

The Internet of Things

Discovering the Internet of Things in your home

Lawrence Charters

Network Scanners

- Network scanners do what the name implies: they scan networks
- Why would you do this? To find out what is on your network.
- And...to find out if someone or something is on your network that shouldn't be there.

IPNetMonitorX

Sustainable Softworks, \$70
Does much, much more than this.

Address Scan (192.168.1.1/24)

Target: 192.168.1.1/24 Look Around

Using: ping Retries: 1 Continuous List All Addresses

Address	Sent	Received	Seconds	Name	MAC Address	Comment
192.168.1.1	✓	✓	0.000		00:18:01:54:E4:83	Actiontec Electronics, Inc
192.168.1.6	✓	✓	0.005		64:80:99:23:8F:18	Intel Corporation
192.168.1.7	✓	✓	0.161		90:89:31:9F:6C:CE	
192.168.1.22	✓	✓	0.197		88:53:95:6C:62:27	Apple
192.168.1.30	✓	✓	0.195		74:E2:F5:CF:DF:E4	Apple Inc
192.168.1.34	✓	✓	0.009	Puck-568	70:56:81:E3:A5:05	Apple Inc
192.168.1.35	✓	✓	0.003	sherwood-8	98:D6:8B:10:C8:81	Apple, Inc.
192.168.1.40	✓	✓	0.176		54:26:96:4C:22:67	Apple
192.168.1.100	✓	✓	0.000	Sea-Tac	00:1E:52:F6:81:3E	Apple Computer Inc
192.168.1.101	✓	✓	0.000	Heathrow	00:26:8B:6C:A8:3E	Apple, Inc
192.168.1.102	✓	✓	0.001	Manchester	78:CA:39:FF:6D:87	Apple, Inc.
192.168.1.103	✓	✓	0.004		00:23:A3:1B:D9:23	Motorola Mobility, Inc.
192.168.1.104	✓	✓	0.025	BWI	F0:D1:A9:10:D0:92	Apple
192.168.1.201	✓	✓	0.001	butch	40:6C:8F:1C:21:3C	Apple, Inc.
192.168.1.205	✓	✓	0.000	Roomba	00:1A:62:03:13:85	Data Robotics, Incorporated
192.168.1.210	✓	✓	0.001		00:1E:8F:0E:6A:9F	CANON INC.
192.168.1.211	✓	✓	0.000	BRN008077E60B73	00:80:77:E6:08:73	BROTHER INDUSTRIES, LTD.
192.168.1.212	✓	✓	0.001	huguenot-prot	98:4B:E1:36:CA:CC	Hewlett-Packard Company
192.168.1.220	✓	✓	0.000	Xenon	00:1F:5B:3D:33:D1	Apple, Inc.
192.168.1.221	✓	✓	0.000	MadMax-2 (localhost)	C8:2A:14:1F:28:EE	Apple, Inc
192.168.1.222	✓	✓	0.001	iMax	C4:2C:03:35:A2:59	Apple, Inc.
192.168.1.224	✓	✓	0.001	Grace	68:5B:35:C9:C5:66	
192.168.1.230	✓	✓	0.000	MadMax-2 (localhost)	10:9A:DD:9E:0A:80	Apple, Inc.

