



digitalelement®

Global Location & Data Services Leader

IP Intelligence and the Digital Broadcast Revolution

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New Viewing Habits Driven by Multi-Device Consumers

The rise of the internet has revolutionized the broadcast industry. The days of a fixed program schedule delivered through a small number of terrestrial TV stations are long gone. Instead viewers have access to over-the-top (OTT) and video-on-demand services (VOD) and have become their own program schedulers, with a vast array of content at their fingertips. Consumers can now view content when they want—and through an overwhelming number of services.

Last year, new services like Disney+ and Apple TV+ joined stalwarts such as Netflix, Amazon Prime, and Hulu. 2020 is expected to bring new offerings from NBC, HBO and CBS. At the end of 2019, there were already more than 270 streaming services in the market. Viewers, on average, have at least three streaming subscription services.

Most recently, as more people stayed at home as a result of the coronavirus pandemic, global streaming viewership shot up nearly 21 percent during the first three weeks of March, and the United States saw a 27 percent rise in streaming viewing hours. Prior to that the industry was exhibiting very healthy growth, as streaming viewership in Q1 2019 was up 72 percent year-over-year, reflecting an increase of 49 percent over 2018.

Viewers, on average, have at least three streaming subscription services

For viewers, the convenience of choosing what to watch, when they want is very compelling. However, so is the proliferation of premium content available through increasingly popular OTT services such as Amazon Prime's Subscription VOD (SVOD) that provides content not available elsewhere for a competitively low cost.

This programming revolution has gone hand in hand with the explosion of devices that are capable of streaming high-quality video. Better quality mobile screens, the proliferation of low-cost data plans, and the increasing number of Wi-Fi

hotspots are all fueling this growth. People are no longer viewing through a single TV in their households. They can access content through a variety of tablets and smartphones wherever they want.

This new video landscape presents some interesting challenges for broadcasters. As people are watching more content on multiple devices while on the move, broadcasters have to be mindful of compliance with licensing, copyright agreements and cultural differences. Broadcasters need the ability to grant access where viewing is permissible and restrict access where it is not, all while making the end user experience as seamless as possible.

There is a solution.

Digital Element's premium IP-based solution, NetAcuity®, at its most granular level can accurately locate a user down to the city/postal code sector level and identify Wi-Fi connection locations and other IP-based user attributes without reliance on personally identifiable information. This enables broadcasters, publishers and more to confidently restrict or permit access to content.

IP Intelligence Simplifies Geographic Rights Management



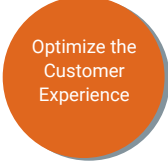
Accurately identify user location and grant or restrict access.



Respond quickly to changing rules for content distribution.



Identify those deliberately trying to mask their location.



Localize content and advertising, offer alternatives to blocked content.



Linear TV Gives Way to Smarter Devices and New Programming

This viewing revolution is mostly being led by a younger, more tech-savvy generation who has grown up in a world where access to the internet is commonplace. The number of U.S. digital video viewers is expected to reach 232 million by the end of 2020—with a projected penetration rate in the country of 83 percent by 2021.

Watching video on a computer amounted to five minutes per day in the first quarter of 2019. Time spent watching live TV was 267 minutes. More adults watched video content via a TV-connected device in 2019 than ever, and time spent consuming video via an app or the internet on a smartphone also increased.

And it looks likely that this shift from linear to on-demand television is only going to continue to grow, meaning that broadcasters must consider how they will compete in an increasingly saturated market.

It's not just the small screen that is driving viewing consumption change. Smart TVs and streaming media players (SMPs) will jointly drive growth into the foreseeable future. Smart TV sales are expected to reach 29 million by 2020. Another 21 million SMPs will also be sold in the United States by year's end. The traditional "living room" of 10 years ago which hosted a single television set for the entire house has given way to a household where at least two screens (including tablets and smartphones) are used for TV viewing and video entertainment.

The increase of SVOD and Transactional VOD (TVOD) services are also changing the way people want to interact with advertising, with many subscribers of such services preferring to pay extra to remove commercials. Consumers adopt different tactics to avoid watching ads, such as browsing the internet on other devices and recording to skip ads. Marketers need to get smarter in terms of delivering ads, making them more contextually relevant and personalized.

IP Data is Vital for Content Providers

In a market where legislation and rights can rapidly change, the serving of content to the right user is far from simple. And, the consequences for not protecting assets can adversely affect revenues, produce cost penalties for non-compliance, and damage a brand's reputation for blocking access when it should be allowed.

