Setting up MeshAP : Wireless Distribution System (WDS)

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WDS memungkinkan sebuah client wireless (client I) dapat terhubung dengan node tertentu (node B) tanpa harus terhubung langsung dengannya, tetapi cukup terhubung ke node lain (node A yang biasanya terdekat dengan client I) yang sudah bekerja sama dengan node tersebut (node B).

Node lain (node A) tersebut berfungsi sebagai relay yang akan meneruskan ke node tujuan kita (node B). Demikian juga sebaliknya, dimana jika ada client wireless lain (Client II) yang ingin berkomunikasi dengan node A, maka dia dapat terhubung dengan node tersebut melalui node B.

WDS ini biasanya digunakan untuk memperluas jaringan wireless yang umumnya terbatas dan memungkinkan kerja sama antara jaringan WLAN dengan adanya protocol routing.

Pada tutorial kali ini akan dibahas tahap mengimplementasikan WDS pada jaringan yang sederhana, berikut dengan beberapa percobaan dalam rangka menghitung kecepatan (bandwidth) yang dihasilkan baik setelah maupun sebelum WDS diimplementasikan. Penulis melakukan perhitungan perkiraan bandwidth karena "rasa penasaran" dengan pernyataan Kang Onno di Seminar Nasional tentang Wireless di Yogyakarta pada 9 Oktober 2004 lalu yang menyatakan bahwa pada jaringan mesh atau dimana wds diimplementasikan, bandwidth yang diperoleh hanya berkisar 1Mbps. Hal ini tidak sesuai percobaan yang telah penulis praktekkan. Penulis tidak tahu apakah masih relevan membandingkan maksud Kang Onno tersebut dengan jaringan sederhana yang penulis gunakan. Tapi setidaknya, penulis sudah mencoba membuktikan meskipun dengan resource yang sangat kurang. ©

Adapun peralatan peralatan atau hardware yang penulis gunakan dalam pembahasan dibawah ini adalah Laptop Dell Latitude C400 dengan OS Linux Mandrake 10.0 kernel 2.6.8, PCMCIA Card Wireless Samsung SWL-2100N chipset Intersil Prism2 nic 8002 firmware pri 0.3.0 sta 1.7.1 (setelah saya upgrade dari sta 0.8.0), USB Wireless Senao NL-2511UB4 untuk client, Access Point Compex WP11B+, PC Desktop sebagai client, PC Router, dan PC server

Gambar Hardware (the rigs):



Senao NL-2511UB4



Laptop PCMCIA Card Samsung SWL-Dell Latitude C400 2100N



AccessPoint Compex WP11B+



PC Router





PC Desktop Client

PC Server



Setelah mendesign hardware2 tersebut seperti gambar diatas, maka kita perlu mengkonfiguasi kedua Access Point (hostAP dan Compex) untuk dapat berkomunikasi melalui wds.

Setting WDS Access Point Compex WP11B+

Pada Access Point Compex WP11B+ sebenarnya tersedia 2 metode untuk konfigurasi/manajemen, yang pertama berbasis web (yang penulis gunakan pada tutorial ini) dan yang kedua dengan telnet (console).

Berikut tahap tahap yang penulis lakukan untuk konfigurasi wds pada AP Compex WP11B+ :

Akses Web Based administrasi AP compex melalui browser kesayangan :), masukkan password "rahasia" klik Log On



Default Access Point ini adalah mode AP Bridge.. klik bagian Mode Selection



Pilih Mode Access Point , Klik Apply



Mengisi Essid "compex", dan channel "6" , jangan lupa scrool kebagian bawah halaman AP setup ini.

	Wireless LAN Access Point - Motilla Fi	retox	
Edit View Go Bookmarks Tools	Help		0
300 🙆 🖨 🛣 🦳 🛤	p://172 20 2 59/act_login	*	G
Firefox Help 9 Firefox Support 9 Plug-in FA	NQ.		
NetPassage	Acces	s Point Setup	·
works@work	Access Point Name	WP118+	
Mode Selection	ESSID	compex	
Management Port	Channel	6 -	1996
SNMP Setup	Tx Rate	Fully Auto	
IEEE 802 1K/RADIUS	RTS Threshold	2346	
SUSTEM DOULS	Frag Threshold	2346	
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Set System's Clock	Radio Off When Ethernet	Link	
Firmware Upgrade	Down	Disable	
Save or Reset Settings	L		
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Change Password	Note: Changes made w	ill only take effect after rebooti	ng.
Legent			
HEIMP		former 1411- days	
Get Technical Support	Current NetWork Mede is AD	Nede	
About System	Current Network Mode is AP 1	Houe	
	2		
Done			
Done			