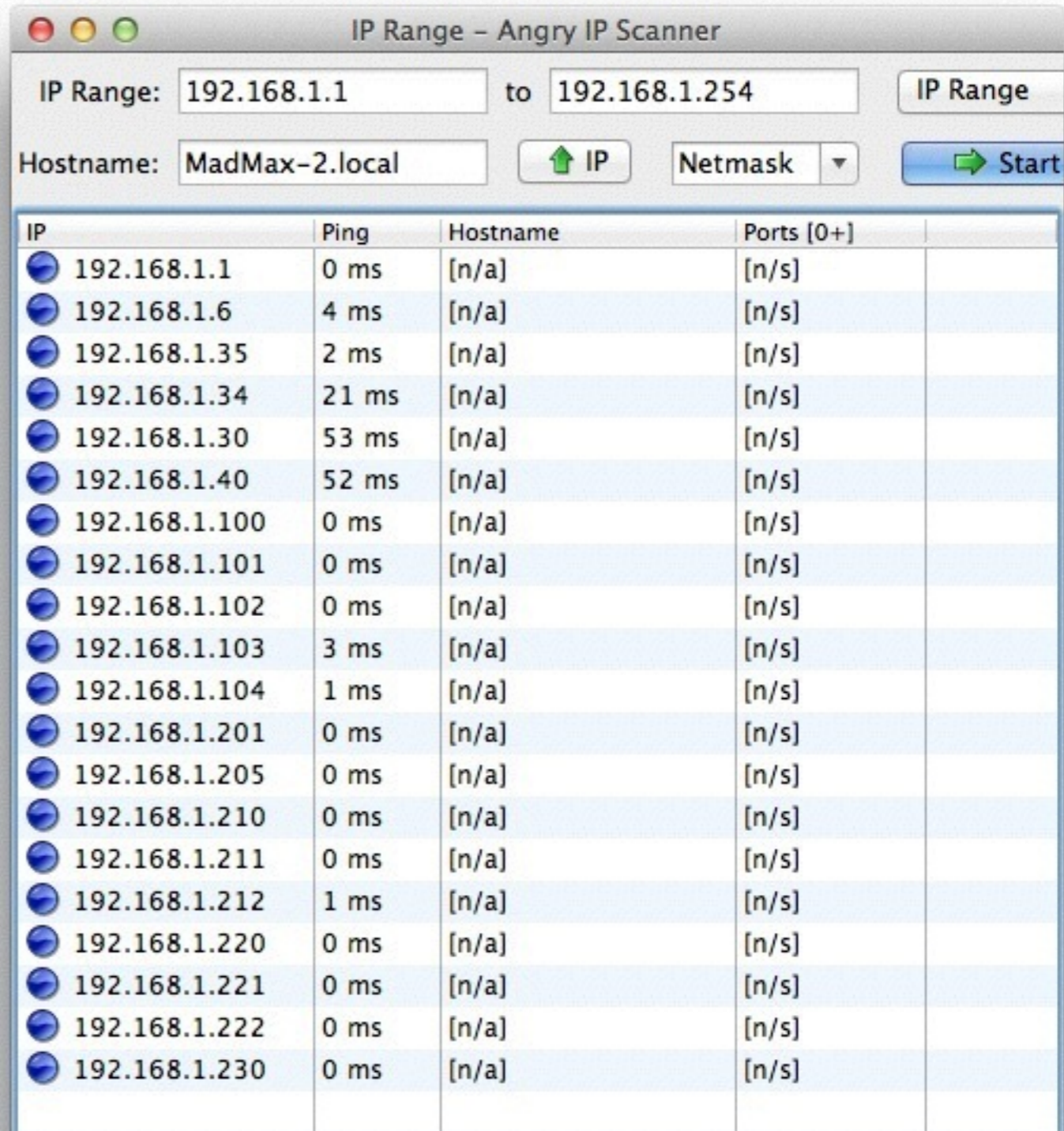
Sent: 10 Min: 10.000 Start Time: 2014-07-25 22:14
Received: 0 ping Ave: 0.000
Lost: 0 Max: 0.000 Latency: 0.000

Ping scan (pass 2) Abort

Angry IP Scanner

Open Source, <http://angryip.org>

Can also do port scans.



