

# The Application Usage and Risk Report

*An Analysis of End User Application Trends in the Enterprise – Regional Findings*

- *Americas (Latin and South America, Canada, U.S.A.)*
- *Europe, Africa, Middle East*
- *Asia Pacific*
- *Japan*

June 2012

## Table of Contents

Executive Summary .....	3
The Americas .....	5
Europe, Africa, Middle East.....	7
Asia Pacific.....	9
Japan .....	11
Methodology.....	13
Demographics.....	14

## Executive Summary

The *Application Usage and Risk Report (9<sup>th</sup> Edition, June 2012)* from Palo Alto Networks provides a global view into enterprise application usage by summarizing network traffic assessments conducted in more than 2,000 organizations worldwide between November 2011 and May 2012. During the data collection period, a total of 1,290 applications were found across all participating organizations.

A summary of the global and regional findings are outlined below. To view additional details on the global findings, please download the full report [here](#).

Streaming media usage bandwidth consumption crossed into the double digits as did filesharing, specifically P2P. When combined, these two groups of applications are consuming roughly 30% of the corporate bandwidth and when viewed in terms of bandwidth budget dollars, a large portion of the use therein is likely to be of a personal nature.

Key findings include:

- **Streaming video bandwidth consumption triples to 13%.** The bandwidth consumed by streaming video more than tripled to 13% of total bandwidth consumed and now represents a more significant infrastructure challenge to organizations. The challenge is sure to become even more significant as the Olympics will be streamed in their entirety on YouTube.

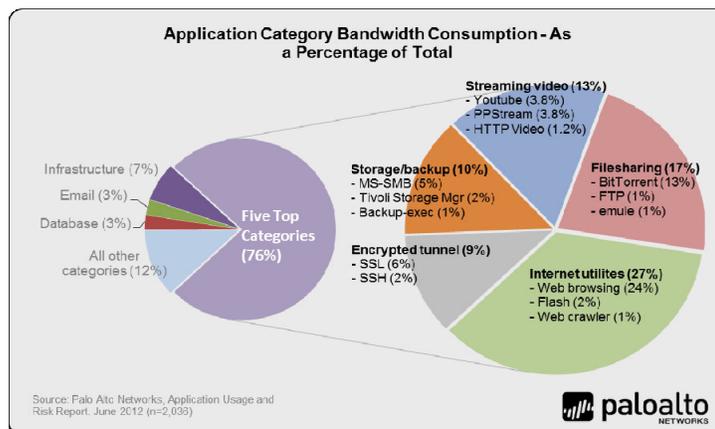


Figure 1: Top five application categories based on the percentage of total bandwidth consumed.

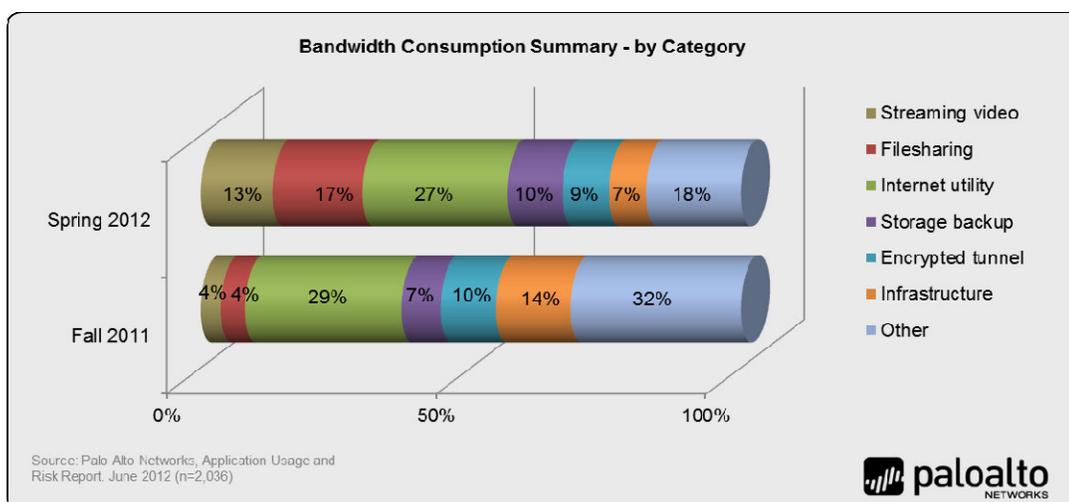


Figure 2: Global bandwidth consumption by category, as a percentage of total.