Defaultnya tidak memiliki WDS link, Klik Add

	Wireless LAN Access Point - Motilia Firelox	-01
le Edit View <u>Go Bookmarks Tools H</u> elp		0
🔥 🔵 🙆 👛 🏠 🦳 http://172.20.2.5	%act_login	🔶 🕼
Firefox Help 9 Firefox Support 9 Plug-in FAQ		
NetPassage WP11B+	WDS Status	
	WDS link Partner Address Add Remove Edit WDS Statistics Info WDS Statistics Info	Status
Report Avent	Show Statistics Info	
111110	Message Window	
Set Technical Support About System	arrent NetWork Mode is AP Mode ccess control changed to no psuedo VLAN and WEP e	ncryption

Masukkan BSSID / Mac Addres dari partner atau dalam kasus ini MAC PCMCIA yang berfungsi sebagai HostAP Bridge (linux), perhatikan format penulisannya menggunakan tanda "-" setiap 2 bilangan hexa mac. Klik Apply

	Wreless LAN Access Point - Motilia Firefox		= 6 X
Edit View Go Bookmarks Tools Hel	3		0
50 🞯 🔘 🏠 🕐 http://17	2 20 2 5%/act_login		🔹 🖓 🖓
Firefox Help 🥊 Firefox Support 💡 Plug-in FAQ			
NetPassage	Add V	WDS Link	
CONFIGURATION	Partner Address	00-02-78-E0-24-97	
Mode Selection	Status	Enable 🔄	
Management Port			
SNMP Setup	Aş	pply Help	star renerit
REE BUZ IN HADIOS			all all all all all all
SWSTEM TOOLS			
System identity			
Set System's Clock			
Firmware Upgrade			
Save or Reset Settings			
Change Pastword			
Legent			1214120201010
		acarin (artal)	
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Get Technical Support	Current NetWork Mode is AP Mod	le	
About System	Access control changed to no psue	do VLAN and WEP encryp	tion
Find stopped.			

Akan muncul seperti berikut, check kembali untuk memastikan bssid yang kita masukkan benar, jika terdapat kesilapan dapat di edit kembali. Atau dapat juga menambah bssid/partner lain (jika ada).



Sebenarnya setup wds untuk AP compex ini sudah selesai, tapi untuk informasi tambahan, penulis menyertakan capture2 berikut sebagai tambahan:

