

IPv6 in the Caribbean Grenada – The 1st Island with many Native IPv6 Achievements

1st Eastern Caribbean Nation to have
an IPv6 Forum Chapter.

1st Island to have native IPv6
Connectivity (Columbus
communications Grenada).

[http://www.ipv6forum.com/ipv6_enabled/isp/approval_list.php?
type=loc&content=gd](http://www.ipv6forum.com/ipv6_enabled/isp/approval_list.php?type=loc&content=gd)

By Brent Mc Intosh
www.6brent.info

First and Second Native IPv6 Websites Grenada and possibly the Caribbean

IPv6 validation for <http://www.6brent.info>

AAAA DNS record	✓	2001:1808:b701:7::2012
IPv6 web server	✓	Microsoft-IIS/7.5
IPv6 DNS server	✓	ns2.he.net,ns3.he.net,ns4.he.net,ns5.he.net

Congratulations, this website is IPv6 ready

IPv6 validation for <http://www.ipv6forum.gd>

AAAA DNS record	✓	2001:1808:b300:8::2012
IPv6 web server	✓	Microsoft-IIS/7.0
IPv6 DNS server	✓	ns2.he.net,ns3.he.net,ns4.he.net,ns5.he.net

www.ipv6forum.gd/www.6brent.info



IPv6 Forum Grenada

connected via
IPv6

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Websites in World IPv6 Day/launch Participation - 1st in the Caribbean

Show Search:

entries

Organisation	Country	IPv6 Page	Website	Alexa Rank	Date Joined
IPv6 Forum	Luxembourg		http://www.ipv6forum.com/	534803	17 Feb 2012
IPv6 Forum Singapore	Singapore		http://www.ipv6forum.sg	12304720	04 May 2012
IPv6 Forum Grenada	Grenada		http://www.ipv6forum.gd	13024410	20 Mar 2012
IPv6 Forum Mexico	Mexico		http://www.ipv6forum.com.mx	9100719	27 Apr 2012

Showing 1 to 4 of 4 entries (filtered from 3,002 total entries)

Show Search:

entries

Organisation	Country	IPv6 Page	Website	Alexa Rank	Date Joined
MCNET- Solutions (6brent)	Grenada		http://www.6brent.info	9894738	16 Feb 2012

Showing 1 to 1 of 1 entries (filtered from 3,002 total entries)

Testing to Native IPv6: Speed Test

IPv4 speed

Address 🇺🇸 63.245.30.25

ISP Columbus Networks USA

Speed **11.1 Mbit/s**

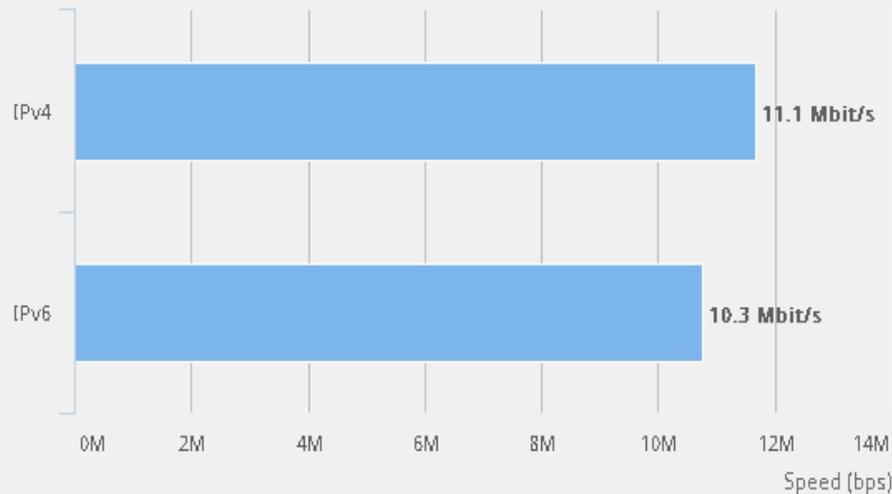
IPv6 speed

Address 🇬🇩 2001:1808:b701:7::2012

ISP Columbus Communications Grenada Ltd.

