

majority of clients on the Internet do not have access to IPv6. Because most clients do not support IPv6, we expect that most public services and hosts will still support IPv4." Durumeric noted, however, that adoption is on the rise for the new protocol and "this places us in a unique position in history where we can fully enumerate the IPv4 address space while we still believe hosts are using IPv4." Secondly, while doing a scan itself is nothing new, being able to do it in a manageable time frame is. Nmap, a scanner that predates Zmap by over a decade and even made an appearance in The Matrix Reloaded, can take months to do an internet-wide scan. According to Durumeric and his colleagues, the two products were designed with very different objectives in mind, but as Nmap has been used in research previously, they compared them anyway. What they discovered through some extrapolation was that Zmap could complete an internet-wide scan 1,300 times faster than Nmap on its most vigorous setting. Some of the studies that can potentially be done using this faster mechanism include analyses of HTTPS adoption, security holes, and service disruptions. The latter capability was tested during Hurricane Sandy's destructive visit to the Eastern seaboard last fall.