- P2P filesharing bandwidth consumption skyrockets 700%.** P2P filesharing bandwidth consumption jumped to 14% of overall bandwidth observed, crushing all other application categories. Despite significant activity in the press and new offerings from Google, Citrix and Facebook, browser-based filesharing bandwidth consumption held steady at roughly 1% of overall bandwidth.

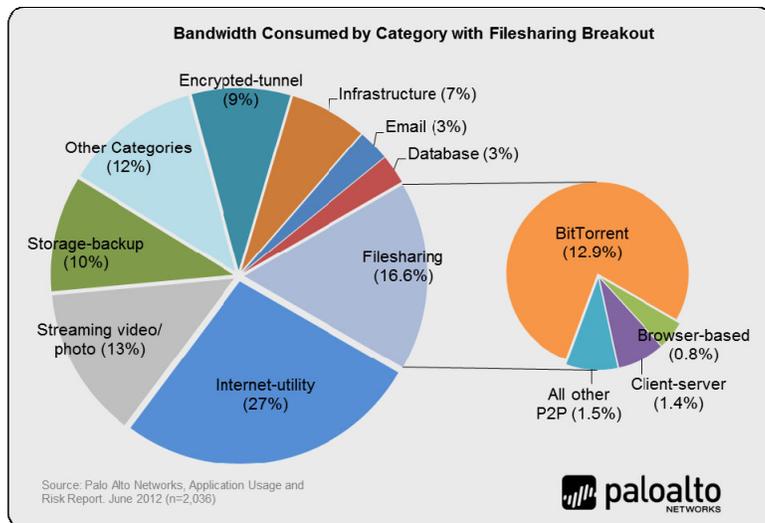


Figure 3: Percentage of bandwidth consumed globally by filesharing and file transfer applications.

- Social networking continues to define itself.** As Facebook executes their public offering, two new social networking applications, Tumblr and Pinterest both gained traction in terms of frequency and volume of use despite the dominance that both Facebook and Twitter exhibit. These new applications confirm that social networking, as a category, continue to define itself.

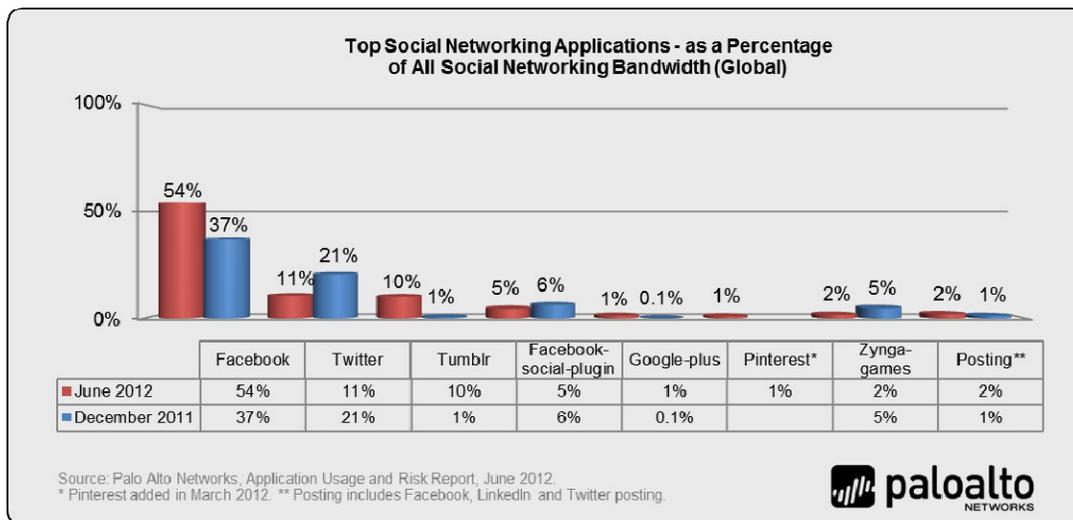


Figure 4: Top social networking application bandwidth consumption, as a percentage of social networking bandwidth observed globally.

## The Americas

The Americas dataset represents more than 700 organizations distributed across the U.S.A (552), Canada (97), Latin and South America (65 combined). During the data collection period, a total of 1,219 applications were found across all participating organizations.

- **Streaming video applications are consuming 15% of total bandwidth in the Americas.** A total of 113 streaming video/photo application variants were in use in the participating organizations. Netflix-streaming consumed 3% of the total bandwidth and is a perfect example of a video application that does not represent significant business value to the participating organizations.

