DAFTAR ISI

HALAM	AN JUDUL	i
HALAM	AN PENGESAHAN	ii
ABSTRA	AK	iii
ABSTRA	ACT	iv
KATA PI	ENGANTAR	V
DAFTAR	R ISI	vi
DAFTAR	R GAMBAR	ix
DAFTAR	R LISTING	xii
DAFTAR	R TABEL	XV
BAB I	PENDAHULUAN	1
	1.1 Latar Belakang	1
	1.2 Tujuan	2
	1.3 Teori Penunjang	3
	1.4 Ruang Lingkup	4
	1.5 Metodologi	11
	1.6 Sistematika Pembahasan	12
BAB II	Virtual Private Network	14
	2.1 Pengenalan Virtual Private Network	14
	2.2 Topologi Virtual Private Network	21
	2.2.1 Site to Site Virtual Private Network	22
	2.2.1.1 Point-to-Point Tunneling Protocol	24
	2.2.1.2 Layer 2 Tunneling Protocol	24
	2.2.1.3 Internet Protocol Security	25
	2.2.1.4 Multi Protocol Label Switching	25
	2.2.2 Remote User Virtual Private Network	26
	2.3 Generic Routing Encapsulation (GRE) VPN	28
	2.3.1 Konfigurasi Site-to-Site GRE Tunnel	29
	2.4 Pengenalan Internet Protocol Security (IPsec)	31
	2.4.1 Kerahasiaan (Confidentiality)	34

	2.4.1.1 DES (Data Encryption Standard)	36
	2.4.1.1.1 Block Cipher Mode	37
	2.4.1.1.2 Stream Cipher Mode	39
	2.4.1.2 3DES (Triple DES)	39
	2.4.1.3 AES (Advanced Encryption Standard)	41
	2.4.1.4 SEAL (Software-Optimized Encryption	
	Algorithm)	42
	2.4.2 Keaslian (Integrity)	42
	2.4.3 Autentikasi (Authentication)	44
	2.4.4 Secure Key Exchange	46
	2.5 Protokol Keamanan IPsec	48
	2.5.1 Authentication Header	50
	2.5.2 Encapsulating Security Payload	51
	2.6 Mode Protokol IPsec	54
	2.6.1 Transport Mode	54
	2.6.2 Tunnel Mode	54
	2.7 Internet Key Exchange	55
BAB III	IMPLEMENTASI DAN STUDI KASUS	62
	3.1 Persiapan	62
	3.1.1 Router	62
	3.1.2 Koneksi Internet ADSL	69
	3.2 Implementasi	70
	3.2.1 Jaringan Laboratorium Jaringan Komputer	72
	3.2.2 Jaringan Remote	79
BAB IV	IPSEC PADA ROUTER CISCO 1841	85
	4.1 Skenario Uji Coba	85
	4.2 Tolok Ukur	92
	4.2.1 PING	92
	4.2.2 Aplikasi Sederhana	94
	4.2.3 Wireshark	95
	4.3 Metode Penelitian	102

	4.3.1 ANOVA (Analysis of Variance)	
	4.3.2 Regressi Linear	
	4.4 Uji Coba dan Analisa	
	4.4.1 Uji Coba	
	4.4.1.1 DES-SHA	
	4.4.1.2 DES-MD5	
	4.4.1.3 3DES-SHA	
	4.4.1.4 3DES-MD5	
	4.4.1.5 AES-SHA	
	4.4.1.6 AES-MD5	
	4.4.2 Analisa	
	4.4.2.1 ANOVA	
	4.4.2.2 Regressi Linear	
	4.4.2.3 Analisa Biaya	
	4.4.3 Hasil Analisa	
	4.5 Cisco Configuration Proffesional	
	4.5.1 Pengenalan Cisco Configuration Proffesional	
	4.5.2 VPN IPsec dengan Cisco Configuration Proffesional	
BAB V	PENUTUP	
	5.1 Kesimpulan	
	5.2 Saran	
DAFTAF	R PUSTAKA	
RIWAYA	AT HIDUP	
LAMPIR	AN A – KONFIGURASI ROUTER 1	
LAMPIR	AN B – KONFIGURASI ROUTER 2	
LAMPIR	AN C – SEGMEN PROGRAM CLASS CLIENT	
LAMPIR	AN D – IPSEC SECURITY ASSOCIATION	
LAMPIR	AN E – HASIL UJI COBA	
LAMPIR	AN F – TABEL DISTRIBUSI F PROBABILITAS = 0.05	