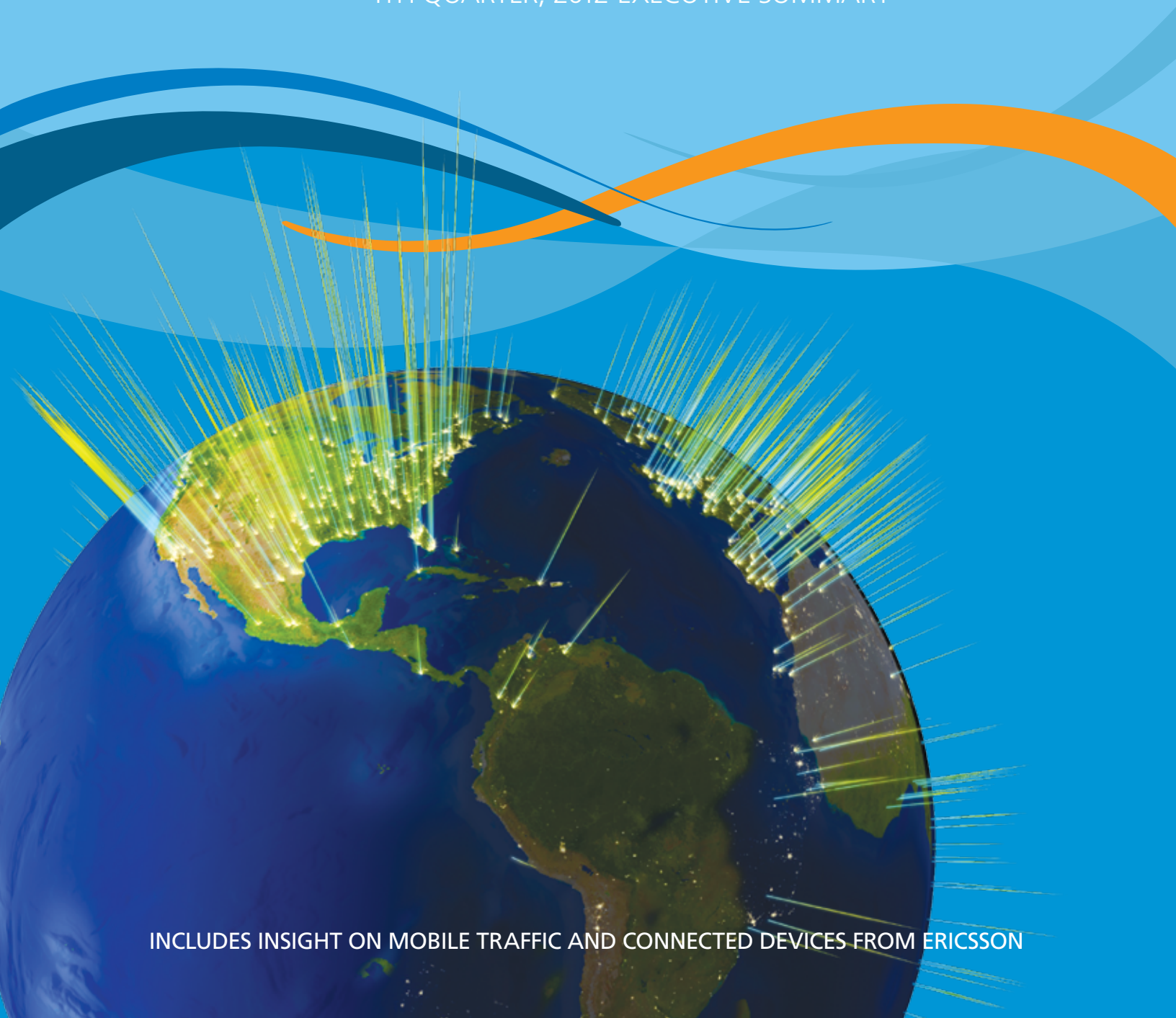
Akamai
FASTER FORWARD

VOLUME 5, NUMBER 4

The State of the Internet

4TH QUARTER, 2012 EXECUTIVE SUMMARY



INCLUDES INSIGHT ON MOBILE TRAFFIC AND CONNECTED DEVICES FROM ERICSSON

Executive Summary

Akamai's globally-distributed Intelligent Platform allows us to gather massive amounts of information on many metrics, including connection speed, attack traffic, network connectivity/availability/latency problems, and IPv6 growth/transition progress, as well as traffic patterns across leading Web sites and digital media providers. Each quarter, Akamai publishes the *State of the Internet Report*.