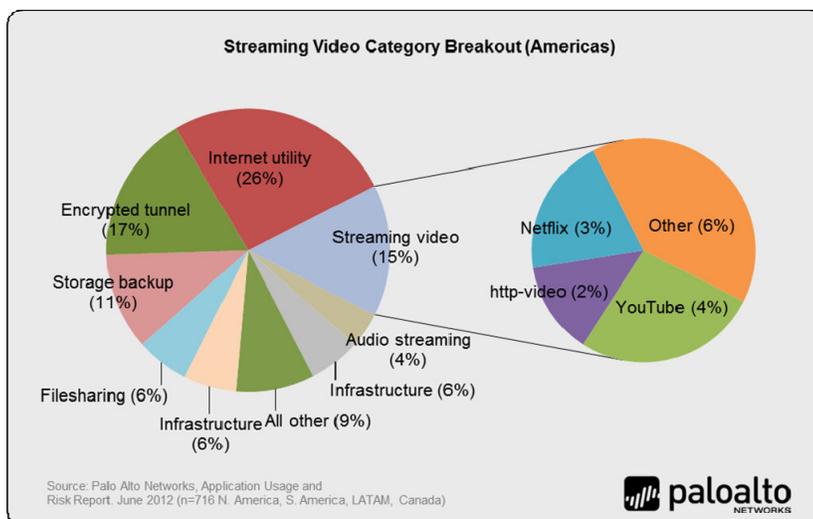


Figure 5: Streaming video application bandwidth consumption in the Americas, as a percentage of total.

- **P2P filesharing is consuming 3% of total bandwidth.** In the Americas, P2P bandwidth consumption is significantly less than the volume consumed globally (14%). Even at 3%, the business and security risks associated with P2P are significant and the usage should be more tightly controlled.

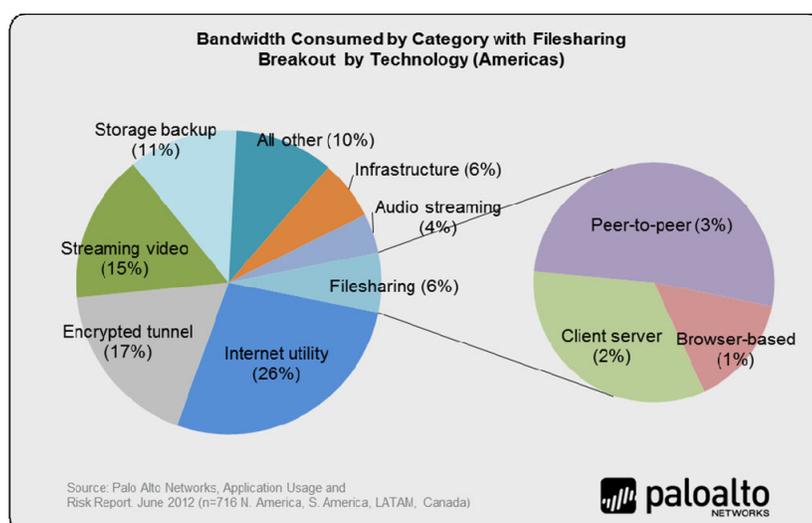
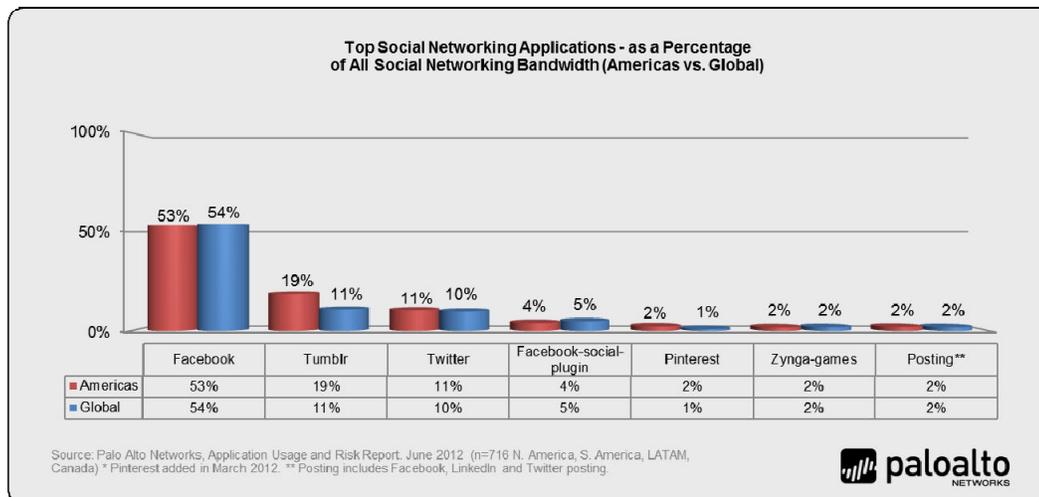


Figure 6: Filesharing application bandwidth consumption in the Americas, as a percentage of total.

