Lampiran 1. Pengukuran Quality of Service Selama 5 Hari

|  |  |  |
| --- | --- | --- |
| Hari/tanggal | Waktu | *Quality of Service* |
| *Delay*  | *Packet Loss* | *Throughput* |
| TP1 | TP2 | TP3 | TP4 | TP5 | TP1 | TP2 | TP3 | TP4 | TP5 | TP1 | TP2 | TP3 | TP4 | TP5 |
| Senin15-11-2021 | 09.00-10.00 | 777 | 879 | 873 | 810 | 796 | 84 | 15 | 10 | 63 | 78 | 17591 | 18531 | 17534 | 18039 | 18808 |
| 15.00-16.00 | 707 | 765 | 739 | 774 | 761 | 5 | 76 | 32 | 78 | 92 | 19677 | 19230 | 18856 | 18544 | 19402 |
| Mean | 742 | 822 | 806 | 792 | 778.5 | 44.5 | 45.5 | 21 | 70.5 | 85 | 18634 | 18880.5 | 18195 | 18291.5 | 19105 |
| Selasa16-11-2021 | 09.00-10.00 | 797 | 795 | 788 | 679 | 800 | 75 | 74 | 57 | 21 | 31 | 18492 | 17549 | 18462 | 19946 | 21202 |
| 15.00-16.00 | 712 | 705 | 717 | 711 | 803 | 35 | 11 | 25 | 28 | 39 | 19853 | 19824 | 20441 | 18804 | 20589 |
| Mean | 754.5 | 750 | 752.5 | 695 | 801.5 | 55 | 42.5 | 41 | 24.5 | 35 | 19172.5 | 18686.5 | 19451.5 | 19375 | 20895.5 |
| Rabu17-11-2021 | 09.00-10.00 | 748 | 739 | 755 | 727 | 775 | 38 | 29 | 33 | 37 | 43 | 20800 | 19621 | 19277 | 18888 | 18650 |
| 15.00-16.00 | 640 | 664 | 717 | 732 | 766 | 5 | 4 | 20 | 40 | 44 | 22598 | 21170 | 18409 | 18766 | 18849 |
| Mean | 694 | 701.5 | 736 | 729.5 | 770.5 | 21.5 | 16.5 | 26.5 | 38.5 | 43.5 | 21699 | 20395.5 | 18843 | 18827 | 18749.5 |
| Kamis18-11-2021 | 09.00-10.00 | 727 | 807 | 784 | 739 | 770 | 33 | 59 | 28 | 44 | 44 | 19851 | 19031 | 17311 | 18601 | 18674 |
| 15.00-16.00 | 713 | 728 | 748 | 740 | 769 | 24 | 36 | 32 | 47 | 45 | 20675 | 20483 | 19809 | 19190 | 18480 |
| Mean | 720 | 767.5 | 766 | 739.5 | 769.5 | 28.5 | 47.5 | 30 | 45.5 | 44.5 | 20263 | 19757 | 18560 | 18895.5 | 18577 |
| Jum’at19-11-2021 | 09.00-10.00 | 784 | 864 | 855 | 739 | 761 | 77 | 56 | 70 | 47 | 44 | 19394 | 18885 | 18952 | 18849 | 19409 |
| 15.00-16.00 | 638 | 703 | 664 | 742 | 764 | 3 | 72 | 21 | 47 | 46 | 22026 | 20270 | 20904 | 18902 | 18908 |
| Mean | 711 | 783.5 | 759.5 | 740.5 | 762.5 | 40 | 64 | 45.5 | 47 | 45 | 20710 | 19577.5 | 19928 | 18875.5 | 19158.5 |

