



**Suruhanjaya Komunikasi dan Multimedia Malaysia**  
*Malaysian Communications and Multimedia Commission*

*SUMMARY REPORT*

**MANDATORY STANDARDS  
REPORT FOR QUALITY OF  
SERVICE**

*FOR THE PERIOD ENDING  
DECEMBER 2005*

**MANDATORY STANDARD FOR QUALITY OF SERVICE**  
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**OBJECTIVE**

1. The Mandatory Standards (MS) for Quality of Service (QoS) were put in place to ensure that minimum standards of quality are offered to protect the rights of consumers and provide them with a visible and specific criterion through which the quality of services received or used can be gauged.
2. In general, the MS for QoS covers the billings, complaints, installation, restoration, availability and technical aspects. For technical aspects, MCMC conducted its own testings to verify compliance with the standards.

**THE LAW**

3. Malaysian Communications and Multimedia Commission (MCMC) under the Ministerial Direction on Quality of Service, Number 1 of 2002, had on 28 June 2002 issued Determinations number 1 to 4 of 2002.
4. This MS for QoS covers the following services: Public Switched Telephone Network Service (PSTN), Public Cellular Service (PCS), Dial-Up Internet Access Service (DIAS) and Content Applications Service (CAS).
5. On 17 November 2003, MCMC issued other Determinations, Number 3 to 5 of 2003 on the Mandatory Standards for Quality of Service following the issuance of Ministerial Direction on Quality of Service Phase 2, Number 3 of 2003.
6. The services covered are Public Payphone Service (PP), Digital Leased line (DLL) Service and Broadband Access (BA) Service.

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7. All Applications Service Providers (ASPs), Content Application Service Providers (CASPs) and Network Service Providers (NSPs) that provide the services covered under the MS for QoS are required to submit reports to MCMC every six months, detailing various aspects of their performance and with a signed declaration attesting to its accuracy.
  
8. Section 105 (3) of the Communications and Multimedia Act 1998 (CMA98) states that a person subject to a Mandatory Standard shall comply with the mandatory standard and in the event a person omits or neglects to comply with such Mandatory Standard, he shall be liable to a fine not exceeding one hundred thousand Ringgit or to imprisonment for a term not exceeding two years or both as provided for by Section 242 of the CMA98.
  
9. The list of currently effective MS for QOS Determination are set out as below:

<b>Commission Determination on the Mandatory Standards</b>	<b>Licensees subject to Determination</b>	<b>Effective date</b>
Public Switched Telephone Network Service (PSTN) <i>Determination 1 of 2002</i>	ASP	1 January 2003
Public Cellular Service (PCS) <i>Determination 2 of 2002</i>	ASP	1 January 2003
Dial Up Internet Access Service <i>Determination 3 of 2002</i>	ASP	1 January 2003
Content Applications Services (CAS) <i>Determination 4 of 2002</i>	CASP	1 January 2003
Public Payphone Service (PPS) <i>Determination 3 of 2003</i>	ASP	1 June 2004
Digital Leased Line Service (DLL) <i>Determination 4 of 2003</i>	NSP	1 January 2004
Broadband Access Service (BAS) <i>Determination 5 of 2003</i>	NSP	1 January 2004

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**SUBMISSION OF REPORT**

10. Under the MS for QOS, the reports need to be submitted every half yearly, for the period ending June and December. The reports have to be submitted to MCMC no later than six weeks from the ending period.

**AUDIT AND CERTIFICATION EXERCISE**

11. MCMC also conducted an audit and certification exercise which primarily acts to validate the accuracy of the reports. The audit also aims to gather feedback on suggestion for improvement on the MS for QoS.
12. Since the MS for QoS became effective (1 January 2003), MCMC has conducted five rounds of audit and certification exercise. The first four rounds were conducted by MSC Technology Centre Sdn Bhd.
13. For the reports ending December 2005, Ernst & Young (E&Y) was appointed as the auditor and have completed the exercise on August 2006. 25 randomly selected licensees underwent the audit exercise, covering all seven services.
14. The results of the audit were shared with the industry to enable the industry to plan for further improvements in the QOS, to meet the standards where there were non-compliances.
15. In order to have better understanding of the report, readers are advised to read the report in conjunction with the Determinations.