- Social networking newcomers Tumblr and Pinterest grow despite Facebook dominance. Their growth highlights the continued evolution of social media applications. Both of these applications provide new ways to share information – either based on hobbies and travel (Pinterest) or in an unfiltered, uncensored, fully customized manner (Tumblr).



*Figure 7: Top social networking application bandwidth consumption, as a percentage of social networking bandwidth observed in the Americas.*

## Europe, Africa, Middle East

The Europe, Africa and the Middle East dataset represents more than 650 organizations distributed across: Spain (104), France (85), Germany (77), UK (66), Netherlands (50), Switzerland (36), Belgium (32), Italy (32), South Africa (27), Norway (26), Qatar (26), Finland (35), Denmark (21), Turkey (20), Russia (14), Austria (13), Other (21). During the data collection period, a total of 1,179 applications were found across all participating organizations.

- **Streaming video applications are consuming only 7% of total bandwidth across Europe.** A total of 103 streaming video/photo application variants were in use in the participating organizations. YouTube was the most significant consumer of bandwidth at 3% - undoubtedly this will increase when the Olympics is streamed online via YouTube.

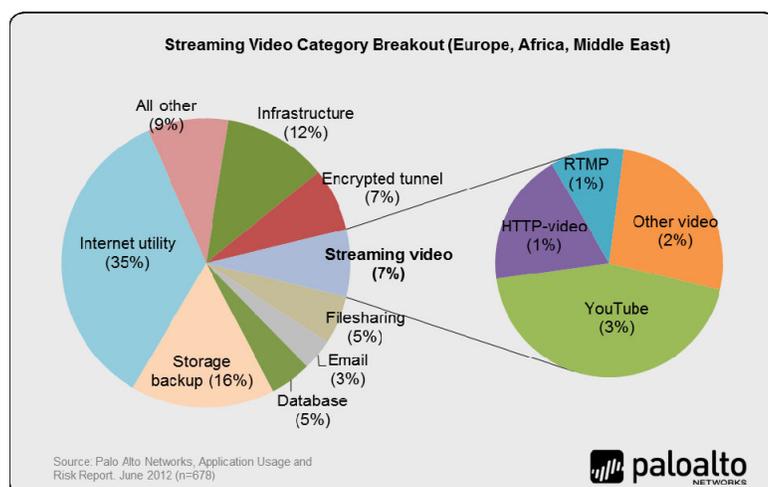


Figure 8: Streaming video application bandwidth consumption in Europe, as a percentage of total.

- **P2P filesharing is consuming 3% of total bandwidth.** In Europe, as in the Americas, P2P bandwidth consumption is significantly less than the volume consumed globally (14%). Even at 3%, the business and security risks associated with P2P are significant and should be tightly controlled.