IP data is vital for content providers to comply with digital rights licenses, either at a country or regional level. Yet, many are using poor approaches that restrict users who should be able to view content, while allowing access to those who should not. The deployment of accurate IP Intelligence and geolocation technology negates this issue because it accurately identifies the user's location. Working with less accurate data providers can create false restrictions, leading to disgruntled consumers.

Additionally, accurate IP-derived connection speed data helps ensure streaming content is optimized for the viewing platform and aids in eliminating the technical problems associated with delivering video or music over a range of devices and connectivity types.

Combating VPN and Proxy Users

There are many unscrupulous users who try to access content they should not be viewing by masking their location, using proxies or Virtual Private Networks (VPNs). Broadcasters need to utilize premium IP solutions to ensure they are not falling foul of nefarious methods of internet access.

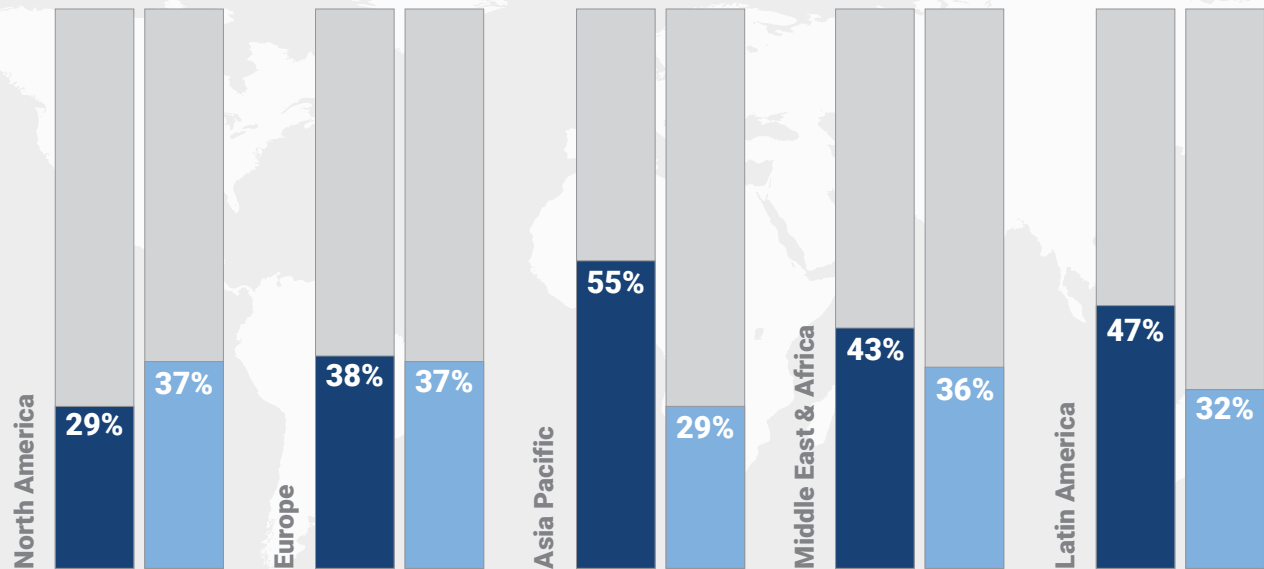
According to the Global Web Index, on average 25 percent of internet users employ a VPN/proxy on a monthly basis. This figure rises in emerging markets such as Indonesia (38 percent), India (38 percent) and China (31 percent). Moreover, accessing restricted entertainment content and websites are drivers for VPN users, with an average 50 percent citing these as their key motivations for using these technologies. This rapidly growing threat increases with the proliferation of SVOD services—and represents a major threat to content providers.

“Preserving anonymity is a major motivation for North American VPN users, but access to better entertainment drives VPN usage in all other regions”

- Global Web Index

MOTIVATIONS BY REGIONS

- Access Better Entertainment Content
- Keep Anonymity while Browsing



Digital Element’s proxy database is the most advanced in the world. It can identify the type of proxy—such as anonymous—or if the traffic is coming from a hosting center. In addition, it can ascertain from where the proxy emanates, such as a Tor exit, Tor relay, the cloud or through a VPN. This data is refreshed daily to ensure it is sound. This breadth and depth of this level of proxy information provides the ability to identify more suspicious connections and minimize false positives, enabling the broadcaster to make more informed decisions about allowing or denying access to content.

With revenue and reputations at stake, it pays to work with the world's most accurate and granular IP data. NetAcuity ensures compliance and accurate identification of a user's location. It can also be used to help geotarget advertising, making messages more contextually relevant and engaging.



Proxy data refreshed daily – The only provider to do this



Provides proxy type and description as well as VPN proxy values.