Wreless LAN Access Point - Monila Firefox						
p 2 20 2 59/act_login					CG	
Managemen	nt P	ort	Set	up		
IP Address	172	. 20	.2	.59		
Network Mask	255	. 255	. 255	. 192		2.22
Management Gateway Ip	172	. 20	.20 .2	. 2		12.31
DHCP Start IP Address	172	. 20	.12	.29		12.2
DHCP Cateway IP Address	172	.20	1/2	- 12		
⊂ Always use these DNS se	erver	5.	·le	12		Proof of
Primary DNS IP Address	0		.0			1000
Secondary DNS IP Address	0	.0	.0	.0		10.20
DHCP Server	CE	nable	@ Di	sable		1.00
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Messac	je Wii	ndow				
Current NetWork Mode is AP Mode Access control changed to no psuedo WDS parameters applied	VLA	N and	WEP e	encryption		
	P 2 20 2 5 Wact_login IP Address Network Mask Management Gateway Ip DHCP Start IP Address DHCP End IP Address DHCP Gateway IP Address DHCP Gateway IP Address Current NetWork Mode is AP Mode Access control changed to no psuedo WDS parameters applied	P 2 20 2 5 90/act_login IP Address 172 Network Mask 255 Management Gateway Ip 172 DHCP Start IP Address 172 DHCP End IP Address 172 DHCP Gateway IP Address 172 DHCP Gateway IP Address 172 F Always use these DNS server Primary DNS IP Address 0 Secondary DNS IP Address 0 DHCP Server ← Entry 172 Message With Current NetWork Mode is AP Mode Access control changed to no psuedo VLA WDS parameters applied	P 2 20 2 5 \$Wact_login IP Address 172 .20 Network Mask 255 .255 Management Gateway Ip 172 .20 DHCP Start IP Address 172 .20 DHCP End IP Address 172 .20 DHCP Gateway IP Address 172 .20 DHCP Gateway IP Address 172 .20 CAlways use these DNS servers: Primary DNS IP Address 0 .0 Secondary DNS IP Address 0 .0 DHCP Server ← Enable	P 2 20 2 5 Wact_login IP Address IP Address 172 20 Network Mask 255 172 20 Network Mask 255 172 20 </td <td>Werkerst Markerst Point - Modula Finetov P 2 20 2 5 Stract_login IP Address 172 20 2 59 Network Mask 255 255 192 Management Gateway Ip 172 20 2 40 DHCP Start IP Address 172 20 2 40 DHCP End IP Address 172 20 2 40 DHCP Gateway IP Address 172 20 2 2 Chromoson Control Contrect Contrecontrol Control Control Control Control Con</td> <td>Weekess LAW Access Proved - Modelling Final by 2 20 2 55 Watct_login IP Address 172 20 2 59 Network Mask 255 255 192 Management Gateway Ip 172 20 2 29 DHCP Start IP Address 172 20 2 29 DHCP End IP Address 172 20 2 29 DHCP Gateway IP Address 172 20 2 2 CManays use these DNS servers: Primary DNS IP Address 0 0 0 DHCP Server C Enable Disable 0 0 0</td>	Werkerst Markerst Point - Modula Finetov P 2 20 2 5 Stract_login IP Address 172 20 2 59 Network Mask 255 255 192 Management Gateway Ip 172 20 2 40 DHCP Start IP Address 172 20 2 40 DHCP End IP Address 172 20 2 40 DHCP Gateway IP Address 172 20 2 2 Chromoson Control Contrect Contrecontrol Control Control Control Control Con	Weekess LAW Access Proved - Modelling Final by 2 20 2 55 Watct_login IP Address 172 20 2 59 Network Mask 255 255 192 Management Gateway Ip 172 20 2 29 DHCP Start IP Address 172 20 2 29 DHCP End IP Address 172 20 2 29 DHCP Gateway IP Address 172 20 2 2 CManays use these DNS servers: Primary DNS IP Address 0 0 0 DHCP Server C Enable Disable 0 0 0

Wireless LAN Access P	oint-Moalla Firefox	501	
Helb		0	
//172 20 2 59/act_login		💎 🕻 🖬	
)			
	System Infor	rmation	
	System Up Time	0 months 0 days 00:03:52	
and a second second	Firmware Version	2.95 Build 0521, May 21 2004	
Device	Loader Version	2.05	
	NetWork Mode	Inherent Bridge	
	MAC Address	00-80-48-2d-ce-2d	
Management Port	IP Address	172.20.2.59	
	Network Mask	255.255.255.192	
	DHCP Server	Disabled	
Wireless Card	MAC Address	00-80-48-2b-7a-1a	
		·	
	Message Win	dow	
Current NetWork Mode is AP Mode Access control changed to no psuedo VLAN and WEP encryption WDS parameters applied			
	Device Management Port Wireless Card Current NetWork Mc Access control chang WDS parameters app	Management Port Wireless Card Message Win Current NetWork Mode is AP Mode Access control changed to no psuedo VLA2 WDS parameters applied	

Setting WDS Bridge HostAP Linux

Setting WDS Bridge pada HostAP linux sangat mudah, jika Anda belum pernah menggunakan driver hostap, sebaiknya Anda membaca file presentasi penulis <u>"Optimizing Wireless Client in Linux"</u> yang pernah diseminarkan di jogja. Perlu dicatat bahwa wds dapat berfungsi jika firmware prism yang digunakan adalah versi 1.5.x atau diatasnya (terbaru). Penulis menggunakan kartu PCMCIA SWL-2100N Samsung dengan firmware 1.7.1 yang tentu saja sudah support wds. Anda dapat mengupgrade firmware adapter Anda yang versinya masih dibawah 1.5.0 dengan mengikuti tutorial <u>Mr Jun Sun</u>, but use ur own risk Oks..

