September 2009

LAMPIRAN

1. Introduction

Benchmarking Test for Jakarta City was completed at September 04 , 2009. The Benchmarking Test includes Idle Mode Drive Test which was done on October 04 till October 08, 2009, Qos Mode Drive Test October 07 till October 10, 2009, PDD Test Octoberr 03, 2009, GPRS October 05 till October 07, 2009 & SMS October 05, 2009. The Drive Test was done on the agreed routes as shown below while the PDD, GPRS & SMS Tests are static test done in an open area with good coverage for all the operators.

2. Benchmarking Results

2.1. Idle Mode and QoS Mode Benchmarking Drive Test Results

Sample drive test report Qos mode benchmarking (Jakarta City)				
Item	Unit	Indosat Star One	Telkom Flexi	Bakrie Esia
Rx power strength >= -80 dBm	%	74.10%	94.94%	98.21%
Tx power <= 8	%	98.68%	64.94%	59.60%
Call setup success rates (a)	%	95.29%	100.00%	94.92%
Call drop rates (b)	%	1.22%	0.00%	0.00%
Call success rates [a x (1-b)]	%	94.13%	100.00%	94.92%
Ec/Io >= -8	%	68.49%	64.82%	55.77%
Ec/Io >= -13	%	93.73%	94.26%	96.49%
Ec/Io >= -15	%	95.99%	98.30%	98.86%
Number of unique PN	cells	138	129	152
Number of unique Channel	cells	2	2	3
FER <= 2%	%	77.73%	76.54%	73.41%

2.1.1 Idle Mode Drive Test Real Value Data

Population of sampling data in drive test idle mode (JAKARTA City)			
Item	Indosat Star One	Telkom Flexi	Bakrie Esia
Rx power strength >= -80 dBm	172987	281315	260110
Population of PN Set	233293	296226	264862
Population of Channel Set	233239	296222	264862

2.1.2 QoS Mode Drive Test Real Value Data

Population of sampling data in drive test qos mode (Jakarta City)			
Item	Indosat Star One	Telkom Flexi	Bakrie Esia
Call Initiation	85	69	118
Call Setup	82	69	112
Call drop	1	0	0
Ec/Io >= -8	684243	1138450	944846
Ec/Io >= -13	936373	1655562	1634639
Ec/Io >= -15	958980	1726453	1674813
All Ec/Io	999063	1756337	1694144
FER <= 2%	790971	1480386	1053629
Tx Power <= 8	855348	1061986	929087
Population of PN Set	999063	1756337	1694144
Population of Channel Set	455172	796256	772757

2.2. GPRS Benchmark HTTP Load Test Results

Stationary GPRS HTTP load mode benchmarking				
Website address / Measurement item	Unit	Originating number		
		Indosat	Telkom	Bakrie
		Star One	Flexi	Esia
WEB: DETIK				
Session success rates	%	94.29%	93.39%	95.19%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	100.00%
Session time average	Second	00:43.8	04:28.5	00:45.9
RAS Dial until get IP time average	Second	00:10.6	00:11.3	00:11.3
RAS Dial until Hangup time average	Second	00:35.7	00:49.8	00:55.5
WEB: FACEBOOK				
Session success rates	%	100.00%	74.29%	41.18%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	100%
Session time average	Second	00:13.1	00:42.4	00:19.4
RAS Dial until get IP time average	Second	00:05.3	00:10.2	00:09.9
RAS Dial until Hangup time average	Second	00:22.5	00:45.8	00:31.1
WEB: GOOGLE.CO.ID				
Session success rates	%	97.14%	88.57%	85.71%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	100%
Session time average	Second	00:35.8	01:07.4	00:51.7
RAS Dial until get IP time average	Second	00:05.9	00:09.9	00:10.8
RAS Dial until Hangup time average	Second	00:47.9	01:37.6	01:03.6
WEB: GOOGLE.COM				
Session success rates	%	55.26%	55.56%	73.33%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	88.24%
Session time average	Second	02:23.9	04:22.0	02:47.4
RAS Dial until get IP time average	Second	00:05.6	00:06.1	00:13.5
RAS Dial until Hangup time average	Second	00:11.3	00:31.3	03:06.2
WEB:YAHOO.CO.ID				
Session success rates	%	95.00%	52.22%	55.00%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	100.00%
Session time average	Second	01:02.4	04:07.4	01:44.8
RAS Dial until get IP time average	Second	00:05.4	00:09.6	00:07.7
RAS Dial until Hangup time average	Second	01:10.0	01:45.1	00:22.1
WEB: YAHOO.COM				
Session success rates	%	94.44%	52.78%	52.78%
RAS Dial until get IP success rates	%	100.00%	100.00%	100.00%
RAS Dial until Hangup succes rate	%	100.00%	100.00%	100.00%
Session time average	Second	00:08.0	00:07.4	00:13.9
RAS Dial until get IP time average	Second	00:05.8	00:10.1	00:17.1
RAS Dial until Hangup time average	Second	00:22.6	01:15.7	00:49.1