Lampiran 2. Perhitungan Mean

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| QoS | TP | Waktu |  |  | Hari  |  |  | Mean |
| 1 | 2 | 3 | 4 | 5 |
| *Delay*  | TP1 | 09.00-10.00 | 777 | 797 | 748 | 727 | 784 | 766.6 |
| 15.00-16.00 | 707 | 712 | 640 | 713 | 638 | 682 |
| TP2 | 09.00-10.00 | 879 | 795 | 739 | 807 | 864 | 816.8 |
| 15.00-16.00 | 765 | 705 | 664 | 728 | 703 | 713 |
| TP3 | 09.00-10.00 | 873 | 788 | 755 | 784 | 855 | 817 |
| 15.00-16.00 | 729 | 717 | 717 | 748 | 664 | 717 |
| TP4 | 09.00-10.00 | 810 | 679 | 727 | 739 | 739 | 738.8 |
|  |  | 15.00-16.00 | 774 | 711 | 732 | 740 | 742 | 739.8 |
| TP5 | 09.00-10.00 | 796 | 800 | 775 | 770 | 761 | 780.4 |
| 15.00-16.00 | 761 | 803 | 766 | 769 | 764 | 772.6 |
| Packet loss | TP1 | 09.00-10.00 | 84 | 75 | 38 | 33 | 77 | 61.4 |
| 15.00-16.00 | 5 | 30 | 5 | 24 | 3 | 13.4 |
| TP2 | 09.00-10.00 | 15 | 74 | 29 | 59 | 56 | 46.6 |
| 15.00-16.00 | 76 | 11 | 4 | 36 | 72 | 39.8 |
| TP3 | 09.00-10.00 | 10 | 57 | 33 | 28 | 70 | 39.6 |
| 15.00-16.00 | 32 | 25 | 20 | 32 | 21 | 22.4 |
| TP4 | 09.00-10.00 | 63 | 21 | 37 | 44 | 47 | 42.4 |
|  |  | 15.00-16.00 | 78 | 28 | 40 | 47 | 47 | 48 |
|  | TP5 | 09.00-10.00 | 78 | 31 | 43 | 44 | 44 | 48 |
| 15.00-16.00 | 92 | 39 | 44 | 45 | 46 | 53.2 |
| Throughput  | TP1 | 09.00-10.00 | 17591 | 18492 | 20800 | 19851 | 19394 | 19255.6 |
| 15.00-16.00 | 19677 | 19853 | 22598 | 20675 | 22026 | 20965.8 |
| TP2 | 09.00-10.00 | 18513 | 17549 | 19621 | 19031 | 18805 | 18719.8 |
| 15.00-16.00 | 19230 | 19824 | 21170 | 20483 | 20270 | 20195.4 |
| TP3 | 09.00-10.00 | 17534 | 18462 | 19277 | 17311 | 18952 | 18307.2 |
| 15.00-16.00 | 18856 | 20441 | 18409 | 19809 | 20904 | 19683.8 |
| TP4 | 09.00-10.00 | 18039 | 19946 | 18888 | 18601 | 18849 | 18864.6 |
| 15.00-16.00 | 18544 | 18804 | 18766 | 19190 | 18902 | 18841.2 |
| TP5 | 09.00-10.00 | 18808 | 21202 | 18650 | 18674 | 19409 | 19348.6 |
| 15.00-16.00 | 19402 | 20589 | 18849 | 18480 | 18908 | 19245.6 |

Lampiran 3. Perhitungan Persentase *Throughput*

Hasil pengukuran *throughput* bisa dihitung persentasenya menggunakan persamaan (4). Sesuai data dari PT.Aplikanusa Lintasarta cabang Sumatera Barat bahwa alokasi *bandwidth* yang diberikan pada pengguna adalah 512 KBps, maka rumus perhitungan persentase *throughput* menjadi :

512 KBps = 512 X 1024 Bps

 = 524288 Bps

 = 524288 X 8 bps

 = 4194304 bps

$$γ (\%)=\frac{γ}{4194304} x 100\%$$

Sehingga persentase *throughput* untuk tiap lokasi dapat dilihat pada tabel dibawah ini :

|  |  |  |  |
| --- | --- | --- | --- |
| *Throughput* | Hari | Mean | Standar TIPHON |
| 1 | 2 | 3 | 4 | 5 |
| TP1 | 0.44 | 0.46 | 0.42 | 0.48 | 0.49 | 0.48 | Jelek |
| TP2 | 0.45 | 0.44 | 0.48 | 0.47 | 0.47 | 0.46 | Jelek |
| TP3 | 0.43 | 0.46 | 0.45 | 0.44 | 0.48 | 0.45 | Jelek |
| TP4 | 0.44 | 0.46 | 0.45 | 0.45 | 0.45 | 0.45 | Jelek |
| TP5 | 0.46 | 0.49 | 0.45 | 0.44 | 0.46 | 0.46 | Jelek |