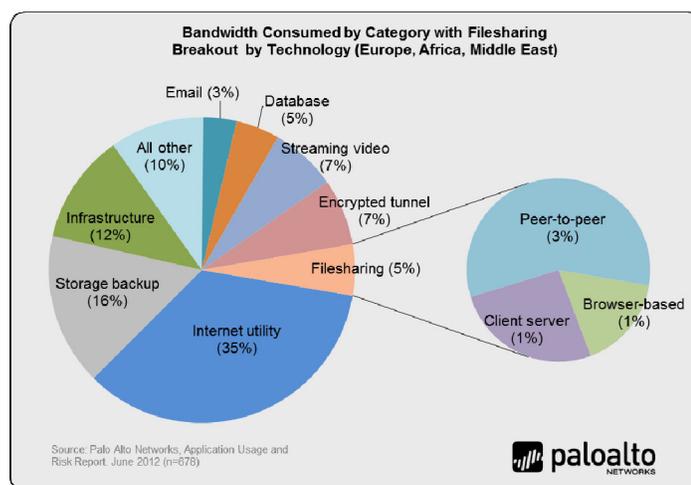
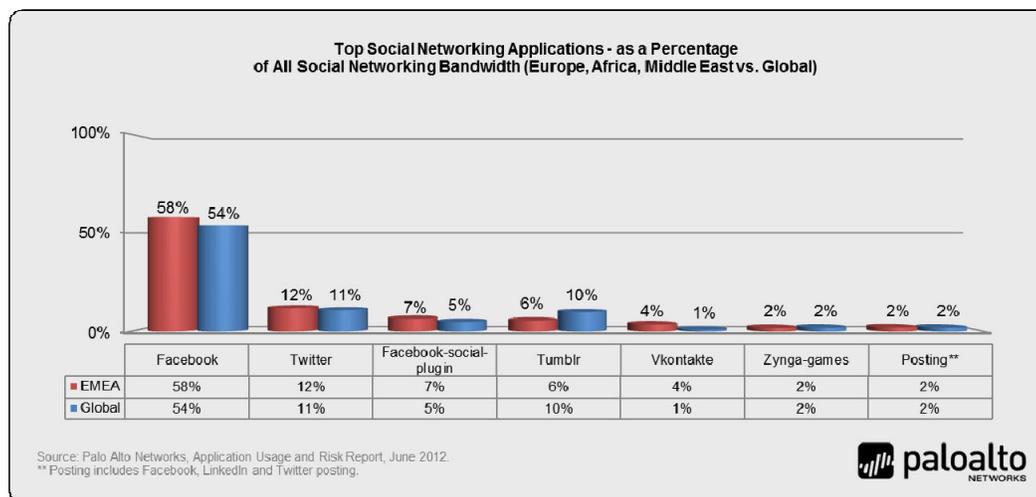


Figure 9: Filesharing application bandwidth consumption in Europe, as a percentage of total.

- **Social networking newcomer Tumblr grows despite Facebook dominance.** The growth of Tumblr highlights the continued evolution of social media applications. “Active social networking” applications (social-plugins, Zynga, and posting) were used as much or more in than observed globally.



**Figure 10: Top social networking application bandwidth consumption, as a percentage of social networking bandwidth observed in Europe, Africa and the Middle East.**

## Asia Pacific

The Asia Pacific (APAC) dataset represents more than 450 organizations distributed across Asia Pacific: Taiwan (123), Singapore (53), Thailand (52), Australia (45), Hong Kong (32), Malaysia (31), Korea (25), Philippines (20), Other (82). During the data collection period, a total of 1,131 applications were found across all participating organizations.

- **Streaming video applications are consuming 19% of total bandwidth across APAC organizations.** A total of 95 streaming video/photo application variants were in use in the participating organizations. PPStream is the most significant consumer with YouTube a distant second.

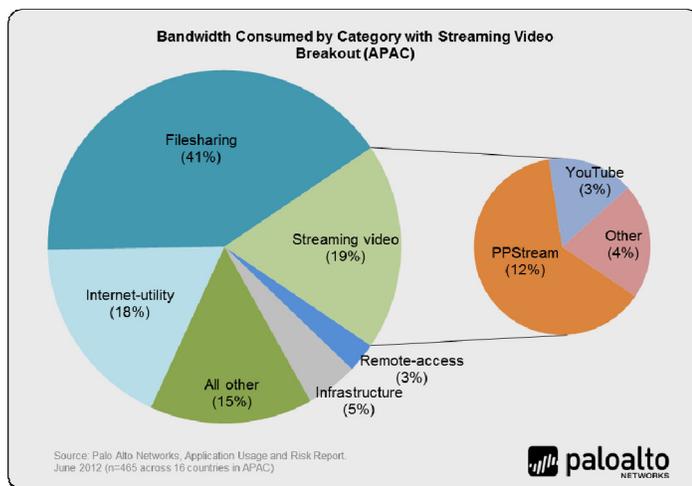


Figure 11: Streaming video application bandwidth consumption in APAC, as a percentage of total.

- **Filesharing and file transfer applications are consuming more than 40% of total bandwidth.** P2P alone is consuming 39%. When combined with video streaming, the two groups of applications are consuming nearly 60% of total bandwidth. How do the business applications survive? How are the business and security risks justified by the end-users.

