The Metrix Box

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nocat AUTHENTICATION

FREE NETWORKS .ORG

What is it good for?

It's an access point...

...or a client to an access point...

...or a repeater...

...or a mesh node...

...or a super mesh node...

...or just about anything else.

NTop station   Captive portal

Bandwidth throttle

DNS Cache

RADIUS authenticator

Web server   OPN node

Statistics   DHCP server

VPN server   WIKI

Kismet monitor   Asterisk VoIP Gateway

Snort IDS

How is this possible?

Because it's OPEN.

 = Open hardware
Open protocols
Open Source software

The Hardware

Soekris net4826

Soekris Motherboard

* Tiny embedded PC
* 133MHz - 233MHz CPU
* 64MB Flash storage
* 64MB RAM
* Two mini-PCI + Ethernet
* Low power, fed by PoE

Atheros 100mW a/b/g radio

Prism 200mW 802.11b radio

Built on Open Protocols

* All radios speak 802.11 a, b, or g

* Will interoperate with 802.11 a/b/g
  radios from any manufacturer

* Standard Ethernet, TCP/IP

* 802.3af Power over Ethernet

Using Open Source Software

* Ships with Pebble Linux
  http://nycwireless.net/pebble/

* WiFiAdmin (with many extensions, all GPL)

* Drivers, system software, etc. are all open

* Community supported software

WiFiAdmin
WiFiAdmin, The Free WiFi Web Interface

Main Page
System Services
Wireless Settings
Network Interfaces
Statistics
Routes
Users

Wireless Settings

wlan0 ath0

Current settings for device ath0

[Site Survey]

ESSID: ◉ B&O Espresso ▼
                ○ [   ]

Mode: Managed (client) ▼
Radio mode: 802.11g ▼
Frequency: Channel 01 : 2.412 GHz ▼
Bit Rate: auto ▼   best ▼
RTS threshold: off
Fragment threshold: off
Max station distance: 26000
(meters)

(Commit Changes)
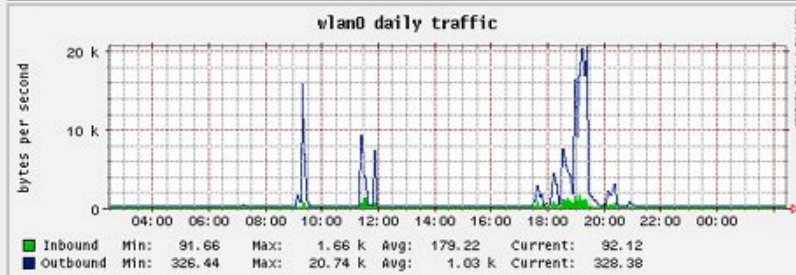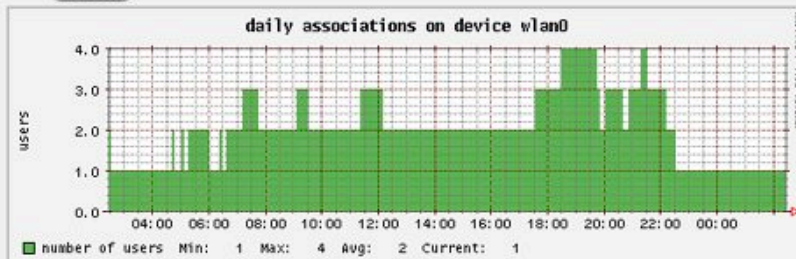
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Statistics

wlan0 ath0

Associated MACs list on Master-mode device wlan0

#	MAC	Name	Uploaded	Downloaded	U/D	Signal	Noise
☐	1 00:04:20:05:18:65	10.15.6.165	258.60MB	1.06GB	23.83%	-58	-95

(Ban user)

daily associations on device wlan0

■ number of users Min: 1 Max: 4 Avg: 2 Current: 1

wlan0 daily traffic

■ Inbound   Min: 91.66   Max: 1.66 k   Avg: 179.22   Current: 92.12
■ Outbound Min: 326.44   Max: 20.74 k   Avg: 1.03 k   Current: 328.38

daily ▼ (Select graph)

[View Wireless Logs]

Can also run almost any other embedded x86 OS

* OpenBSD, FreeBSD

* m0n0wall

* CUWiN Mesh

* MIT Mesh

Who uses Metrix?

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Community Partners

We support Community Wireless Networks and other not-for-profit networking builders.

Contact partners@metrix.net for more details.

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Champaign Urbana Wireless Network
http://www.cuwireless.net/

Champaign-Urbana IL

NetBSD based mesh

Built on Metrix boxes

Champaign-Urbana Community Wireless Network

MIT Roofnet Project
http://www.pdos.lcs.mit.edu/roofnet/

Huge mesh network in Cambridge, MA

Pebble Linux base

100+ Metrix nodes

You use it, too! =)
* 7Km link from Muggia
* 26Km link from Grado

What is the Future of the Metrix Box?

You tell us.

http://metrix.net/

rob@metrix.net