**DECREE OF THE MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE REPUBLIC OF INDONESIA**

**NUMBER: 33 YEAR 2012**

**ON**

**TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF *MULTI- LAYER SWITCH***

**BY THE GRACE OF GOD THE ALMIGHTY**

**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE REPUBLIC OF INDONESIA**

Considering: a. that in accordance with the provision of Article 2 paragraph (1) of

 the Decree of the Minister of Communication and Information Technology Number 29/PER/M.KOMINFO/09/2008 on Certification of Telecommunication Tools and Equipment, any telecommunication tools and equipment manufactured, assembled, imported for trade and or used in the territory of the Republic of Indonesia shall comply with the technical requirements

b. that due to inexistence of the regulation which stipulates the technical requirements for *multi layer switch,* such equipment has not been able yet to be manufactured, assembled, imported for trade and or used in Indonesia;

c. that based on considerations referred to in points a and b, it is considered necessary to issue a Decree of the Minister of Communication and Information Technology on Technical Requirements of Telecommunication Equipment of *Multi Layer Switch*

Bearing in mind: 1. Law of the Republic of Indonesia Number 36 Year 1999

 on Telecommunication (State Gazette of the Republic of

 Indonesia Number 154 Year 1999, Supplement to the State

 Gazette of the Republic of Indonesia Number 3881);

2. Government Regulation of the Republic of Indonesia Number 52 Year 2000 on Provision of Telecommunication (State Gazette of the Republic of Indonesia Number 107 Year 2000, Supplement

 to the State Gazette of the Republic of Indonesia Number 3980);

3. Decree of the President of the Republic of Indonesia Number 47 Year 2009 on Formation and Organization of State Ministries of the Republic of Indonesia as amended several times, the latest by the Decree of the President of the Republic of Indonesia Number 91 Year 2011 on Third Amendment to the Decree of the President of the Republic of Indonesia Number 47 Year 2009 on Formation and Organization of State Ministries of the Republic of Indonesia;

4. Decree of the President of the Republic of Indonesia Number 24 Year 2010 on Positions, Duties, Functions of State Ministries of the Republic of Indonesia and Organizational Structure, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia , as amended several times, the latest by the Decree of the President of the Republic of Indonesia Number 92 Year 2011 on Second Amendment to the Decree of the President of the Republic of Indonesia Number 24 Year 2010 on Positions, Duties, and Functions of State Ministries of the Republic of Indonesia and Organizational Structure, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia;

5. Decision of the Minister of Communication Number KM. 3 Year 2001 on Technical Requirements of Telecommunication Tools and Equipment;

6. Decree of the Minister of Communication and Information Technology Number 03/P/M.Kominfo/5/2005 on Adjustment of Nomenclatures of a Number of Decisions/Decrees of the Minister of Communication which Regulate Special Material Contents in the Field of Post and Telecommunication;

7. Decree of the Minister of Communication and Information Technology Number 29/PER/M.KOMINFO/09/2008 on Certification of Telecommunication Tools and Equipment;

8. Decree of the Minister of Communication and Information Technology Number 17/PER/M.KOMINFO/10/2010 on Organization and Work Method of the Ministry of Communication and Information Technology;

9. Decree of the Minister of Communication and Information Technology Number 15/PER/M.KOMINFO/06/2011 on Adjustment of Nomenclatures of a Number of Decisions/Decrees of the Minister of Communication and Information Technology which Regulate Special Material Contents in the Field of Post and Telecommunication and Decisions/Decrees of the Director General of Post and Telecommunication.

**DECIDES**

**To issue**: **DECREE OF THE MINISTER OF COMMUNICATION AND**

 **INFORMATION TECHNOLOGY ON** **TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF *MULTI-LAYER SWITCH***

Article 1

Any telecommunication equipment of *multi-layer switch* manufactured, assembled, imported for trade and / or used in the territory of the Republic of Indonesia shall comply with the technical requirements referred to in the Attachment which is an inseparable part of this Ministerial Decree. .

Article 2

(1) Evaluation on the obligation of any *multi-layer switch* equipment in complying with the technical requirements referred to in Article 1 is conducted through testing done by a Test Office which has accreditation and has been designated by the Directorate General of Resources and Equipment of Post and Information Technology as Designating Authority.

(2) The testing of *multi-layer switch* equipmentis implemented in accordance with technical requirements referred to in the Attachment which is an inseparable part of this Ministerial Decree..

Article 3

This Ministerial Decree shall come into force on the date of its promulgation..

In order to make known to every body, instruct the promulgation of this Ministerial Decree by placing it in the State Announcement of the Republic of Indonesia.

 Done at: JAKARTA

 On : September 12, 2012

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**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE REPUBLIC OF INDONESIA**

Signed

**TIFATUL SEMBIRING**

Promulgated at Jakarta

On November 22, 2012

MINISTER OF LAW AND HUMAN RIGHTS

OF THE REPUBLIC OF INDONESIA

 Signed

 AMIR SYAMSUDIN

STATE ANNOUNCEMENT OF THE REPUBLIC OF INDONESIA YEAR 2012 NUMBER 1159

For copy conform to the original

Ministry of Communication and Information Technology,

 Head of Bureau of Legal Affairs,

 Signed

 D. Susilo Hartono

ATTACHMENT

DECREE OF THE MINISTER OF COMMUNICATION AND

INFORMATION TECHNOLOGY OF THE REPUBLIC OF INDONESIA

NUMBER 33 YEAR 2012

ON

TECHNICAL REQUIREMENTS OF TELECOMMUNICATION

EQUIPMENT OF *MULTI-LAYER SWITCH*

Scope of technical requirements of *Multi-Layer Switch* (MLS) equipment comprises :

CHAPTER I : General Provisions (definition, abbreviations, and terms).

