

BAB V

KESIMPULAN

1. Perangkat penerima pada jaringan memproses traffic yang diterima berdasarkan pola kedatangan yang konstan. Traffic akan mengalami distorsi jika cell datang melebihi batas interval (*dispersion*) atau kurang dari batas interval (*clumping*)
2. Jaringan ATM menggunakan saluran berkecepatan tinggi seperti STM-1 yang mempunyai Peak Cell Rate yang besar dan error rate yang kecil.
3. Dengan menggunakan saluran STM-1 perangkat ACE-101 mempunyai Cell Delay Variation Tolerance yang cukup besar untuk menghindari pembuangan cell.
4. Perbedaan Toleransi yang besar pada perangkat ACE-101 diatasi dengan menggunakan buffer untuk menjaga agar aliran traffic tetap konstan yang diperlukan untuk layanan suara dan video.
5. Jaringan ATM lebih sesuai untuk traffic data yang memerlukan error yang kecil dan tidak sensitif terhadap delay.

LAMPIRAN 2

ACE - 101 ATM Modules

Module Name	Description	Data Rates (Mbps)	Connector Type	Typical Distance (km/mi)	Wavelength (nm)	Optical Output (dBm)	Sensitivity (dBm)
ACE-101M/E1	E1 UNI	2.048	RJ-45, 8-pin BNC, 75Ω	-	-	-	-
ACE-101M/T1	T1 UNI electrical	1.544	RJ-45, 8-pin	-	-	-	-
ACE-101M/4E1-DMA	Inverse multiplexing 4xE1 for ATM	Up to 4x2.048	RJ-45				
ACE-101M/4E1-DMA/CX	Inverse multiplexing 4xE1 for ATM	Up to 4x2.048	BNC				
ACE-101M/4T1-DMA	Inverse multiplexing 4xT1 for ATM	Up to 4x1.544	RJ-45				
ACE-101M/E3	E3 UNI electrical	34.368	BNC	150m/492 ft	-	-	-
ACE-101M/FC13L/E3	E3 UNI optical	34.368	FC-PC	40/25	1300	-12	-32
ACE-101M/T3	T3 UNI electrical	44.736	BNC	150m/492 ft	-	-	-
ACE-101M/CX/BNC/155	STM-1, electrical	155.52	BNC	150m/492 ft	-	-	-
ACE-101M/UTP/155	STM-1 electrical	155.52	RJ-45	100m/328 ft	-	-	-
ACE-101M/FC13L/T3	T3 optical	44.736	FC-PC	40/25	1300	-12	-32
ACE-101M/SC13L/155	STM-1/OC-3 multi-mode	155.52	Duplex S	2/1.25	1300	-18	-14
ACE-101M/ST13L/155	STM-1/OC-3 single-mode	155.52	ST-SC	40/25	1300	-12	-32
ACE-101M/FC13L/155	STM-1/OC-3 single-mode	155.52	FC-PC	40/25	1300	-12	-32
ACE-101M/SC13L/155	STM-1/OC-3 single-mode	155.52	Duplex SC	40/25	1300	-12	-32

LAMPIRAN 3

TABLE 13.6 Characteristics of Various Traffic Types [DUBO92]