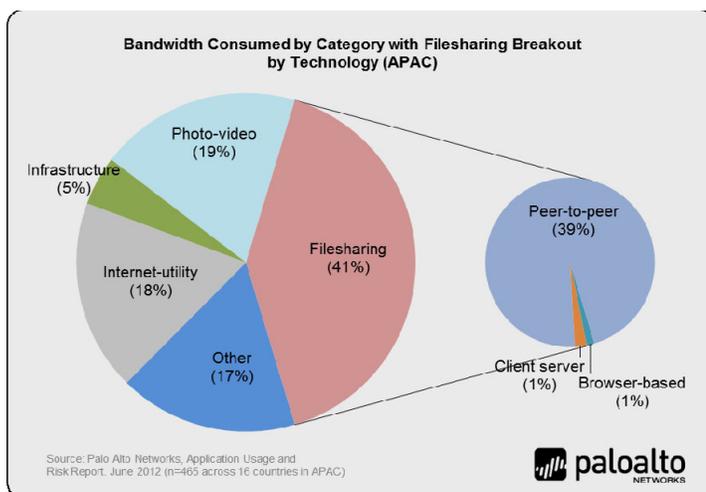
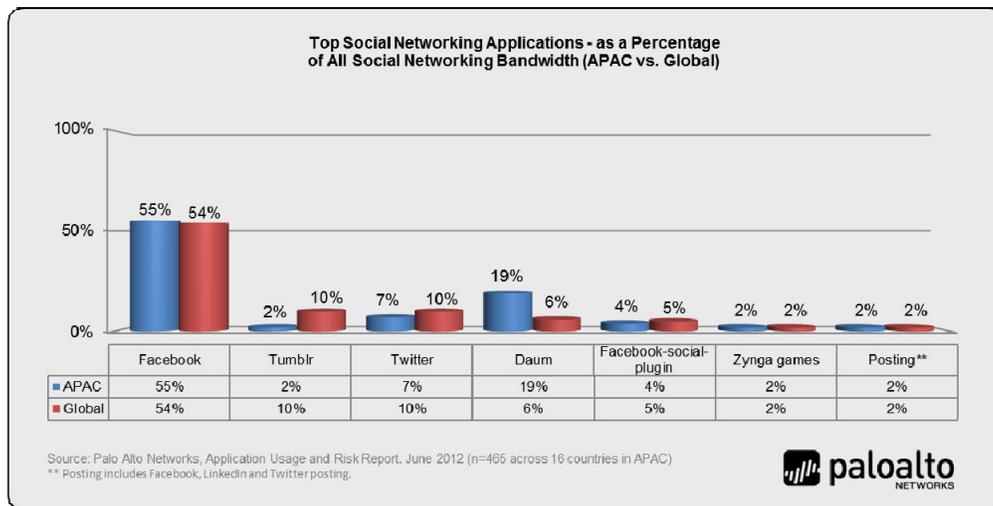


Figure 12: Filesharing application bandwidth consumption in APAC, as a percentage of total.

- Local social networking applications show strength – Facebook still dominates. Daum, a local social networking application consumed nearly 20% of the social networking bandwidth. Facebook and Twitter remain dominant.



*Figure 13: Top social networking application bandwidth consumption, as a percentage of social networking bandwidth in APAC.*

## Japan

The Japanese dataset represents 182 organizations. During the data collection period, a total of 980 applications were found across all participating organizations.

- **Streaming video applications are consuming 9% of total bandwidth.** Japanese users watch a fair amount of video. Local streaming applications challenge YouTube – the global leader.

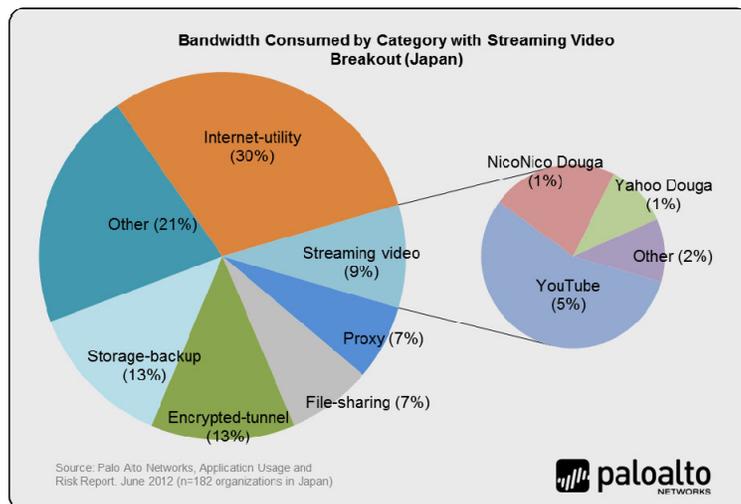


Figure 14: Streaming video application bandwidth consumption in Japan, as a percentage of total.