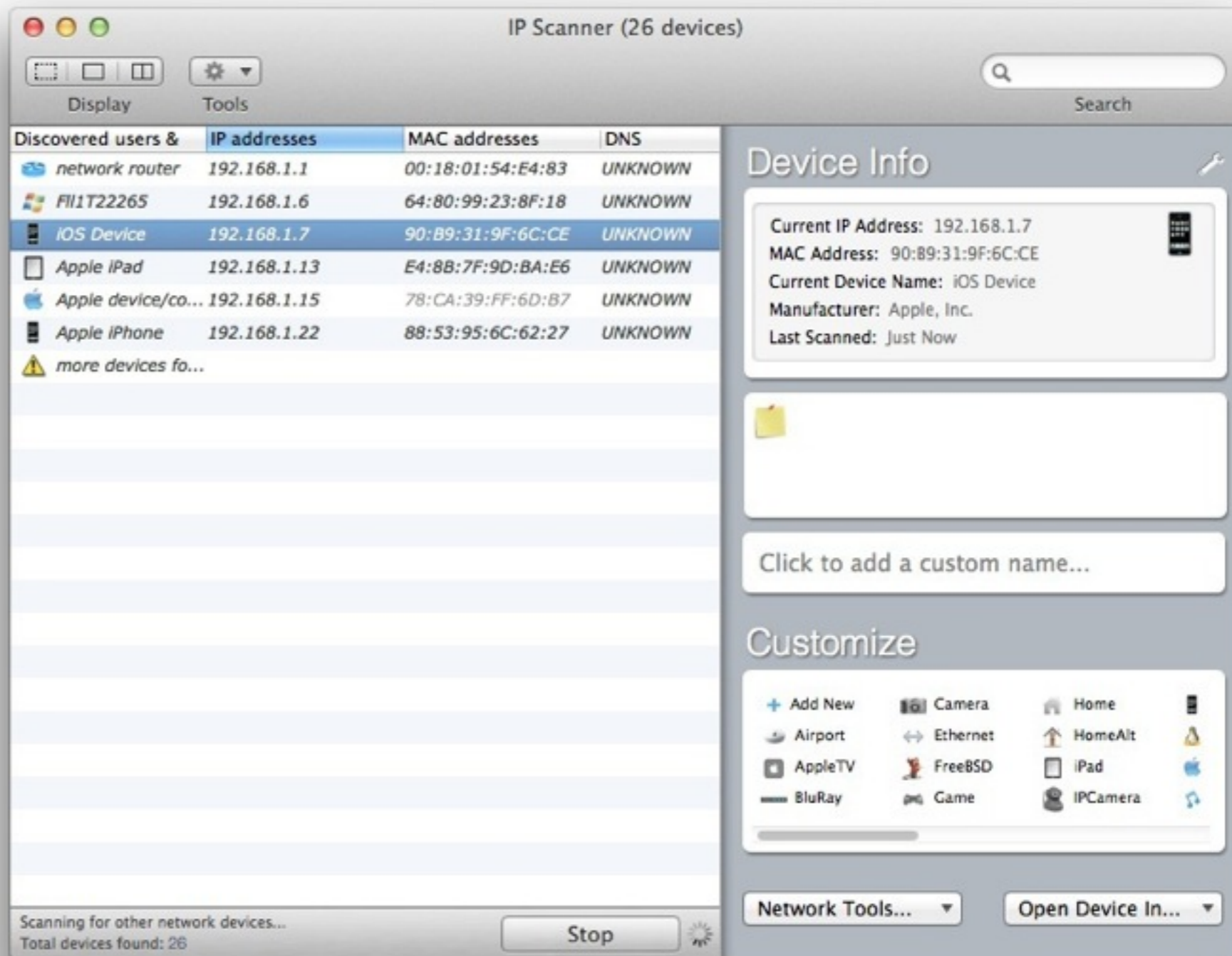
The screenshot shows the 'IP Range - Angry IP Scanner' window. The IP Range is set to 192.168.1.1 to 192.168.1.254. The Hostname is MadMax-2.local. The Netmask is set to a dropdown menu. The Start button is highlighted. The results table shows the following data:

IP	Ping	Hostname	Ports [0+]
192.168.1.1	0 ms	[n/a]	[n/s]
192.168.1.6	4 ms	[n/a]	[n/s]
192.168.1.35	2 ms	[n/a]	[n/s]
192.168.1.34	21 ms	[n/a]	[n/s]
192.168.1.30	53 ms	[n/a]	[n/s]
192.168.1.40	52 ms	[n/a]	[n/s]
192.168.1.100	0 ms	[n/a]	[n/s]
192.168.1.101	0 ms	[n/a]	[n/s]
192.168.1.102	0 ms	[n/a]	[n/s]
192.168.1.103	3 ms	[n/a]	[n/s]
192.168.1.104	1 ms	[n/a]	[n/s]
192.168.1.201	0 ms	[n/a]	[n/s]
192.168.1.205	0 ms	[n/a]	[n/s]
192.168.1.210	0 ms	[n/a]	[n/s]
192.168.1.211	0 ms	[n/a]	[n/s]
192.168.1.212	1 ms	[n/a]	[n/s]
192.168.1.220	0 ms	[n/a]	[n/s]
192.168.1.221	0 ms	[n/a]	[n/s]
192.168.1.222	0 ms	[n/a]	[n/s]
192.168.1.230	0 ms	[n/a]	[n/s]

