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FROST & SULLIVAN BEST PRACTICES AWARD

GLOBAL IP PROXY NETWORK - GLOBAL

Market Leadership 2019

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BEST PRACTICES AWARD

2019

Luminati

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Proxy servers are intermediaries between devices requesting information from other servers. While proxy servers have many purposes, such as anonymizing identities, filtering information, getting around filters, and improving information retrieval performance. IP proxy networks tend to be used by companies to simulate actual customers in different locations and to collect data, also known as web scraping. Ever since the commercialization of the web, companies developed increasingly better ways to target consumers via advertising and marketing to the point of adjusting pricing on a location or even per customer basis. As companies put more of their product information online, this customer targeting made it very difficult for competitors and customers to monitor and/or compare pricing and product availability that can vary so much because of targeting. Websites today recognize customers to show different advertising, content, and pricing based on location and other identifiable information. Companies further evolved to prevent competitors from accessing their data via blocking their company's entire range of Internet Protocol (IP) addresses. This prevents companies from comparing pricing, security companies from conducting audits for malicious site, and even website owners themselves from verifying their advertising is safe and being delivered properly from their ad vendors.

IP proxy networks allow companies to see the web as actual customers and increase transparency on the web. While many clients prefer to remain anonymous to maintain their competitive edge, Luminati's clients include Fortune 500 companies across many different use cases. IP proxy networks are used to collect data, compare product and travel pricing, protect brands, verify advertising, prevent fraud, ensure security, and measure website performance. Companies need to simulate being customers because it's the only way to ensure the accuracy of the information collected across all these different use cases. And this information can be collected across a multitude of devices, from desktops and laptops to handsets and tablets.

The way IP proxy networks operate to help companies simulate being actual customers is by having users around the world install software and agree to contribute a portion of their devices resources when idle to route web traffic through their IP address. By getting thousands to millions of users to participate in their network, IP proxy network companies create a pool of IP addresses to provide to companies for all of the use cases above. Since each participant is in a different location using a different device, websites only see traffic as coming from individuals and residential internet service providers (ISPs). IP proxy network companies can also provide IP addresses coming from data centers instead of ISPs. These data center proxies also hide IP addresses and location, and allow for data collection, but they are known not to be residential or mobile. While they are generally less expensive than residential or mobile proxies, they do not offer the benefits of appearing as actual customers. Enabling all of these use cases and bringing greater

transparency to the web are the benefits of IP proxy networks, particularly residential and mobile IP proxy networks generated by pooling together users into the largest IP proxy network as Luminati has accomplished.

Proxy Networks Routing Through Various Nodes and Luminati Price Comparison Example

Luminati's Rotating IP Proxy Service allows easily switching between any IP type, data center, mobile, and residential across nearly every country, city, ISP, or mobile carrier. Customers can send virtually unlimited concurrent requests across multiple IPs for the fastest possible data collection and even assign exclusive IP addresses for target websites. Luminati includes a real-time network status monitor as part of their proxy management and 24/7 support from the programmers themselves. Luminati requires customers pass a know your customer (KYC) compliance process to use its residential and mobile proxy network and, as an innovator in the market, has an extensive patent portfolio covering various proxy technologies.

Market Leadership: Luminati

Growth Strategy Excellence

Many companies need to simulate being actual customers in different locations for price comparison and ad verification, among other use cases. To satisfy this need, Luminati created a proprietary rotating IP proxy network technology and grew it into a profitable business. In late 2017, EMK Capital acquired a majority stake in Luminati for up to $200 million, which they believe will accelerate Luminati's mission to continue bringing transparency to website commerce, data security, social media, and brand protection. While customers of IP proxy network companies tend to want to remain anonymous to maintain their competitive edge, Luminati has maintained its leadership position by providing them the largest pool of IP addresses, 39M+ residential IP addresses as of late May 2019. While having a large pool of IP addresses is important, Luminati also monitors their network for suspicious activity and is the only IP proxy network provider who guarantees they are using an opt-in process for their residential IP address providers.

Luminati also leads the way in growing the total IP proxy market by educating potential customers of use cases not needed even a few year ago. By helping companies understand how their competitors are blocking access to their information Luminati helps grow its enterprise IP proxy network business and the market in general.