CHAPTER II : Technical Requirements (raw material, and construction, operation requirement, interface requirement, Layer 2 requirement, management method requirement, and electrical safety and

 *Electromagnetic Compatibility* requirement).

CHAPTER III : Completeness of Equipment (identity and guide for operation of

 Equipment).

CHAPTER IV : Testing (method of sampling, test method, and conditions for

 passing the test).

CHAPTER I

GENERAL PROVISIONS

1. Definition

 *Multi-Layer Switch* equipment hereinafter referred to as MLS equipment is a network equipment that has *switching* function at OSI layer 2 and provides additional function to higher *layer*.

2. Abbreviations

ac : *alternating current*

C : *Celsius*

CISPR : *Comité International Spécial des Perturbations Radioélectriques*

dB : *decibel*

dc : *direct current*

HTTP : *Hyper Text Transport Protocol*

HTTPs : *Hyper Text Transport Protocol secure*

IEC : *International Electro Technical Commission*

IEEE : *Institute of Electrical and Electronics Engineers*

MAC : *Media Access Control*

OSI : *Open System Interconnection*

RJ-*45 : Registered Jack no. 45*

RS-*232 : Recommended Standard 232*

RFS : *Request for Comments*

SSH : *Secure Shell*

TELNET : *Telecommunication Network*

V : *Volt*

VLAN : *Virtual Local Area Network*

3. Terms

*Backplane* : a collection of connectors connected one another

 In a parallel manner in one unit.

*Dense wavelength* : A combination of a number of wavelengths

*Digital Multiplexing* with a very narrow canal space with the number of canals

 (4, 8, 16, 32) etc. in a single optical fiber.

CHAPTER II

TECHNICAL REQUIREMENTS

1. Raw Material and Construction

Raw material and construction of equipment must comply with the following provisions :

a. made of strong and solid material in line with tropical climate;

b. the components of equipment are made of high quality material;

c. parts of the equipment which are modular in nature must be arranged well and neatly;

d. equipped with terminals of measurement and maintenance;

e. the joining system at connector terminal is easy to be done and has good electrical nature;

f. equipped with good cooling system; and

g. mls equipment must have minimum one (1) of the types of interface management..

2. Operation Requirement

a. Power Supply

Equipment must work well by using *backplane* supply:

1) alternating current voltage 220 Vac ± 10%, 50 Hz ± 6%; or

2) direct current voltage -48 Vdc ± 10%.

b. Environmental Condition

1) equipment must operate normally at temperature: 5o – 40o C.

 Testing is done at extreme condition, i.e. at temperature 40o during 24 hours at a stretch;

2) equipment must operate normally at humidity: 5% - 95% *non-condensing*

3) level of noise given out by equipment is maximum 65 dBA.

 Measurement is done at a distance of 1 meter from the tested equipment with the height of measurement instrument of 1.5 meters from the base of the tested equipment.

c. Protection System

 Equipment must have a protection system, among other things :

1) excess current safeguard;

2) excess voltage safeguard;

3) termination of ground system.

d. Laser Security

 In the event of having optical interface, MLS equipment shall have :

1) *Automatic Laser Shutdown* mechanism and *Automatic Restart* mechanism for the use of laser level above class 1 M at optical interface;

2) warning label regarding laser radiation in the equipment.

e. Alarm Facility

 Has alarm facility that can :

1) detect the disturbing occurrence at power supply unit;

2) provide indication for the activities and disturbance of every interface.

 .

3. Interface Requirement

 MLS equipment must have at least one of the types of interfaces in accordance with the following provisions :

a. *Ethernet* (10 BASE-T);

b. *Fast Ethernet* (100BASE-TX, 100BASE-FX); or

c. *Gigabit Ethernet* (1000BASE-T, 1000BASE-LX, 1000BASE-SX).

4. *Layer 2* Requirement

 MLS equipment must have layer 2 OSI function in accordance with the following provisions :

a. RFC 2544;

b. MAC *Address Table;*

c. VLAN *Tag;*

d. *Spanning Tree Protocol;*

e. *Link Aggregation;*

f. *Port Security;*

g. *Port mirroring.*

5. Management Method Requirement

MLS equipment must be capable of :

a. Being configurative, minimum through one of the types of interface management available at *backplane* with the method of:

1) *Serial console*  with RS-232 protocol for the type of RJ-45 connector or

 DB-9;

2) *WebGUI* (HTTP / HTTPs) or *remote console* (TELNET /SSH) with *ethernet* protocol for the type of RL-45 connector.

b. Being monitored, using SNMP protocol or protocol of the same kind either direct or through *Network Management System.*

6. Electrical Safety and *Electromagnetic Compatibility* Requirement

 MLS equipment must fulfil :

a. Electrical safety requirement in accordance with international standard of IEC 60950-1 ; and

b. *Electromagnetic Compatibility* requirement in accordance with CISPR 22.

CHAPTER III

COMPLETENESS OF EQUIPMENT

MLS tools and equipment to be tested must be equipped with :

1. Equipment identity containing brand, *type/*model, manufacturing country, and serial number;

2. Operational Guide of the equipment in Bahasa Indonesia and or English.

CHAPTER IV

TESTING

1. Sampling Method of Tested Material

 Sampling method of tested material is done at random according to test procedure based on legal regulation.

2. Test Method

 Test method used is in accordance with the Standard of Operating Procedure of the respective Test Offices.

3. Conditions for Passing the Test

 The test result is declared to PASS THE TEST if each of the samples of tested material comply with all the provisions stipulated in these technical requirements and have been declared to pass by the team of evaluators.

**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE REPUBLIC OF INDONESIA,**

Signed

**TIFATUL SEMBIRING**