IP Scanner

Mac App store, free

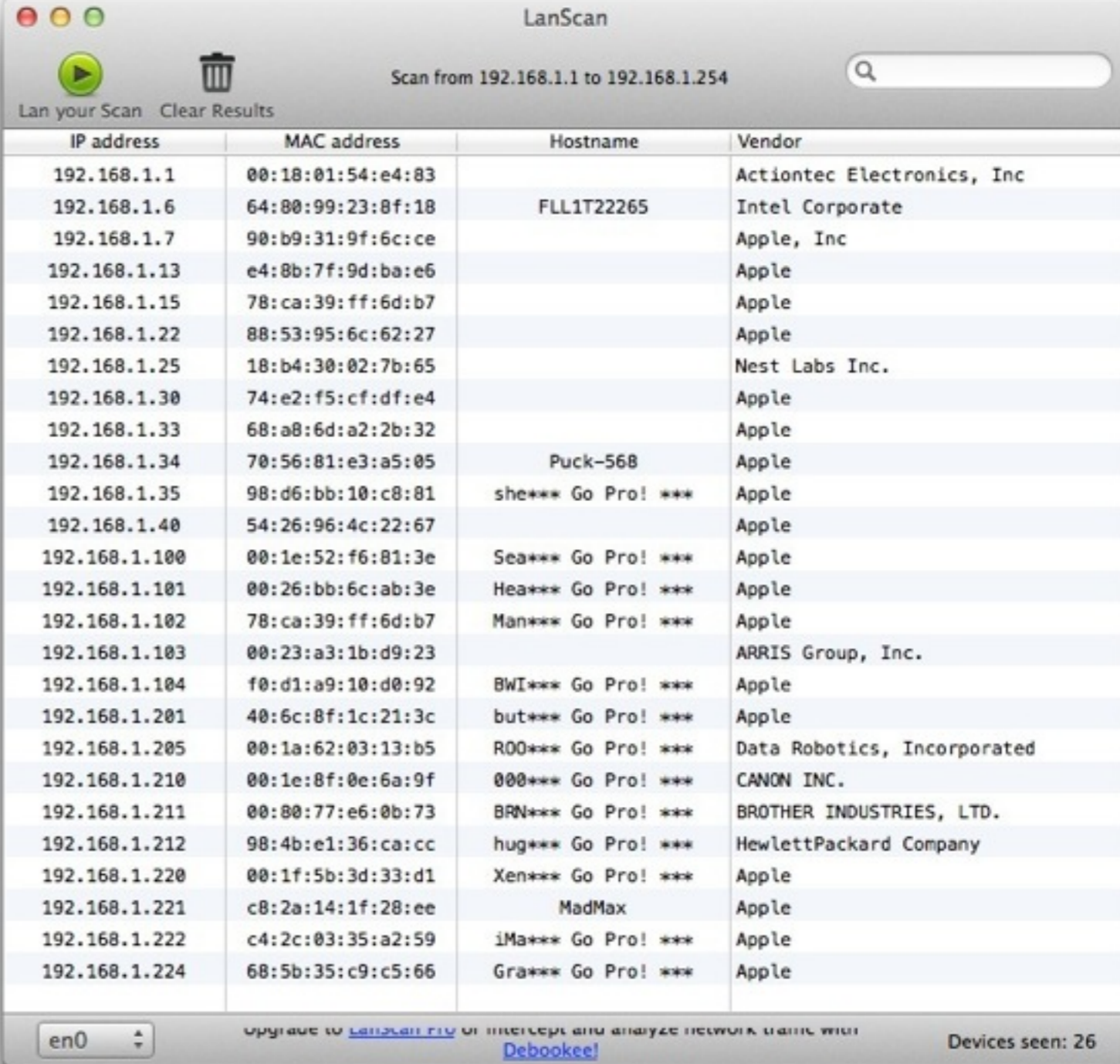
Free version displays only 5 devices (out of 26 found).