© Berikut tahap tahap konfigurasi wds yang penulis lakukan pada hostAP.

Kondisi awal hostAP (tanpa wds) :

	root@lognight.te.ugm.ac.id: /root/script - Shell No. 2 - Konsole	
Session Edit	View Bookmarks Settings Help	
[root@logr eth0	night script]# iwconfig no wireless extensions.	
lo	no wireless extensions.	
sit0	no wireless extensions.	
wifi0	IEEE 802.11b ESSID:"DellC400" Nickname:"lognight.te.ugm.ac.id" Mode:Master Frequency:2.422GHz Access Point: 00:02:78:E0:24:97 Bit Rate:11Mb/s Sensitivity=1/9 Retry min limit:8 RTS thr:off Fragment thr:off Encryption key:off Power Management:off Link Quality:0 Signal level:0 Noise level:0 Rx invalid nwid:0 Rx invalid crypt:0 Rx invalid frag:0 Tx excessive retries:0 Invalid misc:40 Missed beacon:0	
wlan0	IEEE 802.11b ESSID: "DellC400" Nickname: "lognight.te.ugm.ac.id" Mode:Master Frequency:2.422GHz Access Point: 00:02:78:E0:24:97 Bit Rate:11Mb/s Sensitivity=1/9 Retry min limit:8 RTS thr:off Fragment thr:off Encryption key:off Power Management:off Link Quality:0 Signal level:0 Noise level:0 Rx invalid nwid:0 Rx invalid crypt:0 Rx invalid frag:0 Tx excessive retries:0 Invalid misc:40 Missed beacon:0	
[root@logn	night script]#	4
Shel	I A Shell No. 2	

Sama seperti konfigurasi wds pada AP Compex, untuk setting wds pada HostAP ini juga dibutuhkan informasi BSSID partnernya (MAC si AP Compex) untuk ditambahkan sebagai partner hostAP tersebut.

Command line berikut harus di lakukan superuser (root) :

Menambahkan wds partner dengan memasukkan bssid partner (MAC si AP compex)

iwpriv wlan0 wds_add 00:80:48:2b:7a:1a

ip link show wlan0wds0

27: wlan0wds0: <BROADCAST,MULTICAST,PROMISC,UP> mtu 1500 qdisc noqueue

link/ether 00:02:78:e0:24:97 brd ff:ff:ff:ff:ff:ff

cat /proc/net/hostap/wlan0/wds
wlan0wds0 00:80:48:2b:7a:1a

Buat bridge link antara wlan0 dengan wlan0wds0

- # ifconfig wlan0 0.0.0.0
- # ifconfig wlan0wds0 0.0.0.0
- # brctl addbr br0
- # brctl addif br0 wlan0

brctl addif br0 wlan0wds0

ifconfig wlan0 up

ifconfig wlan0wds0 up

brctl showmacs br0
port no mac addr is local? ageing timer
1 00:02:78:e0:24:97 yes 0.00

Memberikan IP address pada bridge (br0) yang baru saja di create.

ifconfig br0 172.20.2.23 netmask 255.255.255.192 broadcast 172.20.2.63 up

Agar bekerja sebagai partner w
ds maka channel yang digunakan oleh kedua AP tersebut harus sama, untuk itu kita pastikan dengan memberikan channel yang sama seperti pada AP compex channel "6"

iwconfig wlan0 channel 6

Untuk performance yang lebih baik, kita bisa mengurangi interval beacon.

prism2_param wlan0 beacon_int 1000

Dan masih banyak lagi parameter parameter yang bisa digunakan pada HostAP ini. Just type "prism2_param wlan0" untuk melihat parameter lainnya.