This quarter's report includes data gathered from across the Akamai Intelligent Platform during the fourth quarter of 2012 about attack traffic, broadband adoption, and mobile connectivity, as well as trends seen in this data over time. In addition, this report includes insight into the second phase of the "Operation Ababil" attacks, the state of IPv6 adoption as measured by Hurricane Electric, Internet disruptions seen during the quarter, and observations from Akamai partner Ericsson regarding how mobile data traffic varies by device type. In addition, as the final report for 2012, it also includes historical perspectives on DDoS attacks, IPv4 exhaustion and IPv6 adoption, and key connectivity metrics.

Security

During the fourth quarter of 2012, Akamai observed attack traffic originating from source IP addresses in 177 unique countries/regions. Note that our methodology captures the source IP address of an observed attack, and cannot determine attribution of an attacker. Already far and away the top source of observed attack traffic, China saw its share increase further during the quarter, growing to 41%. The United States and Turkey held the second and third place spots respectively, together accounting for just under 15% of observed attack traffic combined. Attack traffic concentration increased very slightly from the third quarter of 2012, with the top 10 ports seeing 60% of observed attack traffic. Throughout the course of 2012, Akamai's customers reported being targeted by 768 DDoS attacks, more than three times as many as in 2011. Over a third of these attacks targeted customers in the Commerce sector. In addition, the second phase of attacks from Operation Ababil commenced in December, targeting Web siteswith volumetric and SSL resource attack vectors.

Internet and Broadband Adoption

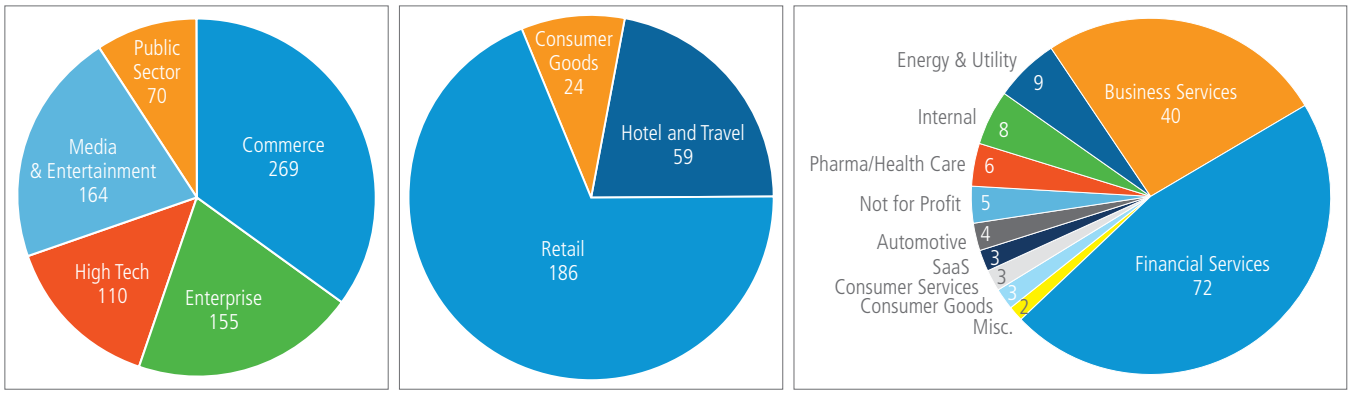
Akamai observed a 2.4% quarterly increase in the number of unique IPv4 addresses connecting to the Akamai platform, growing to just under 700 million, or nearly 16 million more than were seen in the third quarter. Looking at connection speeds, the global average connection speed increased 5.0% to 2.9 Mbps, and the global average peak connection speed grew 4.6% to 16.6 Mbps. At a country level, South Korea had the highest average connection speed at 14.0 Mbps (down 4.8% quarter-over-quarter), while Hong Kong continued to have the highest average peak connection speed at 57.5 Mbps (up 6.2% quarter-over-quarter). Globally, high broadband (>10 Mbps) adoption grew 2.7% in the fourth quarter, remaining at 11%, and South Korea remained the country with the highest level of high broadband adoption, at 49% (down 5.7% quarter-over-quarter). Global broadband (>4 Mbps) adoption grew 2.1% but remained at 41%, with South Korea leading this metric as well, with a broadband adoption level of 86% (down 0.5% quarter-over-quarter). Note that we are no longer including figures for narrowband (<256 kbps) adoption nor city-level data.