- **Filesharing, file transfer applications are consuming 9% of total bandwidth.** In Japan, filesharing application bandwidth consumption is far less than it is in other regions. Japan is only region where client-server filesharing, file transfer applications are used more heavily than P2P.

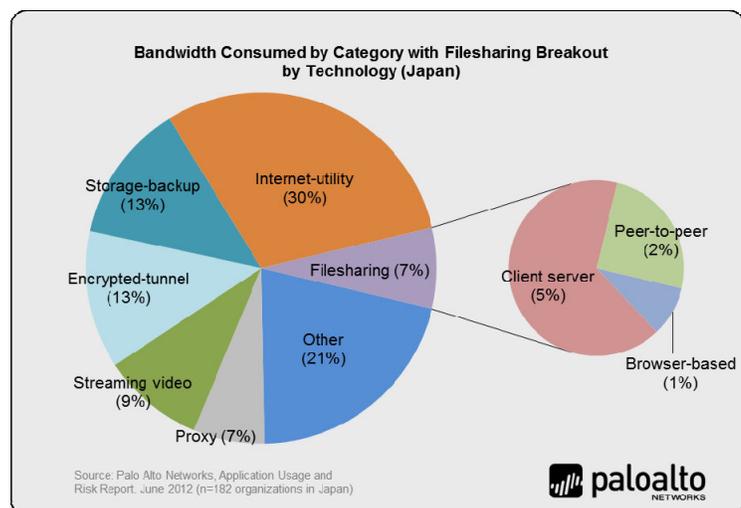
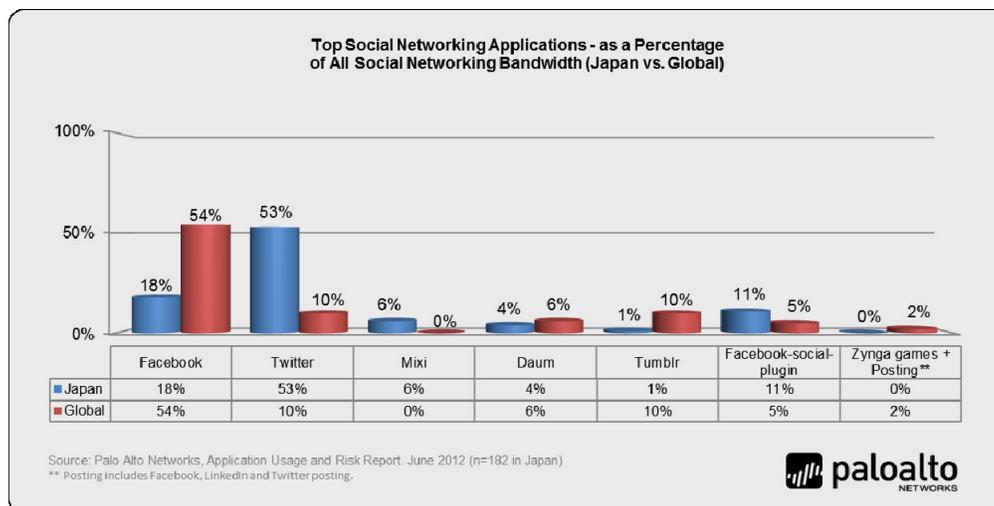


Figure 15: Filesharing application bandwidth consumption in Japan, as a percentage of total.

- **Twitter dominates social networking in Japan.** Twitter is consuming more than 50% of the social networking bandwidth – with local applications showing strength. Japan is the only region where Twitter dominates in such a manner.



*Figure 16: Top social networking application bandwidth consumption, as a percentage of social networking bandwidth observed in Japan.*

## Methodology

The data in this report is generated via the Palo Alto Networks Application Visibility and Risk assessment process where a Palo Alto Networks next-generation firewall is deployed within the network, in either tap mode or virtual wire mode, where it monitors traffic traversing the Internet gateway. At the end of the data collection period, usually up to seven days, an Application Visibility and Risk Report is generated that presents the findings along with the associated business risks, and a more accurate picture of how the network is being used. The data from each of the AVR Reports is then aggregated and analyzed, resulting in The Application Usage and Risk Report.