Speed **10.3 Mbit/s**

Your speed test results



[Share your results](#)

Testing to Native IPv6 Websites In Grenada

```
Windows PowerShell
Copyright (C) 2013 Microsoft Corporation. All rights reserved.

PS C:\Users\Brent> ping www.6brent.info

Pinging www.6brent.info [2001:1808:b701:7::2012] with 32 bytes of data:
Reply from 2001:1808:b701:7::2012: time=200ms
Reply from 2001:1808:b701:7::2012: time=170ms
Reply from 2001:1808:b701:7::2012: time=185ms
Reply from 2001:1808:b701:7::2012: time=190ms

Ping statistics for 2001:1808:b701:7::2012:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 170ms, Maximum = 200ms, Average = 186ms
PS C:\Users\Brent> ping www.ipv6forum.gd

Pinging www.ipv6forum.gd [2001:1808:b300:8::2012] with 32 bytes of data:
Reply from 2001:1808:b300:8::2012: time=181ms
Reply from 2001:1808:b300:8::2012: time=187ms
Reply from 2001:1808:b300:8::2012: time=225ms
Reply from 2001:1808:b300:8::2012: time=222ms

Ping statistics for 2001:1808:b300:8::2012:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 181ms, Maximum = 225ms, Average = 203ms
PS C:\Users\Brent> █
```

Ist Ipv6 Email Server in the Caribbean.

Mail Test for; mail.6brent.info

Getting MX Servers for mail.6brent.info from local DNS Server

MX Server	Preference	Time to Live
mail.6brent.info	10	1800 [30 Minutes]

Resolving MX Servers

MX Server	IP Address	Reverse DNS	Country
mail.6brent.info	2001:1808:b701:7::2012	Unknown	Grenada 

Connecting to Mail Servers

MX Server	IP Address	Response
mail.6brent.info	2001:1808:b701:7::2012	SMTP Error: 530 SMTP authentication is required..

```
IPv6 addresses for incoming mail servers
```

```
[20140508:062715.509] Getting MX records for 6brent.info...
[20140508:062715.535] 6brent.info
[20140508:062715.535] Getting IPv6 addresses for 6brent.info
[20140508:062715.557] 2001:1808:b701:7:0:0:0:2012
1 of 1 MX servers have IPv6 addresses
```

```
Mail server IPv6 connectivity
```

```
[20140508:062715.586] Connecting to 6brent.info [2001:1808:b701:7:0:0:0:2012]...
[20140508:062716.105] mail.6brent.info ESMTPE
All IPv6 mail servers responded
```

1st Ipv6 Email Server in the Caribbean.

From: bouncer@freenet6.net (Freenet6 Bouncer)

Congratulations, your mail system is IPv6 enabled!

Below comes info about the email that triggered this reply.

Your email was received at: Thu May 8 01:29:42 EDT 2014

Here is the path of your email before reaching the bouncer:

Received: from mail.6brent.info (unknown [IPv6:2001:1808:b701:7::2012])

by music.gogo6.com (Postfix) with SMTP id E853798149

for <bouncer@freenet6.net>; Thu, 8 May 2014 01:29:41 -0400 (EDT)

Received: from [IPv6:2001:1808:b701:7::2012] ([2001:1808:b701:7::2012]) by

mail.6brent.info ; Thu, 8 May 2014 01:29:07 -0400

Successful FTP over IPv6 On Windows

```
C:\Windows\system32\cmd.exe - ftp 2001:470:8:c81::100
```

```
Microsoft Windows [Version 6.1.7601]  
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
```

```
C:\Users\bmcintosh>ftp 2001:470:8:c81::100  
Connected to 2001:470:8:c81::100.  
220 Xlight FTP Server 3.6 ready...  
User (2001:470:8:c81::100:(none)): anonymous  
331 Anonymous login OK, send your e-mail as password  
Password:  
230 Login OK  
ftp> ls  
200 PORT command successful  
150 Opening ASCII mode data connection for NLIST (73 bytes).  
IPv6 Cheat sheet 2.pdf  
ipv6-address-types.pdf  
ipv6_cheat_sheet(1).pdf  
226 Transfer complete (0.453 KB/s).  
ftp: 73 bytes received in 0.00Seconds 73.00Kbytes/sec.  
ftp> hash  
Hash mark printing On ftp: (2048 bytes/hash mark) .  
ftp> bin  
200 Type set to I.  
ftp>
```

