



# OTTAWA

# PC NEWS

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## ARTICLE

### Public DNS Resolvers

by Chris Taylor

The Domain Name System (DNS) was developed because humans can remember a domain name like *opcug.ca* far easier than an IP address like 206.47.13.75. DNS *resolves* domain names to IP addresses.

Your ISP automatically provides you with a DNS resolver. When your computer asks for the IP address of a domain, your ISP's DNS resolver will provide it. But you don't have to use your ISP's DNS. There are many free, public DNS resolvers available. Three reasons to use a public DNS resolver are performance, privacy, and security.

From a performance view, if you use your ISP's DNS and it goes down, your computer can no longer resolve domain names to IP addresses. Public DNS resolvers normally have redundancy, with geographically dispersed DNS servers. Redundancy can also help with speed of name resolution.

I think DNS privacy concerns are overblown. It's true that your ISP could track the domain names you ask them to resolve. But given that they are routing your traffic, they have that information anyways. If you are concerned nonetheless, most of the public DNS resolvers don't log the IP address of connecting computers or only keep the logs for a short time. At least that's what they claim.

#### Performance and privacy

Two public DNSs that address performance and privacy are *Cloudflare DNS* and *Google Public DNS*. Both have servers around the world on high-speed connections. Both are free for all, including commercial use. Both are very easy to set up for either a single computer or a router.

*Cloudflare DNS* began April 1, 2018. Yes, really! They don't log information about originating IP addresses. The service has an easy-to-remember address – 1.1.1.1. <https://www.cloudflare.com/dns/>

*Google Public DNS* was announced in December, 2009. As of 2014, the service was handling 400 billion DNS requests per day. It logs the IP addresses of connecting computers, but Google says it keeps that information for "no more than 24-48 hours". Either 8.8.8.8 or 8.8.4.4 can be used for the service. <https://developers.google.com/speed/public-dns/>

#### Security

A far bigger benefit to using a public DNS resolver is if it prevents my computer from connecting to a malicious site. If a domain is known to be malicious, the DNS resolver can be configured to either pretend the domain doesn't exist or redirect you to a different site that informs you the site is blocked and why.

*Quad9* was started in August, 2016. It gets its name from the IP address of the service – 9.9.9.9. It uses over 800 TB of threat intelligence from over a dozen industry-leading security companies to decide what to block. Quad9 doesn't extend blocking to "objectionable" sites such as pornography or gambling. It is very easy to set up and is free for all, including commercial use. If Quad9 blocks access to a site, it acts as though the domain does not exist, rather than informing the user that the site is malicious. <https://www.quad9.net/>

Symantec's *Norton ConnectSafe* was started in June 2010 and is free for personal use. It is very easy to set up. There are three protection levels – security, security+pornography, and security+pornography+other ("other" includes mature content, file sharing, gambling, and more) <https://connectsafe.norton.com/>

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Next Meeting: **WEDNESDAY, October 10<sup>th</sup>, 2018**

## October Raffle

Courtesy of Glasswire, we have a license for the **Elite edition of Glasswire's namesake program**.

Glasswire is a sophisticated firewall product that shows who or what your PC is talking to. It allows you to detect malware, badly behaving apps, and bandwidth hogs, then block their connections. It warns you of network related changes to your PC that could indicate malware. Glasswire can also alert you when new unknown devices join your WiFi.

For a review of Glasswire, see <http://opcug.ca/Reviews/GlassWire.html>

Glasswire Elite edition can be installed on up to 10 computers.

Tickets are \$1 for one, \$2 for three, or \$5 for ten.

## Coming Up...

### Wednesday, October 10, 2018

**Topic:** Mass Marketing Fraud and Cybercrime Awareness For Seniors

**Speaker:** Brock Godfrey, Canadian Anti-Fraud Centre, North Bay

This is a presentation developed by the RCMP and the Canadian Anti-Fraud Centre covering Mass Marketing Fraud, Identity Theft, Romance and other scams – and how to avoid them. Nearly 80 percent of mass marketing fraud is conducted by organized crime groups and is currently the second most common criminal activity funding terrorist activities.

The presentation was developed by CAFC Senior Unit Volunteer: Brock Godfrey, RCMP Corporal Lori MacDonald, and RCMP Constable Jennifer George. It is delivered by Brock, and often another officer to seniors groups, Service Clubs and Professional Organizations across Southern Ontario. (Unfortunately with the RCMP concentration on National Security neither of those officers are currently available. We do however work with OPP Community Service Officers in some jurisdictions.)

