

DAFTAR ISI

| | |
|--|-------------|
| HALAMAN JUDUL | i |
| PERNYATAAN ORSINALITAS | iii |
| STATEMENT OF ORIGINALITY | iv |
| LEMBAR PERSETUJUAN | v |
| HALAMAN PENGESAHAN | vi |
| APPROVAL SHEET | vii |
| KATA PENGANTAR | viii |
| ABSTRAK | x |
| ABSTRACT | xi |
| DAFTAR ISI | xii |
| DAFTAR TABEL | xiv |
| DAFTAR GAMBAR | xv |
| DAFTAR LAMPIRAN | xvi |
| DAFTAR SINGKATAN | xvii |
| BAB I PENDAHULUAN | 1 |
| 1.1 Latar belakang | 1 |
| 1.2 Alasan Pemilihan Tema Proyek Akhir | 5 |
| 1.3 Tujuan Proyek Akhir | 6 |
| 1.4 Manfaat Proyek Akhir | 6 |
| BAB II TINJAUAN PUSTAKA | 7 |
| 2.1 Jaringan Komputer | 7 |
| 2.2 Sistem Informasi Rumah Sakit..... | 7 |
| 2.3 Rekam Medis Elektronik | 8 |
| 2.4 Quality of Service..... | 8 |
| 2.5 TCP/IP | 12 |
| 2.5.1 Pengertian TCP/IP | 12 |
| 2.5.2 Layer TCP/IP..... | 12 |
| 2.6 Topologi Jaringan..... | 14 |
| 2.7 Cisco Packet Tracer 8.2.1 | 18 |
| 2.8 Network Development Life Cycle (NDLC)..... | 18 |
| BAB III DESKRIPSI SISTEM | 20 |
| 3.1 Deskripsi Masalah | 20 |
| 3.2 Deskripsi Solusi..... | 21 |
| 3.3 Deskripsi Model dan Perancangan Topologi | 23 |
| 3.3.1 Metode Penelitian | 23 |
| 3.3.2 Rencana Pengujian..... | 25 |

| | |
|---|-----------|
| 3.4 Deskripsi Kelebihan dan Kekurangan Proyek..... | 26 |
| BAB IV HASIL DAN PENGUJIAN SISTEM | 28 |
| 4.1 Analisis Topologi Jaringan | 28 |
| 4.2 Perancangan dan Pengembangan Desain Topologi Jaringan | 29 |
| 4.3 Implementasi dan Simulasi Topologi Jaringan | 31 |
| 4.4 Monitoring Topologi Jaringan..... | 40 |
| 4.5 Manajemen Topologi Jaringan..... | 42 |
| BAB V KESIMPULAN DAN SARAN | 44 |
| 5.1 Kesimpulan | 44 |
| 5.2 Saran..... | 44 |
| DAFTAR PUSTAKA | 45 |
| LAMPIRAN | 46 |

DAFTAR TABEL

| | |
|---|----|
| Tabel 2.1 Standarisasi Troughput | 15 |
| Tabel 2.2 Standarisai Jitter | 16 |
| Tabel 2.3 Standarisasi Packet Loss..... | 17 |
| Tabel 2.4 Standarisasi Latency | 17 |
| Tabel 4.5 Pembagian Alamat IP Dan Subnetmask..... | 40 |
| Tabel 4.6 Hasil monitoring packet loss..... | 46 |
| Tabel 4.7 Hasil monitoring latency(delay)..... | 46 |

DAFTAR GAMBAR

| | |
|--|----|
| Gambar 2.1 Topologi Bus | 20 |
| Gambar 2.2 Topologi Star | 21 |
| Gambar 2.3 Topologi Ring | 22 |
| Gambar 2.4 Topologi Mesh..... | 23 |
| Gambar 2.5 Topologi Tree | 23 |
| Gambar 4.6 Skema Topologi Saat Ini..... | 35 |
| Gambar 4.7 Skema Topologi Usulan..... | 36 |
| Gambar 4.8 Arsitektur Topologi Usulan..... | 37 |
| Gambar 4.9 Hostname, Username Dan Password | 38 |
| Gambar 4.10 Pembuatan ID Dan Nama VLAN..... | 38 |
| Gambar 4.11 Trunk Port Pada Switch | 39 |
| Gambar 4.12 Access Port Pada End Devices | 39 |
| Gambar 4.13 IP Dan Subnetmask Router Serta ISP | 41 |
| Gambar 4.14 Konfigurasi HSRP | 42 |
| Gambar 4.15 Konfigurasi DHCP..... | 42 |
| Gambar 4.16 Konfigurasi Untuk Membagi Beban Router | 43 |
| Gambar 4.17 Konfigurasi OSPF Router Dan ISP | 44 |
| Gambar 4.18 Konfigurasi Spaning Tree Protocol | 45 |
| Gambar 4.19 Monitoring sebelum router utama mati..... | 47 |
| Gambar 4.20 Monitoring sesudah router utama mati | 47 |

DAFTAR LAMPIRAN

| | |
|---|----|
| Lampiran 1. Surat Izin Penelitian | 45 |
| Lampiran 2. Diagram Alir Data..... | 46 |
| Lampiran 3. Dokumentasi Foto Perangkat Keras..... | 47 |
| Lampiran 4. Dokumentasi Denah Rumah Sakit | 49 |

DAFTAR SINGKATAN

| | |
|--------|---|
| DNS | : <i>Domain Name Service</i> |
| DSCP | : <i>Differentiated Services Code Point</i> |
| FTP | : <i>File Transfer Protocol</i> |
| HTTP | : <i>Hyper Text Transfer Protocol</i> |
| IP | : <i>Internet Protocol</i> |
| ISP | : <i>Internet Service Provider</i> |
| LAN | : <i>Local Area Network</i> |
| MAN | : <i>Metropolitan Area Network</i> |
| NFS | : <i>Network File System</i> |
| OSPF | : <i>Open Shortest Path First</i> |
| PC | : <i>Personal Computer</i> |
| QOS | : <i>Quality Of Service</i> |
| RIP | : <i>Routing Information Protocol</i> |
| SIMRS | : <i>Sistem Informasi Manajemen Rumah Sakit</i> |
| SNMP | : <i>Simple Network Management Protocol</i> |
| SMTP | : <i>Simple Mail Transfer Protocol</i> |
| TCP/IP | : <i>Transmission Control Protocol/Internet Protocol</i> |
| TIPHON | : <i>Telecommunications and Internet Protocol Harmonization Over Networks</i> |
| TNI-AD | : <i>Tentara Nasional Indonesia Angkatan Darat</i> |
| UDP | : <i>User Datagram Protocol</i> |
| USB | : <i>Universal Serial Bus</i> |
| WAN | : <i>Wide Area Network</i> |