

DAFTAR GAMBAR

Gambar 1. 1 Ilustrasi CDN.....	21
Gambar 1. 2 Ilustrasi proxy.....	22
Gambar 1. 3 Ilustrasi CCN.....	24
Gambar 1. 4 Skema model Mobile Edge Caching	26
Gambar 1. 5 Arsitektur jaringan 4G LTE.....	26
Gambar 3. 1 Arsitektur sistem mobile edge caching.....	36
Gambar 4. 1 Cara kerja sistem jaringan 4G.....	41
Gambar 4. 2 Diagram alir implementasi sistem jaringan 4G	43
Gambar 4. 3 Konfigurasi mme.yaml.....	44
Gambar 4. 4 Konfigurasi SGWU.....	45
Gambar 4. 5 Konfigurasi SGWC.....	45
Gambar 4. 6 Informasi subscriber.....	45
Gambar 4. 7 Konfigurasi enb.conf.....	46
Gambar 4. 8 USRP aktif	47
Gambar 4. 9 Informasi UE terhubung.....	48
Gambar 4. 10 Informasi UE terhubung subscriber Open5GS.....	48
Gambar 4. 11 Diagram alir cara kerja web server.....	49
Gambar 4. 12 Diagram alir implementasi web server	50
Gambar 4. 13 Informasi mesin virtual website multimedia	51
Gambar 4. 14 Informasi mesin virtual website Video on Demand	51
Gambar 4. 15 Sertifikat SSL website multimedia.....	52
Gambar 4. 16 Sertifikat SSL website Video on Demand	52
Gambar 4. 17 index.html website multimedia	53
Gambar 4. 18 index.html website Video on Demand.....	54
Gambar 4. 19 index.js website Video on Demand.....	54
Gambar 4. 20 Sites-available Apache	55
Gambar 4. 21 Tampilan halaman pertama website multimedia	55
Gambar 4. 22 Konfigurasi index.js.....	56
Gambar 4. 23 Tampilan halaman website Video on Demand.....	56
Gambar 4. 24 Diagram alir cara kerja Varnish	57
Gambar 4. 25 Konfigurasi VCL	59
Gambar 4. 26 Keterangan Miss Cache Varnish.....	61

Gambar 4. 27 Keterangan Hit Cache Varnish	61
Gambar 4. 28 Cara kerja sistem cache Apache Traffic Server.....	62
Gambar 4. 29 Konfigurasi SSL_multicert.config	64
Gambar 4. 30 Konfigurasi records.config	64
Gambar 4. 31 Log Apache Traffic Server	65
Gambar 5. 1 Implementasi keseluruhan sistem	68
Gambar 5. 2 Isi record.config.....	71
Gambar 5. 3 Konfigurasi Varnish default.vcl website multimedia	72
Gambar 5. 4 Konfigurasi Varnish default.vcl website Multimedia	76
Gambar 5. 5 Isi record.config.....	78
Gambar 5. 6 Hasil HIT pada log ATS.....	79
Gambar 5. 7 Konfigurasi Varnish default.vcl VoD.....	79
Gambar 5. 8 Pilihan resolusi video	80
Gambar 5. 9 Perintah menjalankan node.js	80
Gambar 5. 10 Tayangan VoD berhasil.....	80
Gambar 5. 11 Isi record.config.....	83
Gambar 5. 12 Hasil HIT pada log ATS.....	83
Gambar 5. 13 Konfigurasi Varnish default.vcl VoD.....	84
Gambar 5. 14 Pilihan resolusi video	84
Gambar 5. 15 Perintah menjalankan node.js	85
Gambar 5. 16 Tayangan VoD berhasil.....	85
Gambar 5. 17 Grafik rata-rata RTT website HTTP multimedia.....	87
Gambar 5. 18 Grafik rata-rata throughput website HTTP multimedia	88
Gambar 5. 19 Grafik rata-rata RTT website HTTPS multimedia	88
Gambar 5. 20 Grafik rata-rata throughput website HTTPS multimedia	89
Gambar 5. 21 Grafik RTT Skema Jumlah User website HTTP multimedia	90
Gambar 5. 22 Grafik throughput Skema Jumlah User website HTTP multimedia.....	90
Gambar 5. 23 Grafik RTT Skema Jumlah User website HTTPS multimedia	91
Gambar 5. 24 Grafik throughput Skema Jumlah User website HTTPS multimedia	92
Gambar 5. 25 Rata-rata RTT skema persegment website HTTP VoD	93
Gambar 5. 26 Rata-rata throughput skema persegment website HTTP VoD.....	93
Gambar 5. 27 Rata-rata interarrival delay skema persegment website HTTP VoD	94
Gambar 5. 28 Rata-rata RTT skema persegment website HTTPS VoD.....	95
Gambar 5. 29 Rata-rata throughput skema persegment website HTTPS VoD.....	95

Gambar 5. 30 Rata-rata interarrival delay skema persegment website HTTPS VoD	96
Gambar 5. 31 RTT skema jumlah request website HTTP VoD.....	97
Gambar 5. 32 Throughput skema jumlah request website HTTP VoD	98
Gambar 5. 33 Interarrival delay skema jumlah request website HTTP VoD	99
Gambar 5. 34 RTT skema jumlah request website HTTPS VoD.....	100
Gambar 5. 35 Throughput skema jumlah request website HTTPS VoD	101
Gambar 5. 36 Interarrival delay skema jumlah request website HTTPS VoD.....	102