Brock took early retirement in 1993 from the Ontario Ministry of Education, after 30 years in education. He joined PhoneBusters in 1997 as a Volunteer SeniorBuster. Now residing in the Barrie area, he does most, if not all, the presentations in Southern Ontario.

For meeting updates and additional details, visit <http://opcug.ca/regmtg.htm>.

## September Prize Winners

We kicked off our 2018/19 OPCUG season with our raffle prize of an X-Dragon Solar Power Bank being won by **Denis deHaitre**.

And on the less high tech side of things **Sue Moss** is now the proud owner of a Cedar Plank BBQ Cleaner!

## October Q&A Session

**B**esides the normal open forum, at the October Q&A Session following the main presentation, we will be looking at native Windows functionality to help keep your disk clear of clutter. Most people can easily eliminate gigabytes of totally useless files.

## 2018 CALENDAR

| Meetings                 | Date                                | Time and Venue                                                                                                                                                                                                              |
|--------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPCUG General Meeting    | Wednesday, October 10 <sup>th</sup> | 7:30 p.m. at the <b>Riverside United Church</b> , 3191 Riverside Drive, Ottawa. Parking is free. OC Transpo bus #87 stops nearby. Visit <a href="http://opcug.ca/regmtg.htm">http://opcug.ca/regmtg.htm</a> for directions. |
| Q&A Session              | Wednesday, October 10 <sup>th</sup> | Immediately following the OPCUG General Meeting.                                                                                                                                                                            |
| Beer BOF (Wing SIG East) | Wednesday, October 10 <sup>th</sup> | 10:00 p.m. (after the Q&A) at the Riverside Pub, 3673 Riverside Drive. Turn left onto Riverside Dr. from the Church.                                                                                                        |

## FALL 2018 COMPUTER WORKSHOP

### Ottawa PC Users' Group



**Saturday, November 3, 2018 (10:15 am to 4:45 pm)**

**Beaverbrook Branch, Ottawa Public Library  
2500 Campeau Drive, Ottawa, ON K2K 2W3**

Does your computer need a tune-up - or perhaps replacement? We have the information that you need to decide and the expertise to show you how.

Members of the Ottawa PC Users' Group will explain things like the difference between GB and GHz, the types of processors currently available, display screen resolutions and other features that will help you select the new computer or component that will suit your needs. One of the most effective means of speeding up a computer is to upgrade the hard drive with a solid state drive (SSD). Sure, you can have a computer shop install an SSD for you, but we will show you just how easy it is to do yourself. Having trouble getting that new Wi-Fi printer connected to your system? We can show you how to make this happen. And, finally, any computer system can benefit from a tune-up of its operating system. We have all the tips, tricks and traps that will let you optimize Windows to run efficiently on your machine.

For anyone who needs to know how to use their computer more effectively, this is a not-to-be-missed event. **Registration for the full-day workshop is just \$20.00.** However, space at the workshop venue is limited so that **participation will be limited to the first 40 registrants.** Don't be disappointed, register today!



Full details of the workshop are posted at:  
<http://www.opcug.ca/workshop>

**LAST CALL!**

**The early-bird registration fee for the workshop is just \$15.00 but only until September 30th!**

## CLUB LIFE

### We have moved!

Last year we started searching for a new venue for our meetings. We finally found a place with bus service and free parking that is more centrally located. The **Riverside United Church** is located on Riverside Drive near Mooney's Bay. It is on the east side of Riverside Dr. and just south of Walkley Road.

Hooray! There is OC Transpo bus service to the church. Route #87 stops nearby. You can plan your bus route [here](#).

Hooray again! There is free parking at the church.

The Aviation and Space Museum (CASM) has served us well over the last few years after the Science and Tech Museum (CSTM) had to shut down for mould cleanup and renovations. However, CASM is in a remote location with no bus service and we did not want to stay there permanently. We had hoped to move back to CSTM but the main auditorium is now more expensive and other available rooms were not a good fit.

Make sure to set a reminder in your calendar to attend the September meeting at Riverside United Church. Meeting hours are the same. Details and a link to Google maps can be found in the sidebar at right and on our [Meetings](#) page.



[Click for directions](#)



Photo courtesy of Chris Taylor, OPCUG



[Click for larger view](#)

### Members' Favourites

The OPCUG needs you!

A couple of times a year we try to schedule a *Members' Favourites* presentation for our regular main meeting night. With it, we have three or four members give a mini presentation on something they think other members might be interested in. It might be a utility program that makes life a little easier. It could be a piece of hardware that you think is really neat. Or it might be a service that you find particularly valuable.