Solutions at Work



Scenario:

VUBIQUITY connects content owners and video providers to deliver entertainment to viewers on any screen. Working with nearly 650 leading film studios, television networks, independent producers and multi-channel networks (MCNs), VUBIQUITY brings premium content to more than 1,000 global video distributors, spanning 109 million households, across 121 territories and working with 80 languages. Due to the global interest in video on demand, studios mandate that providers have IP geolocation technology incorporated into their content distribution platforms in order to adhere to licensing rights across regions. While the studios do offer a list of approved IP geolocation technology providers, the list is small and many of the companies tend to operate only in very specific regions of the world.

Solution:

In particular, VUBIQUITY needed to find an IP geolocation provider that would offer accurate and reliable data for African and Latin American regions. With that in mind, the company selected Digital Element's IP Intelligence and geolocation solution, NetAcuity, to gain access to high-quality, all-encompassing datasets that were continually

updated. NetAcuity is the gold standard in the industry and uncovers actionable information about online users such as geographic location, proxies and virtual private networks (VPNs)—all while respecting the user's right to privacy. VUBIQUITY incorporates this technology into its Content as a Service (CaaS) platform which consists of a cloud-based centralized repository of pre-licensed, pre-configured content that is stored, hosted and distributed across a global delivery network. The technology is similarly offered through VUBIQUITY's Digital Storefront, an end-to-end white-label service for today's video distributors or content providers.

Success:

The use of Digital Element's geographic, proxy and VPN datasets within the CaaS platform assists VUBIQUITY in processing incoming requests and delivering content to any point on the network on demand while managing entitlements and access to video assets based on the authentication of user rights and integration into the order process. VUBIQUITY takes comfort in knowing that it is using reliable, quality data to meet the studios' licensing requirements—protecting not only the studios but also the company and its operators. According to VUBIQUITY, the risks are significant without this type of digital protection.



Scenario:

YouView, a joint venture between BBC, ITV, Channel 4, Five, BT, TalkTalk and Arqiva, is the UK's on demand service delivering over 70 live free-to-air digital TV and radio channels as well as seven-day catch up from the UK's public service broadcast players. A range of quality content is also available via on demand players from Netflix, UKTV Play, NOW TV, Sky Store, Quest OD from Discovery, milkshake!, S4C and STV for viewers in Scotland. YouView set-top boxes are offered as part of broadband subscription bundles from TalkTalk, BT and Plusnet. It is also available to buy subscription-free from all major retailers and many independent electrical stores including John Lewis, Currys, Argos, Tesco, Amazon and Richer Sounds.

Challenge:

Alongside great free TV channels and on demand TV, YouView also offers pay-on-demand content, and pay content through internet channels from selected partner

ISPs and national broadband providers who offer on screen branding, packaged services and features. A key challenge for YouView in setting up its pay content distribution was identifying set-top boxes being installed for the first time on BT, TalkTalk or Plusnet ISP lines; serving the relevant on-screen branding, packaged services and features provided by those ISPs; and – on a daily basis – ensuring each set-top box continued to accurately surface relevant ISP features.

Solution:

By deploying IP Intelligence data, YouView is able to meet its pay content distribution requirements and serve only the relevant ISP-packaged service to the set-top box. By determining the Autonomous System Number (ASN) – a critical element in the Internet routing architecture – IP Intelligence identifies the ISP of the home so the relevant packaged service can be delivered. In the same way, routing management is possible for content delivery.

Not All IP Vendors Are Created Equal

There are several suppliers and systems available that can determine where an IP is and, for a small investment, an answer can be provided. But is it the right one? Determining the correct location of an IP address and discovering other useful IP intelligence data such as connection speed and anonymizers requires advanced infrastructure analysis, as opposed to simply scraping internet registries or repackaging publically available free data.

Digital Element's premium IP solution, NetAcuity, at its most granular level, can accurately locate a user down to the city/postal code sector level and identify Wi-Fi connection locations without becoming personally identifiable.



The coverage is global, accuracy is 99.99 percent at a country level, up to 97+ percent at a city level and the data is refreshed 24x7 and delivered to clients weekly. It can also determine how a user connects, enabling the identification of data that broadcasters need to effectively manage digital rights.

This is achieved by combining IP routing infrastructure analysis with anonymous location insight gleaned from a network of global commercial partners.

NetAcuity is an effective one-source solution that is simple to integrate into broadcasters' systems and manage in-house. Conversely, publically available data has patchy global coverage; is rarely updated; has limited data parameters identified; and is inherently inaccurate.