Berikut hasil kondisi hostap dengan wds bridge

	root@lognight.te.ugm.ac.id; /root - Shell - Konsole	EOX
Session Edit	View Bookmarks Settings Help	
[root@log	night root]# iwconfig	A
eth0	no wireless extensions.	
lo	no wireless extensions.	
sit0	no wireless extensions.	
wifið	IEEE 802.11b ESSID: "DellC400" Nickname: "lognight.te.ugm.ac.id" Mode:Master Frequency:2.437GHz Access Point: 00:02:78:E0:24:97 Bit Rate:11Mb/s Sensitivity=1/9 Retry min limit:8 RTS thr:off Fragment thr:off Encryption key:off Power Management:off Link Quality:0 Signal level:0 Noise level:0 Rx invalid nwid:0 Rx invalid crypt:0 Rx invalid frag:0 Tx excessive retries:33 Invalid misc:319 Missed beacon:0	
wlan0	IEEE 802.11b ESSID:"DellC400" Nickname:"lognight.te.ugm.ac.id" Mode:Master Frequency;2.437GHz Access Point: 00:02:78:E0:24:97 Bit Rate:11Mb/s Sensitivity=1/9 Retry min limit:8 RTS thr:off Fragment thr:off Encryption key:off Power Management:off Link Quality:0 Signal level:0 Noise level:0 Rx invalid nwid:0 Rx invalid crypt:0 Rx invalid frag:0 Tx excessive retries:33 Invalid misc:319 Missed beacon:0	
wlan0wds	IEEE 802.11b Nickname:"lognight.te.ugm.ac.id" Mode:Repeater Frequency:2.437GHz Access Point: 08:80:48:28:7A:1A Bit Rate:11Mb/s Sensitivity=1/9 Retry min limit:8 RTS thr:off Fragment thr:off Encryption key:off Power Management:off	
a She	sheli No. 2	

root@lognight.te.ugm.ac.id: /root- Shell- Konsole 🔤 🗖	X
Session Edit View Bookmarks Settings Help	
[root@lognight root]# ifconfig br0	
br0 Link encap:Ethernet HWaddr 00:02;78;E0:24:97	
inet addr: 172.20.2.23 Bcast: 172.20.2.63 Mask: 255.255.255.192	
inet6 addr: fe80::202:78ff:fee0:2497/64	
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1	
RX packets:19 errors:0 dropped:0 overruns:0 frame:0	
TX packets:5 errors:0 dropped:0 overruns:0 carrier:0	
collisions:0 txgueuelen:0	
RX bytes:3076 (3.0 Kb) TX bytes:378 (378.0 b)	
[root@lognight_root]#	
tion corolandine i on cla	
	-
Shell Shell No. 2	_

Setting wds di kedua AP sudah selesai.. sekarang testing... dan testing...

Sebenarnya ada beberapa percobaan yang penulis lakukan, berhubung karena "malesnya ngetik" maka hanya sebagian yang akan di tulis pada tutorial ini :p

Testing yang dilakukan adalah PC Client melakukan koneksi (assosiate) ke hostAP (dengan SSID : DellC400), maka setelah terhubung (assosiated), si client (IP 172.20.2.21/26) sudah bisa berkomunikasi ke semua komponen network pada gambar demo diatas termasuk PC server (IP 172.16.0.1) yang tidak terhubung secara langsung dengan HostAP, melainkan harus melalui AP compex (IP : 172.20.2.59) , berikut hasil capturannya :

```
Choose a wireless network
  Network Tasks
   🛃 Refresh network list
                                         Click an item in the list below to connect to a wireless network in range or to get more
                                         information.
                                                     DellC400
                                                                                                                     Connected 👷
   🗳 Set up a wireless network
                                           ((0))
       for a home or small office
                                                      Unsecured wireless network
                                                                                                                     Automatic 👷
                                                     compex
  Related Tasks
                                           ((0))
                                                                                                                               - 🗆 🗙
 C:\WINDOWS\system32\cmd.exe
                                                                                                                                       .
C:\Documents and Settings\josh>ping 172.20.2.2
Pinging 172.20.2.2 with 32 bytes of data:
Reply from 172.20.2.2: bytes=32 time=23ms TTL=64
Reply from 172.20.2.2: bytes=32 time=16ms TTL=64
Reply from 172.20.2.2: bytes=32 time=16ms TTL=64
Reply from 172.20.2.2: bytes=32 time=16ms TTL=64
Ping statistics for 172.20.2.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
      Minimum = 16ms, Maximum = 23ms, Average = 17ms
C:\Documents and Settings\josh>ping 172.16.0.1
Pinging 172.16.0.1 with 32 bytes of data:
Reply from 172.16.0.1: bytes=32 time=16ms TTL=63
Reply from 172.16.0.1: bytes=32 time=17ms TTL=63
Reply from 172.16.0.1: bytes=32 time=16ms TTL=63
Reply from 172.16.0.1: bytes=32 time=17ms TTL=63
Ping statistics for 172.16.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 16ms, Maximum = 17ms, Average = 16ms
C:\Documents and Settings\josh>tracert 172.16.0.1
Tracing route to 172.16.0.1 over a maximum of 30 hops
                                                      172.20.2.
            16
                ms
                             7
                               ms
                                            6
                                              ms
   2
            17
                                                      172.16.0.1
                ms
                               ms
                                            6 ms
Trace complete.
C:\Documents and Settings\josh>
```