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**TECHNICAL TESTING**

16. For the period ending December 2005, MCMC has conducted a technical testing on Broadband Access Service.
17. MCMC did not conduct studies to assess the performance of PSTN, PCS, Dial Up Internet Access Service and BA Service for this period.
18. Below are the results of the summary for the reports submitted for the period ending December 2005.



**MANDATORY STANDARD FOR QUALITY OF SERVICE  
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**DETERMINATION NO. 1 - PUBLIC SWITCHED TELEPHONE NETWORK SERVICE**

Licensee	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	% Installation orders Fulfilled within 24 hours	% Installation orders Fulfilled within 48 hours	% Installation Orders Fulfilled within 7 days
Standard	2%	90%	95%	80%	90%	100%
<b>Telekom Malaysia Berhad</b>	<b>0.62%</b>	<b>99.64%</b>	<b>99.95%</b>	<b>99.41%</b>	<b>99.60%</b>	<b>100.00%</b>
<b>Maxis Broadband Sdn Bhd</b>	<b>0.17%</b>	<b>96.28%</b>	<b>100.00%</b>	<b>97.79%</b>	<b>99.52%</b>	<b>100.00%</b>
<b>Digi Telecommunications Sdn Bhd</b>	<b>0.21%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>98.14%</b>	<b>98.14%</b>	<b>100.00%</b>
<b>TTdotCom Sdn Bhd</b>	<b>1.63%</b>	<b>97.26%</b>	<b>99.09%</b>	<b>99.56%</b>	<b>99.56%</b>	<b>100.00%</b>
<b>Maxis Mobile Sdn Bhd</b>	<b>0.00%</b>	<b>N/App</b>	<b>N/App</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
Nasioncom Sdn Bhd	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%

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<b>Licensee</b>	<b>Number of general customer complaints per 1000 lines p.a.</b>	<b>% Service restoration Fulfilled within 24 hours</b>	<b>% Service restoration Fulfilled within 48 hours</b>	<b>Number of service trouble reports for every 1000 line</b>
Standard	<b>50</b>	<b>80%</b>	<b>90%</b>	<b>500</b>
<b>Telekom Malaysia Berhad</b>	<b>3.37</b>	<b>95.92%</b>	<b>100.00%</b>	<b>230</b>
<b>Maxis Broadband Sdn Bhd</b>	<b>2.70</b>	<b>94.65%</b>	<b>98.61%</b>	<b>48</b>
<b>Digi Telecommunications Sdn Bhd</b>	<b>13.99</b>	<b>Unable to be verified</b>		<b>9</b>
<b>TTdotCom Sdn Bhd</b>	<b>0.38</b>	<b>99.41%</b>	<b>99.12%</b>	<b>33</b>
<b>Maxis Mobile Sdn Bhd</b>	<b>15.46</b>	<b>100.00%</b>	<b>100.00%</b>	<b>26</b>
Nasioncom Sdn Bhd	16.88	0.00%	0.00%	16

**Technical Assessment**

<b>Licensee</b>	<b>% Intra-network call connection loss</b>	<b>% Inter-network call connection loss</b>	<b>% Emergency calls answered within 10 seconds</b>	<b>% Emergency calls answered within 20 seconds</b>	<b>% Busy signal</b>	<b>% Inter-network post dialing delay</b>	<b>% Intra-network post dialing delay</b>
Mandatory Standard	6%	6%	90%	100%	1%	95% in 13 seconds	95% in 10 seconds
Not conducted for this period							



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**DETERMINATION NO.2 - PUBLIC CELLULAR SERVICE**

Licensee	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	Number of general customer complaints per 1000 lines p.a.
<b>Standard</b>	<b>2.00%</b>	<b>90.00%</b>	<b>95.00%</b>	<b>50</b>
<b>DiGi Telecommunications Sdn Bhd</b>	<b>0.06%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>30.21</b>
<b>Celcom (M) Bhd</b>	<b>0.61%</b>	<b>91.03%</b>	<b>96.99%</b>	<b>21.32</b>
<b>Malaysian Mobile Services Sdn Bhd</b>	<b>0.26%</b>	<b>94.10%</b>	<b>98.75%</b>	<b>10.33</b>
Telekom Malaysia Bhd	0.42%	99.50%	100.00%	3.98