Service Type	Service Category	Bandwidth Range	CBR/VBR	Burst Ratio	Burst Lengths	Cell Loss Tolerance	Cell Delay Tolerance
Voice	PCM voice	64 kbps	CBR	1	N/A	10^{-4} to 10^{-6}	10-150 ms
Voice	ADPCM-voice	32 kbps	CBR	1	N/A	10^{-4} to 10^{-7}	10-150 ms
Voice	Predictive coding	16 kbps	VBR	5-15	2-3 KB	10^{-4} to 10^{-8}	10-150 ms
Voice	High-quality voice	192-384 kbps	CBR	1	N/A	10^{-5} to 10^{-6}	10-150 ms
Voice	Voice mail	16-64 kbps	CBR/VBR	1-3	N/A	10^{-4}	500 ms - 5 s
Voice	CD-quality voice	1.4 Mbps	CBR	1	N/A	10^{-4}	500 ms - 25 s
Voice	Video teleconferencing/voice part	64-192 kbps	CBR	1	N/A	10^{-7} to 10^{-9}	10-150 ms
Data	LAN interconnection	1.5-100 Mbps	VBR	varies	100-1000 B	10^{-12}	10-100 ms
Data	Host-host file transfer	64 kbps-1.5 Mbps	VBR	1	12 KB-10 MB	10^{-12}	1-500 s
Data	PC file transfer	9.6-64 kbps	VBR	1	1 KB-1 MB	10^{-9}	10-100 s
Data	Client/server system	10-100 Mbps	VBR	1000	1-500 KB	10^{-3}	10-500 ms
Data	Remote data base access	1-10 Mbps	VBR	1000	100 B-100 KB	10^{-3}	1-10 s
Data	Remote procedure call	6-60 Mbps	VBR	15-20	60-100 B	10^{-9}	100 μ s-100 ms
Data	Electronic mail	9.6 kbps-1.5 Mbps	CBR	1	50-5000 B	10^{-9}	1-10 s
Data	Workstation CAD/CAM	64 kbps-1.5 Mbps	VBR	5	40-100 KB	10^{-9}	1-10 s
Data	Mainframe CAD/CAM	1.5-36 Mbps	VBR	10-100	100 KB-1 MB	10^{-9}	10-60 s
Data	Transaction processing	6.4 kbps-5 Mbps	VBR	40	100-300 B	10^{-9}	1-3 s
Data	Time sharing	2.4-64 kbps	VBR	30-100	20-4000 B	10^{-9}	100 ms-10 s
Video	Video telephony	64 kbps-2 Mbps	CBR/VBR	2-5	2-10 KB	10^{-9}	150-350 ms
Video	Videoconferencing	128 kbps-14 Mbps	CBR/VBR	2-5	1.6-40 KB	10^{-9}	150-350 ms
Video	Video/image mail	1-4 Mbps	CBR	1	64 Kb-1 Mb	10^{-10}	1-5 s
Video	Broadband videotex	64 kbps-10 Mbps	VBR	10	> 1 Mb	10^{-7} to 10^{-10}	0.1-2 s
Video	NTSC-quality TV	15-44 Mbps	VBR	2-5	0.5-1.3 Mb	10^{-10}	40 ms
Video	HDTV-quality TV	150 Mbps	VBR	2-5	5-14 Mb	10^{-12}	40 ms
Video	Video browsing	2-40 Mb/s	CBR	1	0.5-40 Mb	10^{-9}	0.1-2 s
Video	Group 4 fax (400 x 400)	64 kbps	CBR	1	256-640 Kb	10^{-4}	4-10 s
Video	Medical X-ray (14 x 17 in)	1.5-10 Mbps	CBR/VBR	25	5-8 Mb	10^{-12}	2 s
Video	Medical MRI/CAT scan	10-200 Mbps	CBR/VBR	25	250 Kb-3 Mb	10^{-12}	2 s
Video	High-resolution graphics	100 Mbps-10 Gbps	VBR	25	1-100 Mb	10^{-12}	10-500 ms

LAMPIRAN 4

- E1 (based on Rec. ITU-T G.703)
 - Bit rate: 2048 kbit/s \pm 50 ppm
 - Line coding: HDB3
 - Impedance: 120 Ohm/balance or 75 Ohm/unbalance
 - Form of pulse in line with figure 2 STEL T-029-1997
 - Nominal voltage of pulse "one": 3 V (120 Ohm) or 2,37 V (75 ohm)
 - Voltage of pulse "zero": $0 \pm 0,3$ V (120 Ohm) or $0 \pm 0,237$ V (75 ohm)
 - Nominal pulse width: 244 ns
 - Comparison of positive and negative pulse: 0,95 s/d 1,05
 - Jitter according to Rec. ITU-T G.823

- E3 (based on Rec. ITU-T G.703)
 - Bit rate: 34368 kbit/s \pm 20 ppm
 - Line coding: HDB3
 - Impedance: 75 Ohm/unbalance
 - Form of pulse in line with figure 5 STEL T-029-1997
 - Nominal voltage of pulse "one": 1 V
 - Voltage of pulse "zero": $0 \pm 0,1$ V
 - Nominal pulse width: 14,55 ns
 - Comparison of positive and negative pulse: 0,95 s/d 1,05
 - Jitter according to Rec. ITU-T G.823