Delivered as a purpose-built platform, Palo Alto Networks next-generation firewalls bring visibility and control over applications, users and content back to the IT department using three identification technologies: App-ID, Content-ID and User-ID.

- **App-ID: classifying all applications, all ports, all the time.** App-ID addresses the traffic classification visibility limitations that plague traditional firewalls by applying multiple classification mechanisms to the traffic stream, as soon as the firewall sees it, to determine the exact identity of applications traversing the network. Unlike add-on offerings that rely solely on IPS-style signatures, implemented after port-based classification, every App-ID automatically uses up to four different traffic classification mechanisms to identify the application. App-ID continually monitors the application state, re-classifying the traffic and identifying the different functions that are being used. The security policy determines how to treat the application: block, allow, or securely enable (scan for, and block embedded threats, inspect for unauthorized file transfer and data patterns, or shape using QoS).
- **User-ID: enabling applications by users and groups.** Traditionally, security policies were applied based on IP addresses, but the increasingly dynamic nature of users and computing means that IP addresses alone have become ineffective as a mechanism for monitoring and controlling user activity. User-ID allows organizations to extend user- or group-based application enablement policies across Microsoft Windows, Apple Mac OS X, Apple iOS, and Linux users. User information can be harvested from enterprise directories (Microsoft Active Directory, eDirectory, and Open LDAP) and terminal services offerings (Citrix and Microsoft Terminal Services) while integration with Microsoft Exchange, a Captive Portal, and an XML API enable organizations to extend policy to Apple Mac OS X, Apple iOS, and UNIX users that typically reside outside of the domain.
- **Content-ID: protecting allowed traffic.** Many of today's applications provide significant benefit, but are also being used as a delivery tool for modern malware and threats. Content-ID, in conjunction with App-ID, provides administrators with a two-pronged solution to protecting the network. After App-ID is used to identify and block unwanted applications, administrators can then securely enable allowed applications by blocking vulnerability exploits, modern malware, viruses, botnets, and other malware from propagating across the network, all regardless of port, protocol, or method of evasion. Rounding out the control elements that Content-ID offers is a comprehensive URL database to control web surfing and data filtering features.
- **Purpose-built platform: predictable performance with services enabled.** Designed specifically to manage enterprise traffic flows using function-specific processing for networking, security, threat prevention and management, all of which are connected by a 20 Gbps data plane to eliminate potential bottlenecks. The physical separation of control and data plane ensures that management access is always available, irrespective of the traffic load.

To view details on more than 1,400 applications currently identified by Palo Alto Networks, including their characteristics and the underlying technology in use, please visit [Applopedia](#), the Palo Alto Networks encyclopedia of applications.

## Demographics

The latest edition of the Application Usage and Risk Report summarizes 2,036 traffic assessments performed worldwide. The distribution of the participating organizations is distributed fairly equally across three geographic regions: Americas, Mexico, Canada, Asia Pacific/Japan and Europe. The findings within this report will focus solely on the global view of application traffic with any regional specific variations in usage patterns discussed separately.

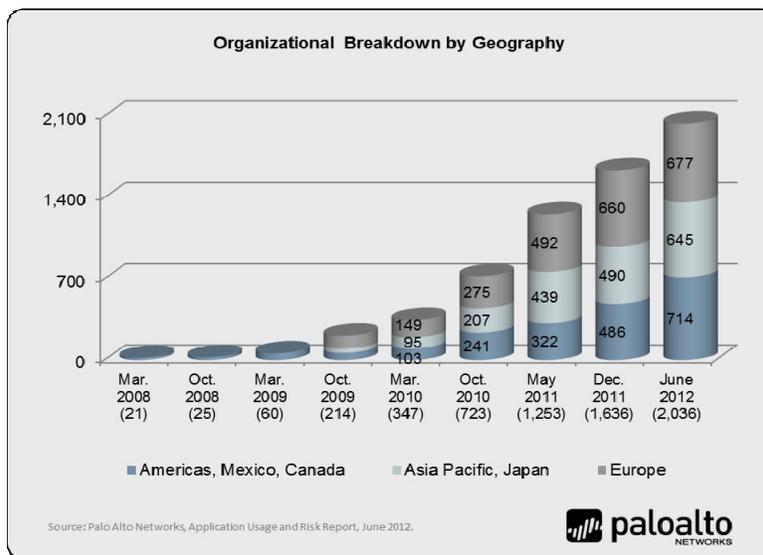


Figure 17: Geographic distribution of participating organizations.