Minimal effort is expected on the part of presenters. We can supply a computer with PowerPoint and a PDF reader installed, if that's how you would like to present your pearls of wisdom.

It doesn't have to be really unique, free, or even something you think everyone will want to rush out and obtain. Just something you want to share with your fellow computer enthusiasts. Don't forget the motto of the OPCUG – **Users Helping Users!**

We have yet to schedule this particular topic, but if you think you can do a 10 or 15 minute presentation, please contact any member of the Board of Directors or send an email to [meetings@opcug.ca](mailto:meetings@opcug.ca).



## ARTICLE

# Reputation is important

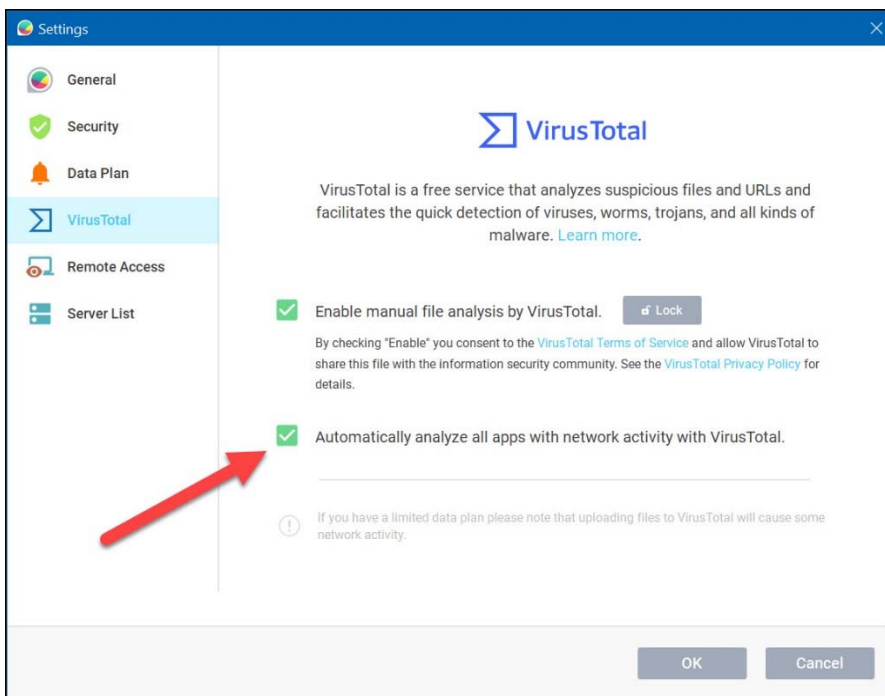
by Chris Taylor

Antimalware programs that rely mainly on signature files to identify malware are struggling to keep up. AV-Test reports over 12 million new malware per month, or more than 4 per second (<https://www.av-test.org/en/statistics/malware/>). With such big numbers, it's reasonable to expect that some malware will get through to your computer before your antimalware vendor gets a sample, verifies it's malware, and sends out updated signature files. Real-time reputation checking can help deal with this window of vulnerability.

A number of services, each with a different approach, are available for real-time reputation checking.

## Checking for malicious files

When a program on your computer tries to access the network, *GlassWire* (see my review at <http://opcug.ca/Reviews/GlassWire.html>) can check the program in real-time at *VirusTotal.com*, where dozens of anti-malware programs will report if it's known to be malicious.



*Enabling VirusTotal in GlassWire*

If you download a file from a web site, *Windows Defender SmartScreen Filter* sends a hash of the file to Microsoft before you can access the file. A hash uniquely identifies a file in just 64 bytes (in the popular SHA-256 hash function), which is tiny enough to transmit quickly. A code sent back to your computer indicates if the file is known to Microsoft as good or malicious, or if the file has rarely or never been seen. SmartScreen Filter can then allow or block the file, or warn you to be careful.

*Symantec* uses a form of crowd sourcing – tens of millions of their users – to do reputation checking. For example, if you download a file that was first seen less than 4 hours ago and has been seen by fewer than 10 users. Symantec might recommend you wait until more is known about the file, even if they don't yet know for sure if it is malicious or not.

*(Continued on page 6)*

## DNS Resolvers *(Continued from page 1)*

Cisco's *OpenDNS* was started in May, 2007. It is two DNS services. Both are free for personal use.

*OpenDNS Family Shield* is very simple to set up and is "Preconfigured to block adult content" and includes "Built-in identity theft protection". OpenDNS is pretty opaque about the precise meaning of those.