- STM-1
 - Bit rate: 155 520 kbit/s \pm 20 ppm
 - Line coding: CMI (electric transmission)
 - Impedance: 75 Ohm/unbalance (electric transmission)
 - Form of pulse in line with figure 8 and 9 STEL T-029-1997 (electric transmission)
 - Pulse voltage peak to peak: $1 \pm 0,1$ V (electric transmission)
 - Eye diagram (optic transmission)
 - Jitter according to Rec. ITU-T G. 825 and G. 958

DATA PRIBADI PENULIS

Nama : Noerjannaty

Tempat/Tanggal Lahir : Surabaya, 26 Desember 1975

Jenis Kelamin : Perempuan

Agama : Islam

Alamat : Jl. Pemuda No. 88 c Pancoran Mas Depok

Pendidikan : 1. TK Tunas Harapan III Klandasan Balikpapan

Kalimantan Timur 1982.

2. SD Yaktapena II Plaju Palembang

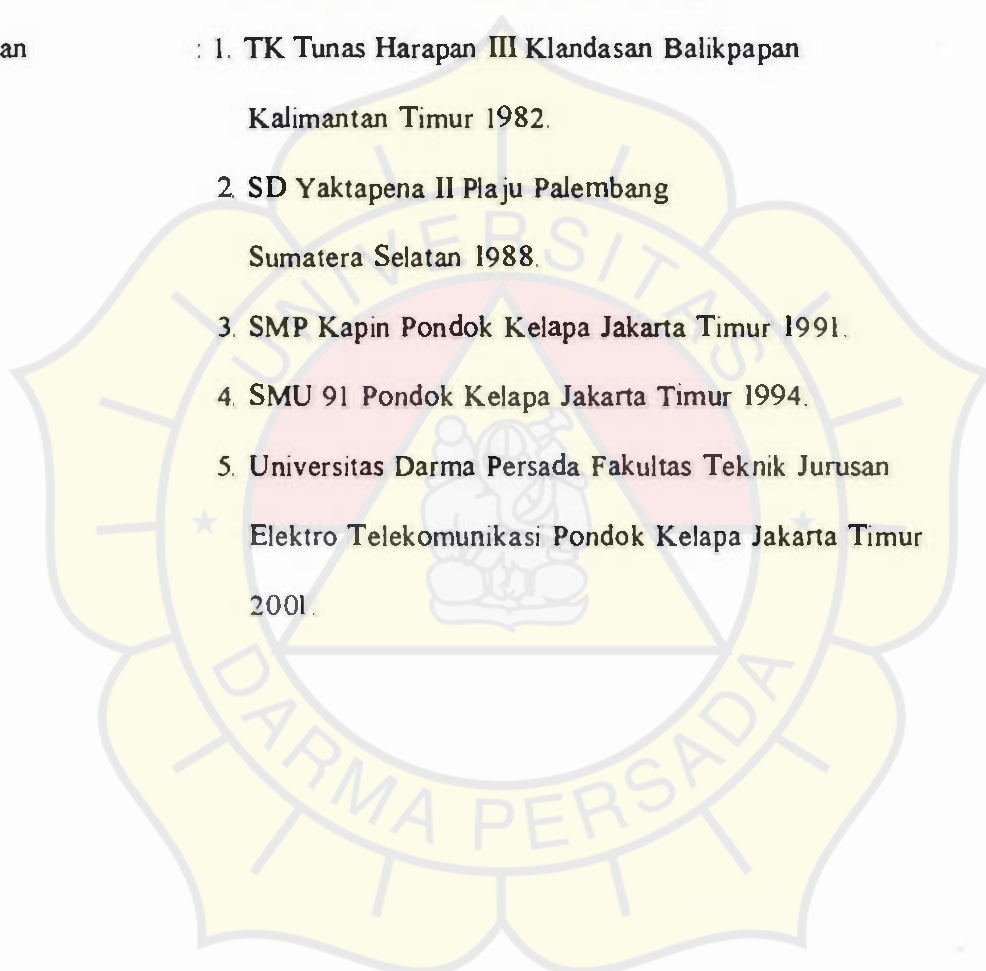
Sumatera Selatan 1988.

3. SMP Kapin Pondok Kelapa Jakarta Timur 1991.

4. SMU 91 Pondok Kelapa Jakarta Timur 1994.

5. Universitas Darma Persada Fakultas Teknik Jurusan

Elektro Telekomunikasi Pondok Kelapa Jakarta Timur
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