LanScan

Mac App store, free

Found 26 devices,
wants you to
upgrade to Pro to
get more
information.



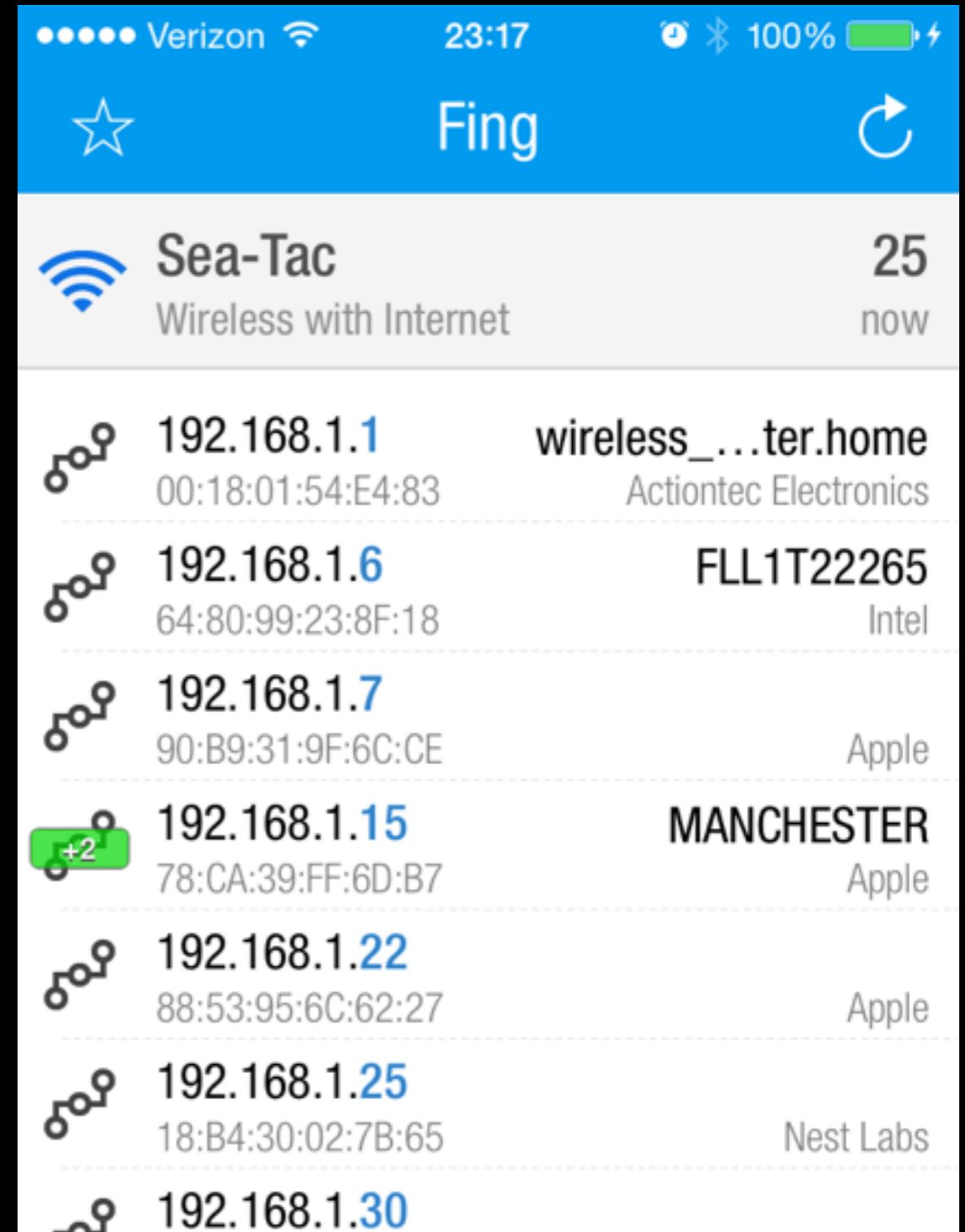
The screenshot shows the LanScan application window. At the top, it says "LanScan" and "Scan from 192.168.1.1 to 192.168.1.254". Below the title bar, there are buttons for "Lan your Scan" (a play button) and "Clear Results" (a trash can). A search bar is on the right. The main area is a table with four columns: IP address, MAC address, Hostname, and Vendor. The table lists 26 devices. At the bottom, there is a dropdown menu showing "en0", a link to "Upgrade to LanScan Pro" with a "Debookee!" link, and a status bar that says "Devices seen: 26".