Perlu di ketahui, AP Compex tetap bisa bertindak sebagai AP untuk client client yang lain. Hal ini berbeda dengan AP jenis lain seperti DLINK DWL900AP dimana jika di manage untuk WDS maka hanya dapat bertindak sebagai bridge untuk partnernya (baca tutorial <u>Jason's Web</u>

Thingy).

Jika kita (client) terhubung ke AP Compex (SSID : compex), maka kita tetap bisa berhubungan dengan client-client HostAP linux (SSID : DellC400). Hal inilah yang disebut MeshAP dimana client-client kedua AP dapat saling berkomunikasi.

Sebenarnya jika kedua AP tersebut merupakan HostAP maka untuk konfigurasi wdsnya bisa secara otomatis, baca parameter2 pada prism2_param. Disana disebutkan bahwa HostAP dapat dengan otomatis melakukan konfigurasi wds terhadap AP lain yang ditemukan. Karena tidak resource buat nyoba 2 hostap, maka tidak dibahas pada tutorial ini .. hiks

Selanjutnya adalah testing Bandwidth ...

Penulis hanya iseng mencoba menghitung bandwidth/Kecepatan akses dengan tools sederhana seperti DAP (setting without proxy) pada PC Client. Percobaan ini dilakukan dengan cara, Client (IP: 172.20.2.21) melakukan download file berukuran sedang (sekitar 50Mbytes) dari PC Server (IP:172.16.0.1). Percobaan ini dilakukan beberapa kali, yang pertama Si Client (IP 172.20.2.21) melakukan download pada saat terhubung dengan HostAP WDS (essid : DellC400) dimana sudah menjadi partner AP compex (seperti di gambar diatas). Diperoleh hasil kecepatan sekitar 280-300kBytes/s , klo di convert ke kbps kira kira 280x8 – 300x8 =~ 2240kbps – 2400kbps