*OpenDNS Home* is more complex to use but offers flexibility, with over 50 categories that can be blocked including the expected "phishing" and "malware". Also available are choices such as "adult themes", "tasteless", and "academic fraud"; and odd choices like "humor", "non-profits", and "blogs". You can configure a custom message to be displayed when your computer tries to connect to a blocked domain ("Johnny do your homework!"). You must create a free account on their site and let them know your IP address so you can customize the block list. There's a solution available for those on a dynamic IP address. All is clearly explained on their site. <https://www.opendns.com/home-internet-security/>

### Possible problems

There are possible downsides to using a public DNS. First, some public WiFi redirect your browser to a page where you must agree to terms & conditions before use. If they use a private domain name known only to their DNS server, the public DNS can't resolve the address. If this happens, you must reconfigure your computer to "Obtain DNS server address automatically". Second, it is possible that a public DNS will accidentally block access to a site that is not malicious.

Free public DNS services have huge advantages over your ISP's DNS resolver. Switching to one generally takes just a minute or two. It's hard to imagine why anyone would not want to use one.



## Reputation is important *(Continued from page 5)*

### Checking web sites

Another form of real-time reputation is available when browsing web sites. An example is the free *Netcraft Extension* (<https://toolbar.netcraft.com/>). Netcraft monitors for phishing web sites all over the world and can warn you if *here be dragons* ([https://en.wikipedia.org/wiki/Here\\_be\\_dragons](https://en.wikipedia.org/wiki/Here_be_dragons)).

opcug.ca

Site Report

Risk Rating: 0

|             |          |            |                 |
|-------------|----------|------------|-----------------|
| Country:    | CA       | Site rank: | 27,675          |
| First seen: | Dec 2001 | Host:      | National Cap... |

Report phish

*Netcraft Extension*

### Checking domain names

A third form of real-time reputation checking is a replacement DNS service. Rather than using your ISP's DNS server to resolve domain names, you can use a free service such as Quad9 ([www.quad9.net](http://www.quad9.net)). Using over 800 terabytes of threat intelligence data, Quad9 can prevent you from going to a site if they think it isn't safe. I wrote an extensive article on public DNS resolvers in this edition of our

newsletter.

Real-time reputation services are likely to expand and comprise very important parts of a *defense in depth* strategy.



# OTTAWA PC NEWS

**Ottawa PC News** is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and August. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members.

Member participation is encouraged. If you would like to contribute an article to Ottawa PC News, please submit it to the newsletter editor (contact info below). Deadline for submissions is three Sundays before the next General Meeting.

## Group Meetings

OPCUG meets on the second Wednesday in the month, except July and August, at the **Riverside United Church**, 3191 Riverside Drive, Ottawa. Parking is free at the church. OC Transpo bus #87 stops nearby. Details at <http://opcug.ca/regmtg.htm>.

Meetings are 7:30–9:00 p.m. followed by a Q&A Session until 10 p.m.

|                                                        |                                                                             |              |
|--------------------------------------------------------|-----------------------------------------------------------------------------|--------------|
| <b>OPCUG Membership Fees:</b>                          | \$25 per year                                                               |              |
| <b>Mailing Address:</b>                                | 3 Thatcher St., Nepean, Ontario, K2G 1S6                                    |              |
| <b>Web address:</b>                                    | <a href="http://opcug.ca">http://opcug.ca</a>                               |              |
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## How to get the OTTAWA PC NEWS by e-mail



**H**ere's how to get the OPCUG newsletter by email:

### Create a Google Account

Any valid email address can be used as a Google Account. Pick an email address you want to use and browse to <https://accounts.google.com>. Click *Create account* and follow the instructions.

Make sure your new Google Account is functioning properly by going to <https://accounts.google.com> and signing in.

### Sign up for the OPCUG Google Groups

Browse to <https://groups.google.com>. If you are not signed into your Google Account, click the *Sign in* button at the top.

1. In *Search for groups or messages*, type **OPCUG**. The top of the search results will show Groups matching OPCUG. Click on *See all 3*.

2. Click on *OPCUG-Newsletter*, then click the *Join group* button. In the resulting dialog box, you can opt to change some preferences, such as;

- If *My display name* shows as your email address you can change this to something like *firstname lastname*
- Email preferences can be changed to only send daily summaries or not email you at all when new postings are made (meaning you must manually check at the web site to see if there are any new postings)

3. Click the *Join this group* button.

4. You will then see the list of postings that have been made to the group. Click on any entry to see the actual posting.

More detailed instructions on how to join this and other OPCUG Google Groups are found here:

<http://opcug.ca/GoogleGroups.html>

There are no issues of the newsletter published in July or August.