Successful RDP and HTTPS access to hosts

The screenshot shows the Cisco Catalyst 3750-X Series Device Manager interface for GREX-IXP-COESW-02. The browser address bar shows the IP address [2001:504:35::206:126:244:11]. The interface includes a navigation bar with options like Refresh, Print, Smartports, Software Upgrade, Legend, and Help. The main area displays a network port status view with a grid of ports (1-24) and a legend for various port types (MODE, CONTROL, SYST, RPS, STAT, SPEED, DUPLEX, etc.). A note below the grid says "Move the pointer over the ports for more information." The top right corner shows the language set to English and the session as Standard | Secured. The Cisco logo and "Next refresh in 51 seconds" are also visible.

The Remote Desktop Connection dialog box is shown with the following details:

- Computer: 2001:1808:b300:8::2012
- User name: WIN-MBOCMZQZBQV\Administrator
- Options: A dropdown menu is visible.
- Buttons: Connect and Help.

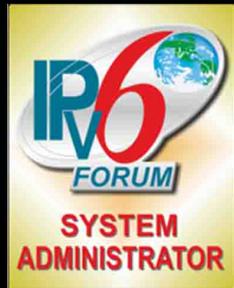
The Windows Security dialog box prompts for credentials with the following details:

- Title: Enter your credentials
- Message: These credentials will be used to connect to 2001:1808:b300:8::2012.
- Account: WIN-MBOCMZQZBQV\Ad... (with a user icon)
- Field: Password
- Option: Use another account
- Checkbox: Remember my credentials (unchecked)
- Buttons: OK and Cancel.

Achievements 2010-2014



IPv6 Transit , Peering IPv6 On the Grenada Exchange GREX



Native IPv6 Internet Access availability from Access Network.



Content Caching Akamai/Google over IPv4/v6

IPv6Forum Certified ISP (GRENADA/CURACAO)



IPv6Forum Certified Engineers/System Administrator (Gold & Silver)

IPv6 Email Service and Websites by Local users.

L-root Server on GRENADA IXP

```
C:\>tracert -6 l.root-servers.net
```

```
Tracing route to l.root-servers.net [2001:500:3::42]  
over a maximum of 30 hops:
```

1	1 ms	<1 ms	<1 ms	2001:1808:b200:2012::1
2	1 ms	1 ms	1 ms	2001:1808:1:1:63:245:66:84
3	1 ms	<1 ms	<1 ms	l.root-servers.net [2001:500:3::42]

```
Trace complete.
```

IPv4/IPv6 Looking glass in the Caribbean

Telnet://netpeek.grex.gd

```
CCCC
GRENADA INTERNET EXCHANGE (GREX) NTRC DATA CENTER
ROUTER SERVER 1
ASN 14432
206.126.244.6
2001:504:35::206:126:244:6
-----

IPv4 Peers

peer#1 Columbus Communications Grenada - 63.245.66.82 ASN 46650
peer#2 Columbus Communications Grenada - 206.126.244.2 ASN 46650
peer#2 BGPMon.net - 23.21.175.186 ASN 65179
-----

IPv6 Peers

peer#1 Columbus Communications Grenada - 2001:1808:1:1:63:245:66:82 ASN 46650
peer#2 Hurricane Electric - 2001:470:10:93::1 ASN 6939
Peer#3 BGPMon.net - 2001:470:7:12C7::2 ASN 65179
-----

The information available through route-server.ipv6forum.gd is offered
by the GREX technical working group to the Internet community.

This router maintains eBGP peerings with customer-facing routers
throughout the Columbus Communications and Cable & Wireless IP Services Backbone.

For questions about this route-server, send email to: tech-support@grex.gd

*** Log in with username 'rviews', password 'rviews' ***
-----

rs1-grex.gd>
```