Implementation Excellence

IP proxy networks carry the potential for nefarious use, both by potential clients and by the providers themselves. Luminati is the only company in the IPPN market providing an IP proxy network explicitly requiring opt-in consent by their mobile and residential IP providers. Luminati also takes care to ensure a device's battery level is at least 60% or connected to a power supply, connected to WiFi, though they may use limited cellular data, and that the device is not in use. Other IP proxy network providers have been removed from the Google Play store and/or identified as viruses by malware and virus scanners. By providing transparency into their clients and customer uses cases, Luminati separates itself from their competitors, who in some cases they are also suing to protect their patented IP proxy network implementation. Luminati couples implementation excellence of the network itself with a ease of signup for enterprise customers to use the network itself and a proxy manager with built-in data scraping features. The Luminati Proxy Manager features auto retry, limit requests, reserve IPs, IP rotation, IP bans, multiple vendors, and many more rule based features which improve scraping speed and ensure higher success rates. Users can bypass the proxy for certain requests, reduce bandwidth when needed, and route requests through data center or mobile networks using custom rules if needed. Luminati also improves the debugging process via request logging and proxy success ratio measurements.

Brand Strength

Proxies have been a feature of IP networks since their inception. The mere routing of traffic through another router allows it to serve as a proxy, but those are easily blocked as soon as they are discovered as a proxy. Only by rotating IP address from residents going through ISPs can companies appear as regular customers. Luminati essentially invented the market for rotating residential IP proxy networks, allowing companies to see the web as a typical customer would see it, thereby cementing their brand with the market itself, while also growing their company to be the market leader. Luminati is striving to grow the IP proxy network market via transparency of its current business practices and their focus on customer ease of use and support are the noteworthy recent accomplishments of Luminati's brand. By highlighting this exchange and making it more apparent, Luminati builds their reputation as an above-board software provider to Fortune 500 customers wanting more transparency themselves. The late 2017 investment by EMK Capital is further proof of Luminati's brand gaining awareness by a wider audience and the market itself gaining ground.

Technology Leverage

For every end-user who chooses to opt into the Luminati IP proxy network as a node, Luminati pays a monthly fee to the software vendor who integrated their software development kit (SDK) into their software. End-users themselves receive benefits, such as removing advertising, and/or providing free subscriptions, among other perks. End-users can opt out of the network at any time and Luminati takes great care through patented idle monitoring to only use device resources so that battery and data use is minimized. The overall process of developing an IP proxy network using nodes this way and the attention to detail on minimizing client interruptions yielded Luminati a portfolio of dozens of patents for its technology. Using this extensive patent portfolio, Luminati has rigorously defended their intellectual property as competitors have attempted similar implementation of their residential proxy network. Much of the negative press mentions are about how the proxy network is supposed to be used, such as data scraping and ad verification. Bringing awareness to how the residential IP proxy network operates will only help dispel security concerns. Various applications exchanging a free service for limited bandwidth use is how IP proxy networks operate. With the help of patents, Luminati has leveraged this technology into a growing business and market.

Customer Ownership Experience

Customers use IP proxy networks for a variety of reasons, but for the most part they prefer to remain anonymous to maintain their competitive edge. Few companies want to admit to doing competitive analysis to set their pricing or to verify advertising. When collecting data, comparing pricing, protecting their brand, managing social network accounts, verifying advertising, preventing fraud, ensuring security, and measuring website performance, Luminati's Fortune 500 customers can use their Luminati Proxy Manager as a central point of contact to set up and maintain their IP proxy nework or simply set up scripts to accomplish these use cases.

The flip side of the customer ownership experience is the residential customers who choose to become part of Luminati's IP proxy network. In general, IP proxy networks depend on users to install software on the devices, computers or handsets, to become the nodes used in IP proxy networks. By using IPPN vendor software development kits (SDKs), potentially any application could become a node in the network by supplying bandwidth and computation time to the network. Users love to opt into Luminati's IP proxy network because they get a better user experience in return, such as removing advertising in exchange for their participation. Luminati saw increased app retention rates of up to 15% higher compared to users of the same app who did not opt into the IP proxy network.