Mobile Connectivity

In the fourth quarter of 2012, average connection speeds on surveyed mobile network providers ranged from a high of 8 Mbps down to 345 kbps. Average peak connection speeds for the quarter ranged from 44 Mbps down to 2.7 Mbps. Based on data collected by Ericsson, the volume of mobile data traffic grew 28% between the third and fourth quarter of 2012, and doubled from the fourth quarter of 2011 to the fourth quarter of 2012.

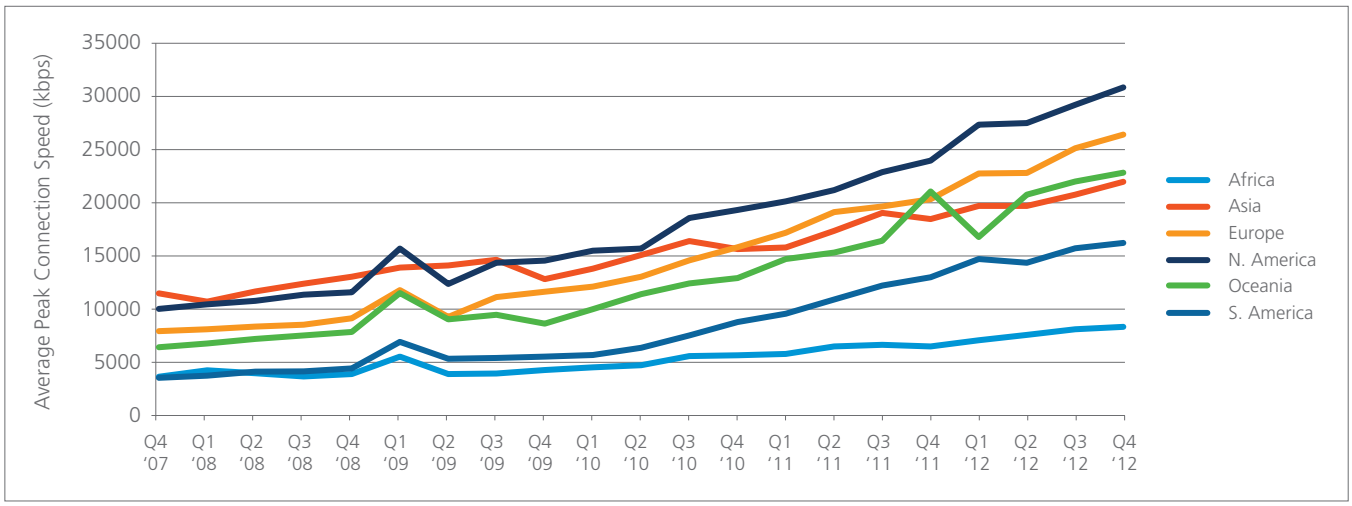
Analysis of Akamai IO data collected across the fourth quarter of a sample of requests to the Akamai Intelligent Platform indicates that for users of mobile devices on cellular networks, the largest percentage of requests (35.3%) came from Android Webkit, with Apple Mobile Safari close behind (32.6%). However, for users of mobile devices across all networks (not just cellular), Apple Mobile Safari accounted for an average of 58.7% of requests, with Android Webkit responsible for just 21.7%.

What industries did **denial-of-service attacks** target in 2012?



In 2012, Akamai customers reported 768 DDoS attacks, a year-over-year increase of more than 200%. Unsurprisingly, Commerce customers were the target of over a third, while another 20% targeted Enterprise customers. How are you protecting your Web sites & applications from denial-of-service attacks and the damage that they can potentially cause?

How have **average peak connection speeds** changed over time?



Average peak connection speeds, which more closely represent the peak speed that an Internet connection is capable of reaching, saw significant growth over the last five years across all continents. Many nations around the world have made great strides in increasing the deployment of broadband connections, and improving the speed of existing connections. How are your content and applications taking advantage of this improved connectivity?

To read the full *4th Quarter, 2012 State of the Internet Report* on broadband adoption, connection speeds, Internet penetration, mobile usage, attack traffic, and more, or to use the associated data visualization tools, go to **www.akamai.com/stateoftheinternet**

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