IP address	MAC address	Hostname	Vendor
192.168.1.1	00:18:01:54:e4:83		Actiontec Electronics, Inc
192.168.1.6	64:00:99:23:8f:18	FLL1T22265	Intel Corporate
192.168.1.7	90:b9:31:9f:6c:ce		Apple, Inc
192.168.1.13	e4:8b:7f:9d:ba:e6		Apple
192.168.1.15	78:ca:39:ff:6d:b7		Apple
192.168.1.22	88:53:95:6c:62:27		Apple
192.168.1.25	18:b4:30:02:7b:65		Nest Labs Inc.
192.168.1.30	74:e2:f5:cf:df:e4		Apple
192.168.1.33	68:a8:6d:a2:2b:32		Apple
192.168.1.34	70:56:81:e3:a5:05	Puck-568	Apple
192.168.1.35	98:d6:bb:10:c8:81	she*** Go Pro! ***	Apple
192.168.1.40	54:26:96:4c:22:67		Apple
192.168.1.100	00:1e:52:f6:81:3e	Sea*** Go Pro! ***	Apple
192.168.1.101	00:26:bb:6c:ab:3e	Hea*** Go Pro! ***	Apple
192.168.1.102	78:ca:39:ff:6d:b7	Man*** Go Pro! ***	Apple
192.168.1.103	00:23:a3:1b:d9:23		ARRIS Group, Inc.
192.168.1.104	f0:d1:a9:10:d0:92	BWI*** Go Pro! ***	Apple
192.168.1.201	40:6c:8f:1c:21:3c	but*** Go Pro! ***	Apple
192.168.1.205	00:1a:62:03:13:b5	R00*** Go Pro! ***	Data Robotics, Incorporated
192.168.1.210	00:1e:8f:0e:6a:9f	000*** Go Pro! ***	CANON INC.
192.168.1.211	00:80:77:e6:0b:73	BRN*** Go Pro! ***	BROTHER INDUSTRIES, LTD.
192.168.1.212	98:4b:e1:36:ca:cc	hug*** Go Pro! ***	HewlettPackard Company
192.168.1.220	00:1f:5b:3d:33:d1	Xen*** Go Pro! ***	Apple
192.168.1.221	c8:2a:14:1f:28:ee	MadMax	Apple
192.168.1.222	c4:2c:03:35:a2:59	iMa*** Go Pro! ***	Apple
192.168.1.224	68:5b:35:c9:c5:66	Gra*** Go Pro! ***	Apple