IPv6 Route Propagation: Grenada

AS Info

Graph v4

Graph v6

Prefixes v4

Prefixes v6

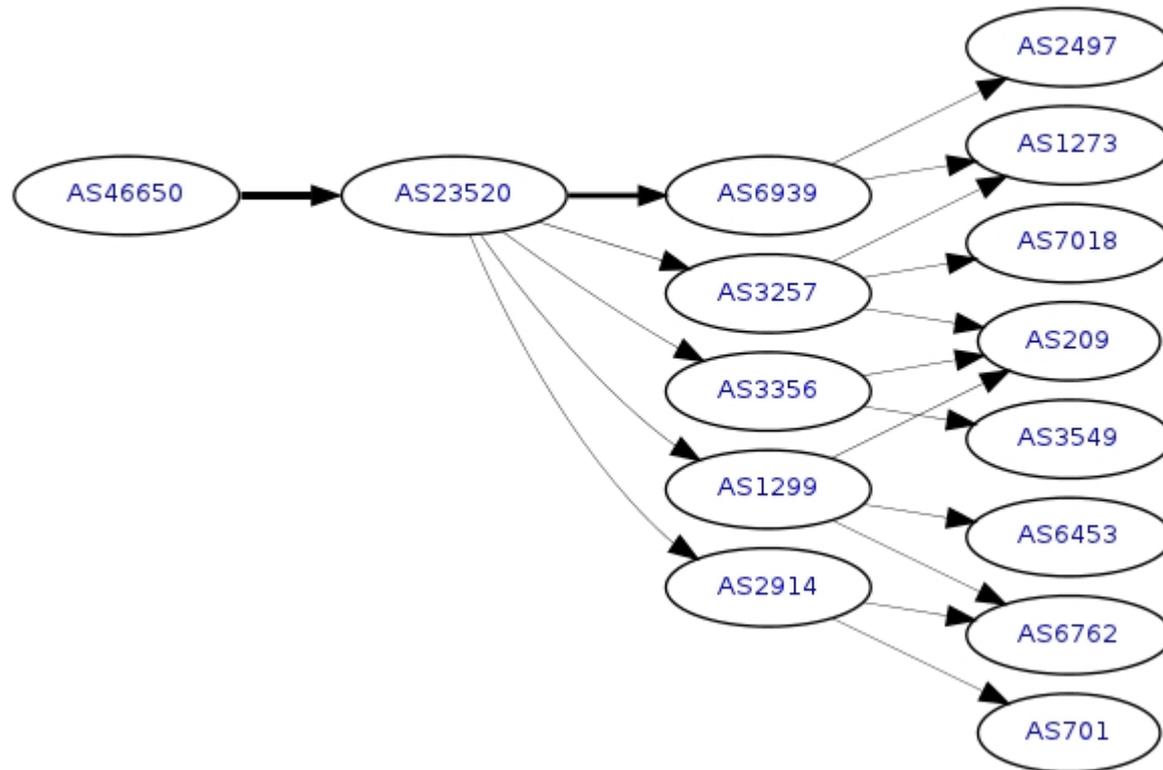
Peers v4

Peers v6

Whois

IRR

AS46650 IPv6 Route Propagation



Ist Caribbean IPv6 Speaker (ISOC)

Brent Mc Intosh



Mr. Brent McIntosh
Regional Manager Network Services

Columbus Communications Southern Caribbean

Mr. McIntosh has worked in the telecommunications industry for over 12 years. He presently oversees the operations of Information Technology, Networking and Telecommunications systems and infrastructure.

[Read full bio ►](#)



Mr. Shernon Osepa
Manager, Regional Affairs for Latin America & the Caribbean Bureau

[Internet Society](#)

Mr. Shernon Osepa is the Manager, Regional Affairs for Latin America & the Caribbean Bureau of the Internet Society.

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Mr. Christian O'Flaherty
Senior Development Manager for Latin America Bureau

[Internet Society](#)

Christian O' Flaherty joined the Internet Society as Senior Education Manager in July 2009, where his work focuses on promoting Internet access, growth, and sustainability in Latin American and the Caribbean.

[Read full bio ►](#)



Ms. Christine Runnegar
Director, Public Policy

[Internet Society](#)

Christine Runnegar is Director of Public Policy at the Internet Society, based in Geneva, Switzerland. Her current areas of interest include online privacy, security and identity. Christine contributes to the OECD's work on privacy through the Internet Technical Advisory Committee (ITAC) and APEC's work on the Cross Border Privacy Rules (CBPR) System through the APEC ECSG Data Privacy Sub-Group (DPS).

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