Network Tasks	Choose a	wireless net	work			
💋 Refresh network list	Click an item in I information.	the list below to conne	ct to a wireless i	network in	range or	to get more
🦂 Set up a wireless network	((Q)) De	ellC400				Connected
for a home or small office	Ĩ.		li			
		isecurea wireless netw	iork.			Automatic
Related Tasks	((Q)) ⁽⁰	anpex				Aucomacic
🔅 Learn about wireless 🥳	46% Partition I	Magic 8 1 1.zip	- Download A	ccelerat	or Plus	
networking						
☆ Change the order of						-
preferred networks	Domal	ord Age	alara	100	In	353
🍄 Change advanced 🦷				~~~~		
settings	aving To: E	:\testdoank\Partition	Magic 8_1_1.zip			
settings Si	aving To: E atus: F	:\testdoank\Partition Receiving file (4)	Magic 8_1_1.zip			
settings Si Si Ri	aving To: E atus: F esume: F	E:\testdoank\Partition Receiving file (4) Resume Supported	Magic 8_1_1.zip			
settings Si Si Ri U	aving To: E atus: F esume: F RL File: H	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl	Magic 8_1_1.zip n/master/Partition	n%20Magic	:%208.zip	5
settings Sa Si Bi U Fi	aving To: E atus: F esume: F RL File: H le Info:	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl	Magic 8_1_1.zip n/master/Partitio	n%20Magic	c%208.zip	5
settings Si Si Bi U Fi Ti	aving To: E atus: F esume: F RL File: H le Info: me Left: 1	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl	Magic 8_1_1.zip n/master/Partition	n%20Magid	c%208.zip	2
settings Si Si Bi U Fi Ti Ti	aving To: E atus: F esume: F RL File: F le Info: me Left: 1 ansfer Rate: 2	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl I Min(s), 37 Second(s) 281.0 KB/Sec	Magic 8_1_1.zip n/master/Partition File Si	n%20Magio ze: 23.08	c%208.zip MB of 49	9.89 MB
settings Si Si Ri U Fi Ti Ti Ti	aving To: E atus: F esume: F RL File: F le Info: me Left: 1 ansfer Rate: 2	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl Min(s), 37 Second(s) 281.0 KB/Sec	Magic 8_1_1.zip n/master/Partition File Si	1%20Magio ze: 23.08	c%208.zip MB of 49	э Э.89 MB
settings Si Si Bi U Fi Ti Ti	aving To: E satus: F esume: F RL File: F le Info: me Left: 1 ansfer Rate: 2 Details <<	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl Min(s), 37 Second(s) 281.0 KB/Sec Switch Site	Magic 8_1_1.zip n/master/Partition File Si	n%20Magio ze: 23.08 pend	c%208.zip MB of 49	3.89 MB
Settings S. S. H. U Fi Ti Ti	aving To: E iatus: F esume: F RL File: H le Info: me Left: 1 mansfer Rate: 2 Details <<	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~jost I Min(s), 37 Second(s) 281.0 KB/Sec Switch Site Simultane	Magic 8_1_1.zip n/master/Partition File Si	n%20Magio ze: 23.08 pend	c%208.zip MB of 49	3.89 MB
settings S. Si Ri U Fi Ti Ti Ti #	aving To: E atus: F esume: F RL File: F le Info: me Left: 1 ansfer Rate: 2 Details << Details <<	E:\testdoank\Partition Receiving file (4) Resume Supported http://172.16.0.1/~josl Min(s), 37 Second(s) 281.0 KB/Sec Switch Site Simultane	Magic 8_1_1.zip n/master/Partition File Si II Sus ous connections	n%20Magio ze: 23.08 pend	c%208.zip MB of 49	9 9.89 MB Cancel
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Percobaan kedua yakni si Client (IP 172.20.2.21) langsung terhubung dengan ke AP compex (SSID compex),

jadi tidak menggunakan koneksi wds seperti percobaan pertama.

Hasil yang di peroleh sekitar 600-620kBytes/s atau jika di konversikan ke kbps 600x8 – 620x8 =~ 4800-4960kbps

^(a) Wireless Network Connec	tion 9		
Network Tasks	Choose a wireless r	network	
💋 Refresh network list	Click an item in the list below to a information.	onnect to a wireless networ	k in range or to get more
Set up a wireless network for a home or small office	((p)) compex	network	Connected 🤣
Related Tasks	((p)) DellC400	network	Automatic 🔮
Learn about wireless 48 networking	% Partition Magic 82.zip - D	ownload Accelerator P	'lus 💶 🖂 💷
Change the order of preferred networks	ownload Acc	elerator l	No 5.3
Savin	g To: E:\testdoank\Partition	1 Magic 82.zip	
Statu	s: Receiving file (4)		
LIBL	File: http://172.16.0.1/~in	sh/master/Partition%20Magi	-%208 zin
File Ir	ifo:		, octoo.c.p
Time	Left: 43 Second(s)		
Trans	fer Rate: 606.3 KB/Sec	File Size: 24.05	MB of 49.89 MB
	Details << Switch Site	Suspend	🗙 Cancel
ienu, and then click In	Simultar	eous connections	
ally detect settings	ze Connection Status 07 MB Receiving file	Server loca 172.16.0.1	ation
oit connection security -2- 6.	08 MB Receiving file	172.16.0.1	
ck About Internet Ex -3- b. 1 security you have inst -4- 5.	87 MB Receiving file	172.16.0.1	

Sekian percobaan dan pengalaman si penulis dalam ber-hostap dan ber-wds ria © Klo ada pertanyaan langsung saja ke jogja-wireless@yahoogroups.com

Sebenarnya penulis ingin sekali mencoba beberapa routing protokol seperti OSLR dll , berhubung karena tidak ada resource.. $\circledast\,$ hiks

http://trekweb.com/~jasonb/articles/ http://linux.junsun.net/intersil-prism/ README hostapd-driver

Created: 28 Oktober 2004

Artikel lain ? <u>DoS : Denial Of Services AirJack</u> :: Take down ur wireless AP

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