“It is imperative that the BBC ensures compliance with licensing agreements. By using accurate IP geolocation technology, we are able to ensure we abide by geographic licensing rights agreements”

- Matthew Wood

Head of Software Engineering for BBC Future Media Online Technology Group

Digital Element – The Global IP Geolocation Leader

Digital Element provides IP geolocation solutions for a global client base, including leading media owners, such as the Hulu, CNN, Televisa, VUBIQUITY, Globo, Sony Pictures, BBC and more.

The solution is bundled in three ways to meet the unique needs of our clients and each option varies in terms of data accuracy, granularity, technical integration and service level.

NetAcuity Pulse™ and Pulse Plus™ add a whole new dimension to IP geotargeting. Pulse builds on the NetAcuity Edge™ solution, which offers global hyperlocal IP geolocation, by incorporating partner data from mobile devices, billions of real-time data signals and Wi-Fi connection points. NetAcuity Pulse expands the global coverage and reach for postcode level targeting within cities and neighborhoods, offering more seen IPs at a hyperlocal level than any other supplier. Pulse Plus adds reverse geocoding to the targeting suite. These solutions enhance the targeting of mobile and connected traffic, providing unrivalled IP targeting precision.

NetAcuity® Standard

NetAcuity is the industry gold standard in geographic targeting.

NetAcuity® Edge

All the features of Standard, plus global ZIP- and postcode-level targeting, derived from user-supplied data sourced from commercial partners.

NetAcuity® Pulse

NetAcuity® Pulse Plus

All the features of Edge and Standard, plus mobile-derived IP targeting and reverse geocoding.

Compelling Reasons to Know More About Your Traffic

In an age that empowers consumers to watch TV on their terms—when and where they want—broadcasters have a myriad of challenges to face to manage the rights of their content. IP intelligence provides a simple one-source solution to enable broadcasters to manage digital rights and enhance the user experience.

Easy to deploy on an internal server, in less than 20 minutes, NetAcuity is queried by various supplied APIs, and its response time is superfast and reliable at less than 0.03 milliseconds—allowing it to handle up to 30,000 requests per second.

Deploy on a server in less than 20 minutes

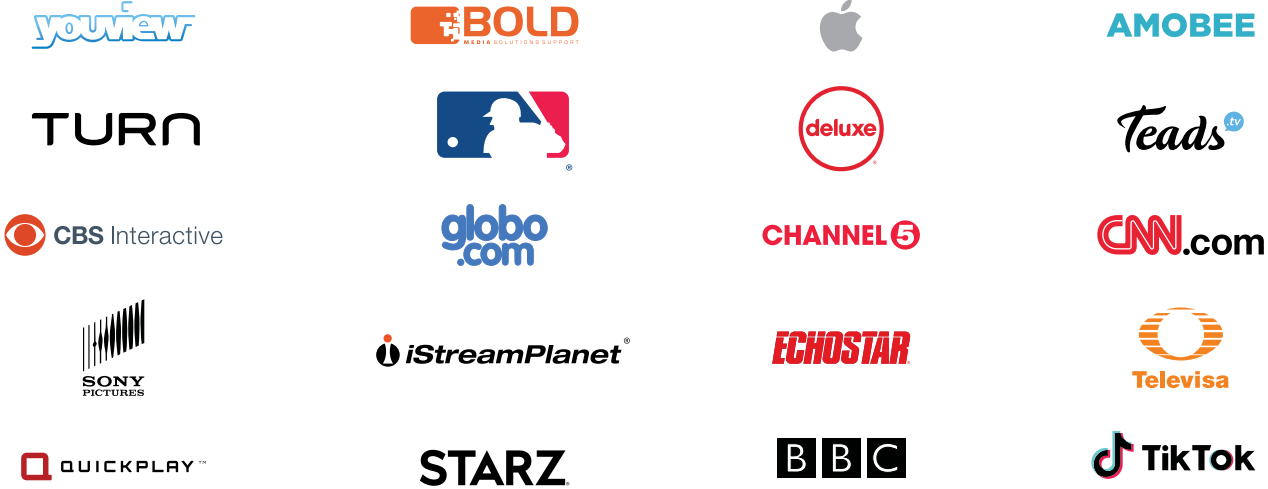
Digital Element is the only dedicated global provider of IP intelligence. With more than 20 years of experience and knowledge, specialized global teams can advise on how

to manage digital rights using IP geolocation techniques. Knowing more about where the customer is coming from—and how they connect—will deliver critical information to manage digital rights.



Deploy on a Server In Less Than 20 Minutes.

Meet Some Clients



Contact Digital Element to get more information on how IP Intelligence can help your organization manage and protect your digital video content.

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