**Technical Assessment**

Licensee	% Intra-network Endpoint service availability	% no. of dropped calls	% Inter-network Endpoint service availability	% Emergency calls answered within 10 seconds	% Emergency calls answered within 20 seconds
Mandatory Standard	90%	5%	90%	90%	100%
Not conducted for this period					

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**DETERMINATION NO. 3 - DIAL UP INTERNET ACCESS SERVICE**

Licensee	% Complaints of bills issued	% Bill complaints resolved within 15 bus days	% Bill complaints resolved within 30 bus days	Number of general customer complaints per 1000 lines p.a.
	2%	90%	95%	50
Jaring Communications Sdn Bhd	0.01%	100.00%	100.00%	0
TM Net Sdn Bhd	0.02%	92.84%	97.22%	22
Nasioncom Sdn Bhd	N/A	N/A	N/A	149
Celcom (M) Bhd	N/A	N/A	N/A	14
DiGi Communications Sdn Bhd	N/A	N/A	N/A	2
Timedot Net Bhd	N/A	N/A	N/A	6
KKIP Communications Sdn Bhd	N/A	N/A	N/A	1

**Technical Assessment**

Licensee	No. of attempts before successful connection	Time taken to access IASP node	Average file download for a standard graphic or random text file of approximately 30kb from a local website
Standard	3 with no more than 1 minute intervals (100%)	95% within 40 seconds	80%modem line speed at least 95% of the time.
Not conducted for this period			

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**DETERMINATION NO. 4 - CONTENT APPLICATION SERVICES**

Licensee	% Annual service availability
Mandatory Standard	99%
<b>Maestra Broadcast Sdn Bhd (Era FM)</b>	<b>99.90%</b>
<b>Maestra Broadcast Sdn Bhd (Mix FM)</b>	<b>99.91%</b>
<b>Maestra Broadcast Sdn Bhd (Xfresh)</b>	<b>99.90%</b>
<b>Malaysia Airports (Sepang) Sdn Bhd (Fly FM)</b>	<b>99.98%</b>
<b>Measat Radio Communications (Hitz FM)</b>	<b>99.91%</b>
<b>Measat Radio Communications (Light and easy FM)</b>	<b>99.92%</b>
<b>Measat Radio Communications (MY FM)</b>	<b>99.92%</b>
<b>Radio Lebuhraya</b>	<b>99.91%</b>
<b>Star RFM (Red 104.9)</b>	<b>99.95%</b>
<b>Star RFM Sdn Bhd (988 channel)</b>	<b>99.97%</b>
Natseven TV Sdn Bhd	99.55%
Synchrosound Studios	100.00%
Husa Network Sdn Bhd	99.95%
IKIM	99.74%
Kristal Harta Sdn Bhd	99.98%
Metropolitan TV Sdn Bhd (8 TV)	99.95%
MiTV	99.04%
Perfect Excellence Waves	99.87%
Sistem Televisyen Malaysia (TV3)	99.99%
Suara Johor Sdn Bhd (Best 104.9)	99.91%

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**DETERMINATION NO. 3 of 2003 – PUBLIC PAYPHONE SERVICE**

<b>Licensees</b>	<b>% of public payphone in proper working conditions</b>
Standard	90%
<b>TM Payphone Sdn Bhd</b>	<b>Unable to be verified</b>
<b>Time Reach Sdn Bhd</b>	<b>92.09%</b>
Maxis Mobile Sdn Bhd	100.00%
Nukilan Mahir Sdn Bhd	100.00%
Aliya Technologies Sdn Bhd	98.29%
Modern Lines Communication Sdn Bhd	100.00%

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**DETERMINATION NO. 4 of 2003 – DIGITAL LEASED LINE SERVICE**