Fing

iPad and iPhone, iTunes App Store; free

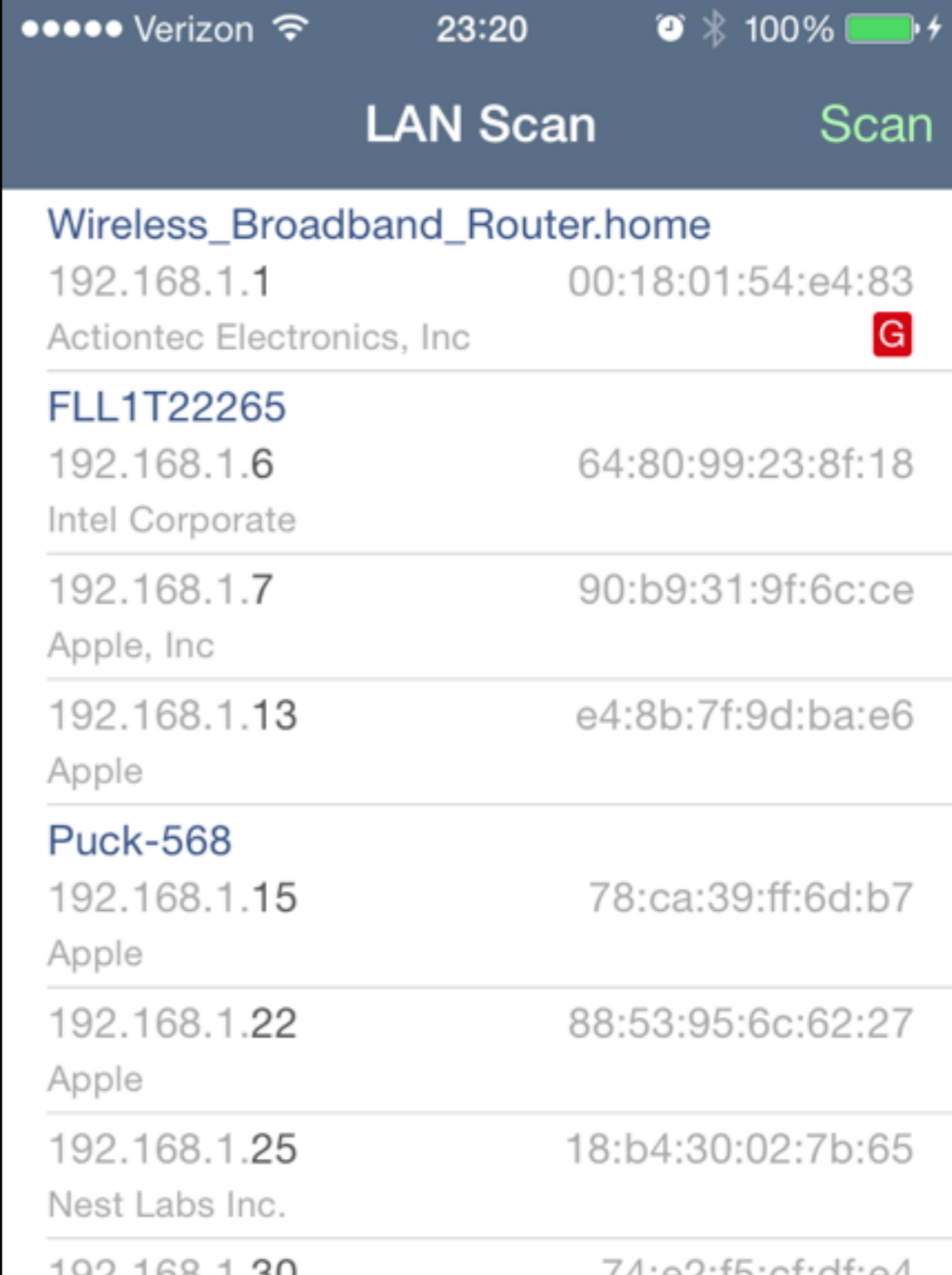
Excellent, fast, easy to use



Net Analyzer Lite

iPad and iPhone, iTunes App Store; free

Has annoying advertising, but otherwise excellent.



The screenshot shows the Net Analyzer Lite app interface on an iPhone. The status bar at the top indicates Verizon service, a Wi-Fi signal, the time 23:20, and 100% battery. The app title "LAN Scan" is centered at the top, with a "Scan" button on the right. The main content is a table of network devices discovered on the local network.

Device Name	IP Address	MAC Address	Manufacturer
Wireless_Broadband_Router.home	192.168.1.1	00:18:01:54:e4:83	Actiontec Electronics, Inc
FLL1T22265	192.168.1.6	64:80:99:23:8f:18	Intel Corporate
	192.168.1.7	90:b9:31:9f:6c:ce	Apple, Inc
	192.168.1.13	e4:8b:7f:9d:ba:e6	Apple
Puck-568	192.168.1.15	78:ca:39:ff:6d:b7	Apple
	192.168.1.22	88:53:95:6c:62:27	Apple
	192.168.1.25	18:b4:30:02:7b:65	Nest Labs Inc.
	192.168.1.30	74:e2:f5:cf:df:e4	