Conclusion

The IP proxy network market is in its early growth stages, basically being invented by Luminati only a few years ago. With the more specialized targeting of customers by demographics and location, competitors are finding it more difficult than ever to do competitive analysis, create and manage social media profiles, and verify advertising, security, and website performance. Using a wide variety of schemes to block IP addresses, companies are increasingly blocking competitors from seeing their information as customers would see it. With evolving technologies, such as artificial intelligence and machine learning, website blocking technologies will only improve, creating an even greater need and growth potential for Luminati. The only way to counter these practices is by using an IP proxy network to simulate being an actual customer in a particular location. Companies not familiar with these website practices or existing IPPN solutions are at risk of being misinformed and left behind technology-wise. This was Luminati's insight to develop their technology into a profitable, growing business and into their market leadership. The IPPN market is still in its early days and the needs for its solutions are accelerating with Luminati guiding the way. For its strong overall performance, Luminati has achieved a leadership position in the IP Proxy Network Market, with a market share of 53.1%, and Frost & Sullivan is proud to bestow the 2019 Market Leadership Award to Luminati.

Significance of Market Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company, and then making the decision to return time and again. Loyal customers become brand advocates; brand advocates recruit new customers; the company grows; and then it attains market leadership. To achieve and maintain market leadership, an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Market Leadership

Driving demand, strengthening the brand, and differentiating from the competition all play a critical role in a company's path to market leadership. This threefold focus, however, is only the beginning of the journey and must be complemented by an equally rigorous focus on the customer experience. Best-practice organizations, therefore, commit to the customer at each stage of the buying cycle and continue to nurture the relationship once the customer has made a purchase. In this way, they build a loyal, ever-growing customer base and methodically add to their market share over time.

Key Performance Criteria

For the Market Leadership Award, Frost & Sullivan Analysts focused on specific criteria to determine the areas of performance excellence that led to the company's leadership position. The criteria considered include (although not limited to) the following:

Criterion	Requirement
Growth Strategy Excellence	Demonstrated ability to consistently identify, prioritize, and pursue emerging growth opportunities
Implementation Excellence	Processes support the efficient and consistent implementation of tactics designed to support the strategy
Brand Strength	The possession of a brand that is respected, recognized, and remembered
Product Quality	The product or service receives high marks for performance, functionality, and reliability at every stage of the life cycle
Product Differentiation	The product or service has carved out a market niche, whether based on price, quality, or uniqueness of offering (or some combination of the three) that another company cannot easily duplicate
Technology Leverage	Demonstrated commitment to incorporating leading-edge technologies into product offerings, for greater product performance and value
Price/Performance Value	Products or services offer the best value for the price, compared to similar offerings in the market
Customer Purchase Experience	Customers feel they are buying the most optimal solution that addresses both their unique needs and their unique constraints
Customer Ownership Experience	Customers are proud to own the company's product or service, and have a positive experience throughout the life of the product or service
Customer Service Experience	Customer service is accessible, fast, stress-free, and of high quality

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan Awards follow a 10-step process to evaluate Award candidates and assess their fit with best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 **Monitor, target, and screen**	Identify Award recipient candidates from around the globe	• Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies	Pipeline of candidates who potentially meet all best-practice criteria
2 **Perform 360-degree research**	Perform comprehensive, 360-degree research on all candidates in the pipeline	• Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates	Matrix positioning of all candidates' performance relative to one another
3 **Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps	Detailed profiles of all ranked candidates
4 **Initiate research director review**	Conduct an unbiased evaluation of all candidate profiles	• Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 **Assemble panel of industry experts**	Present findings to an expert panel of industry thought leaders	• Share findings • Strengthen cases for candidate eligibility • Prioritize candidates	Refined list of prioritized Award candidates
6 **Conduct global industry review**	Build consensus on Award candidates' eligibility	• Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates	Final list of eligible Award candidates, representing success stories worldwide
7 **Perform quality check**	Develop official Award consideration materials	• Perform final performance benchmarking activities • Write nominations • Perform quality review	High-quality, accurate, and creative presentation of nominees' successes
8 **Reconnect with panel of industry experts**	Finalize the selection of the best-practice Award recipient	• Review analysis with panel • Build consensus • Select recipient	Decision on which company performs best against all best-practice criteria
9 **Communicate recognition**	Inform Award recipient of Award recognition	• Inspire the organization for continued success • Celebrate the recipient's performance	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 **Take strategic action**	Upon licensing, company is able to share Award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess Award's role in future strategic planning	Widespread awareness of recipient's Award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.