DIGITAL LEASED LINE	Annual Service Availability*			Fulfillment of installation orders						Service Restoration Performance	
	Local DLL	National DLL	Int'l DLL*	Local DLL		National DLL		International DLL		Fulfilled within 24 hours	Fulfilled within 48 hours
				Fulfilled within 1 week	Fulfilled within 2 weeks	Fulfilled within 2 week	Fulfilled within 3 weeks	Fulfilled within 4 week	Fulfilled within 5 weeks		
Standards	99%	99.9%	99.99%	90%	100%	90%	100%	90%	100%	80%	90%
<b>Telekom Malaysia Bhd</b>	<b>N/A</b>	<b>99.96%</b>	<b>99.98%</b>	<b>N/A</b>	<b>N/A</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100.00%</b>	<b>99.87%</b>	<b>99.98%</b>
Celcom (M) Bhd	99.88%	99.90%	0	0	0	0	0	0	0	95.55%	97.41%
<b>Maxis Broadband Sdn Bhd</b>	<b>N/A</b>	<b>99.96%</b>	<b>99.94%</b>	<b>100%</b>	<b>100%</b>	<b>96.97%</b>	<b>100.00%</b>	<b>95.45%</b>	<b>100.00%</b>	<b>95.37%</b>	<b>97.22%</b>
<b>DiGi Telecommunications Sdn Bhd</b>	<b>99.98%</b>	<b>100%</b>	<b>0</b>	<b>100%</b>	<b>100%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100%</b>	<b>100%</b>
<b>TT dotCom Sdn Bhd</b>	<b>99.92%</b>	<b>99.96%</b>	<b>99.93%</b>	<b>99.34%</b>	<b>99.67%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>98.88%</b>	<b>99.40%</b>
Fiberail Sdn Bhd	N/A	99.94%	99.97%	N/A	N/A	100%	100%	0	0	100%	100%
Vads Bhd	99.78%	99.35%	99.86%	13.33%	17.32%	30.53%	32.63%	26.09%	86.96%	87.57%	96.52%
Sacofa Sdn Bhd	99.92%	N/A	N/A	0.00%	0.00%	N/A	N/A	N/A	N/A	100.00%	100.00%

\* Service Availability is measured from Network Termination Unit at the origination point to Network Termination Unit at the termination point. The reported downtime hours includes damage to network due to force majeure and third parties.

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**DETERMINATION NO. 5 of 2003 – BROADBAND ACCESS SERVICE**

Licensees	Fulfillment of installation orders			Service Restoration Performance		Network Performance			
	% Fulfilled within 24 hours	% Fulfilled within 48 hours	% Fulfilled within 7 days	% Fulfilled within 24 hours	% Fulfilled within 48 hours	% of number of sample with Network Latency below 85ms	% of number of sample with bandwidth utilisation more than 70% of subscribed level	% of Packet loss	% of network availability
Standards	80%	90%	100%	80%	90%	95%	95%	1%	99.99%
Telekom Malaysia Berhad	96.81%	97.76%	100%	94.2%	98.02%	100.00%	100%	0.00%	99.98%
TT dotCom Sdn Bhd	98.85%	98.85%	99.43%	89.7%	97.24%	Did not meet testing parameters			Unable to be verified
DiGi Telecommunications Sdn Bhd	0.00%	0.00%	40.00%	100%	100%	Did not meet testing parameters			99.98%
Maxis Broadband Sdn Bhd	86.05%	98.45%	100%	99.5%	99.47%	100%	100%	0.00%	99.99%
Optical Communications Sdn Bhd	1.75%	64.19%	73.80%	63.6%	85.27%	100%	100%	0.00%	95.65%

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**Technical Assessment**

<b>Licensees</b>	<b>Network Latency</b>	<b>Throughput</b>	<b>Packet Loss</b>
Standards	95%	95%	1%
Telekom Malaysia Bhd	97.99%	98.76%	0.15%
TT dotCom Sdn Bhd	90.83%	99.83%	0.50%
Maxis Broadband Sdn Bhd	93.67%	90.00%	0.77%

Bold – Audited

N/A – Not applicable