 CET 2015 <4>] Doing direct DLR handling for MsgID 106054-1447939451296+213664719
```



Pengujian dan Analisa Konten SMS – Delivery Receipt (DLR)

SA (98.04%) 7928 messages						ID 79522 , SMPP 2053	
ER	SR	Op	Id	Msg	CC	DL	
97.64%	TeliaSonera Finland Oyj		63	4117	FIN		
98.53%	Elisa Corporation		65	2863	FIN		
98.14%	DNA Ltd		66	858	FIN		
100%	Lonestar Communications Corporation		256	90	LBR		

Ceq (81.01%, 78730 messages)				ID 77344 , SMPP 1711			
ER	SR	Op	Id	Msg	CC	DL	
	86.83%	Saudi Telecom Company (STC)	361	56174	SAU	↓	
	82.67%	ECMS-MobiNIL	531	4801	EGY	↓	
🔥	74.74%	MTC Saudi Arabia	55550	4030	SAU	↓	
🔥	78.24%	Etihad Etisalat Company	614	3469	SAU	↓	
	85.94%	IAM	218	2547	MAR	↓	
	88.51%	Orascom Telecom Tunisie	330	2185	TUN	↓	
	82.23%	Wana	1066	1891	MAR	↓	
🔥	61.8%	Turkcell İletisim Hizmetleri A.S.	48	699	TUR	↓	
	81.63%	Wataniya Telecom Algerie	618	615	DZA	↓	
	83.39%	Orange CI	322	578	CIV	↓	
🔥	86.56%	★ Wind Telecomunicazioni SpA	34	424	ITA	↓	
🔥	78.18%	Virgin Mobile KSA	79494	417	SAU	↓	
	92.35%	Medi Telecom	267	392	MAR	↓	
🔥	69.28%	Orange Tunisie SA	56451	166	TUN	↓	
🔥	48.11%	Lebara Mobile KSA	79495	106	SAU	↓	
	80.23%	Oman Telecommunications Company	215	61	OMN	↓	

SA noDLR (100%, 2287 messages)						ID 79656 , SMPP 2097
ER	SR	Op	Id	Msg	CC	DL
100%	ATM MOBILIS		95	743	DZA	↓
100%	KPN B.V.		43	509	NLD	↓
100%	Vodafone Egypt Telecommunications S.A.E		461	352	EGY	↓
100%	MTN Syria (JSC)		381	280	SYR	↓
100%	Pannon GSM Telecommunications		335	139	HUN	↓
100%	Vodacom Congo (RDC) sprl		456	80	COD	↓
100%	LACELL SU		55500	64	BDI	↓
100%	TELECOM VANUATU LIMITED		414	42	VUT	↓
100%	USAN-Gabon		79676	36	GAB	↓
100%	OPT New Caledonia		318	11	NCL	↓
100%	Hormuud Telecom Somalia Inc		79520	8	SOM	↓
100%	ONATEL		658	6	BDI	↓
100%	Africell DRC		77626	5	COD	↓
100%	InterGroup Telecom SL		79518	3	SLE	↓
100%	SEATEL-FDD		79542	3	KHM	↓
100%	Mobitel		290	2	SDN	↓
100%	Golis Telecommunications Company Ltd		644	1	SOM	↓
100%	Djibouti Telecom SA		166	1	DJI	↓
100%	Marshall Islands National Telecommunications Authority (NTA)		79488	1	MHL	↓
100%	Intelsur N.V.		957	1	SUR	↓

Ceq (100%, 18139 messages)						ID 77297 , SMPP 1668	
ER	SR	Op	Id	Msg	CC	DL	
100%	Vodafone Egypt Telecommunications S.A.E		461	12871	EGY	↓	
100%	Etisalat Misr		776	2193	EGY	↓	
100%	Atheer Telecom Iraq		514	1584	IRQ	↓	
100%	Teletalk Bangladesh Ltd		617	658	BGD	↓	
100%	MTN Cameroon Ltd		297	247	CMR	↓	
100%	Sonatel		377	245	SEN	↓	
100%	Korek Telecom Ltd.		1070	88	IRQ	↓	
100%	Sentel GSM S.A.		363	86	SEN	↓	
100%	Scancom Ltd		362	71	GHA	↓	
100%	Sudan Telecom Company Ltd		58001	51	SEN	↓	
100%	Ertebatat Tamin Shams Novin Company		58015	32	IRN	↓	
100%	Orange Cameroun S.A.		320	6	CMR	↓	
100%	Bakcell Ltd		239	5	AZE	↓	
100%	Celtel Niger		135	2	NER	↓	

Kesimpulan

Alamat GT mengidentifikasi terminasi dari sebuah rute

Undelivered pada concat message dapat diatasi dengan teknik splitting pada sisi ESME

Tipe encoding menentukan jenis pesan dan konten yang dikirim (konten & simbol)

Sender ID filtering dapat diatasi dengan *Replacement*, *Randomize Sender* dan *Sender ID registration*

Keberadaan DLR dalam protokol SMPP sesuai kesepakatan ESME-SMSC

Improvisasi GT, Sender ID dan Encoding pada sisi ESME terbukti secara efektif mempengaruhi keberhasilan pengiriman A2P SMS.

Successful DLR berbanding lurus dengan SR, 100% SR dengan *Fake DLR*

Saran

- Melakukan pengujian ke negara yang spesifik untuk melihat fitur dan restriksi nya.
- Membandingkan performa SMPP dengan HTTP dan SMTP yang juga umum digunakan untuk pengiriman pesan singkat dalam jumlah besar.
- Menciptakan SMS Gateway sendiri yang dapat mengirim dan meneruskan pesan singkat via SMPP, dan menguji fitur-fitur nya berdasarkan *delivery time*.

For a little humor... "I want to be buried with a mobile phone, just in case I'm not dead." – Amanda Holden

"Mobile is not the future, it is the now. Meet your customers in the environment of their choice, not where it's convenient for you." – Cyndie Shaffstall, Spider Trainers

"The future of mobile is the future of online. It is how people access online content now." – David Murphy, Mobile Marketing Magazine

"Mobile is a lot closer to TV than it is to desktop." – Mark Zuckerberg, Facebook

"The trend has been mobile was winning. It's now won." Eric Schmidt, Google (2014)

"If your plans don't include mobile, your plans are not finished." – Wendy Clark, Coca-Cola

"SMS text messaging has proven its marketing value in reaching consumers at scale." – Marcos Menendez, Momares Mobile Marketing

Terimakasih