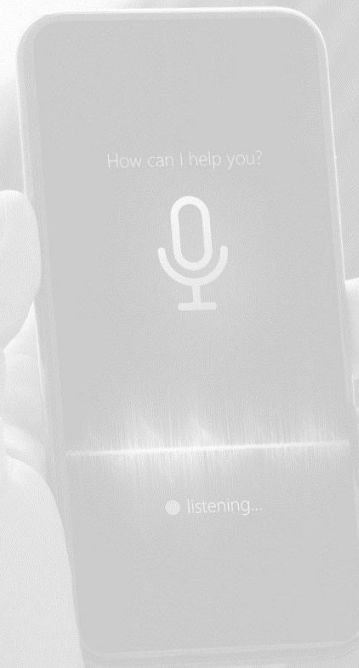




THE FUTURE OF FLASH CALLING

Prepared for VOX Carrier



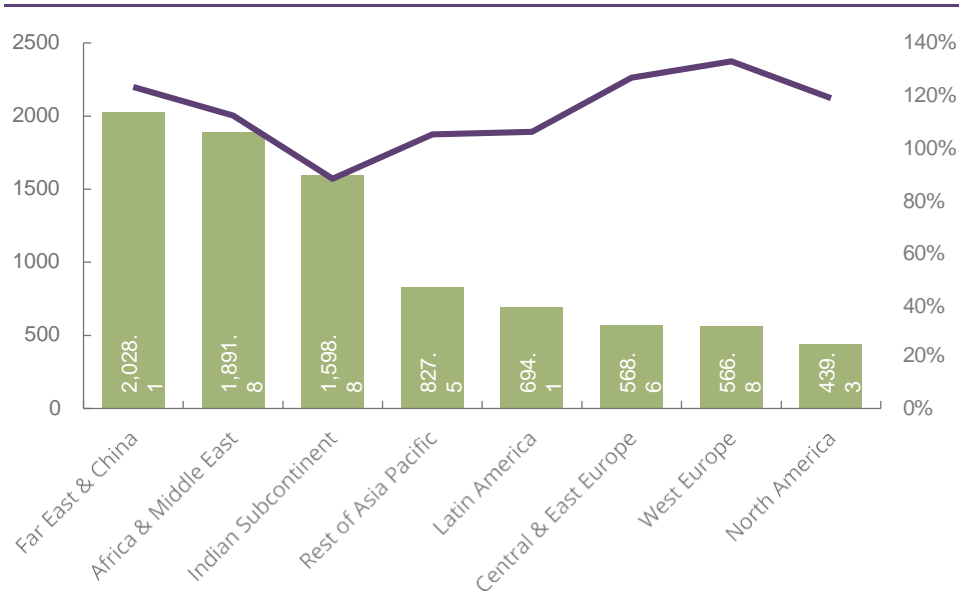


1.1 Flash Calling

Flash calling, the process in which users' profiles are verified via a phone call, is an emerging form of user authentication, such as OTPs (One-time Passwords). This is to leverage phone numbers as a method of identifying users for brands and enterprises.

As can be shown in figure 1, the number of mobile subscribers worldwide is significant, with mobile services reaching a large proportion of the population. This highlights the total number of mobile subscribers in each region and the penetration rate of mobile services.

Figure 1: Total Number of Mobile Subscribers (m) & Mobile Subscriber Penetration Rate (%) in 2021, Split by 8 Key Regions



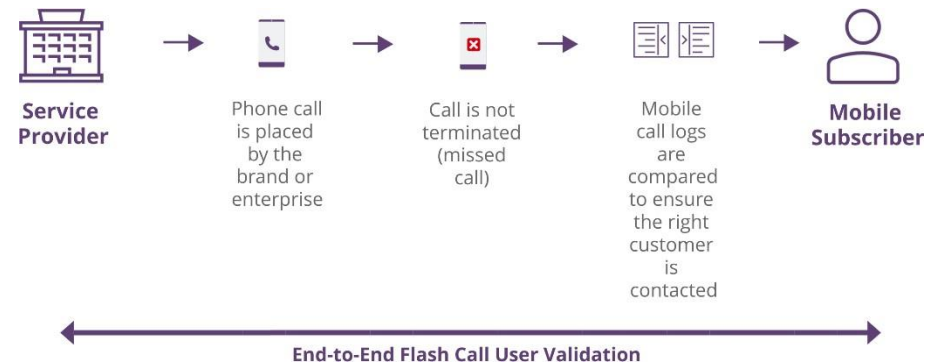
Source: Juniper Research

1.1.1 The Future of Flash Calling

Leveraging mobile connections for authentication purposes is certainly not unheard of. SMS has been leveraged for business messaging and will continue to be. However, the emergence of flash calling will provide a disruptive element to the provision of these authentication messages.

Flash calling provides existing benefits over established ecosystems, including a reduction in costs.

Figure 2: Flash Calling Procedure



Source: Juniper Research

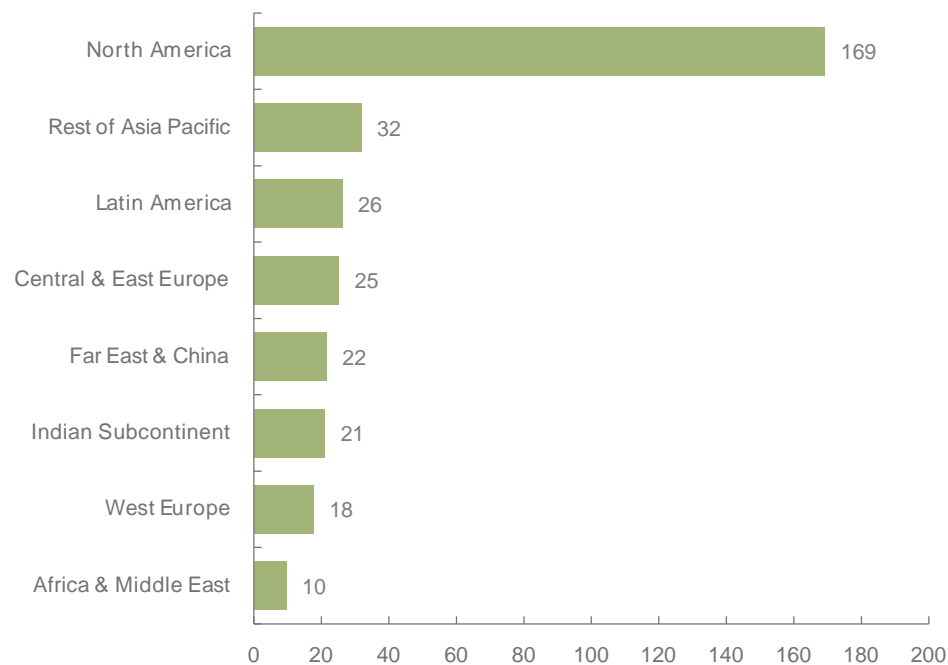
At present, there is no structure to bill or invoice these services, as a missed call does not impose a cost. However, a third-party validation provider that sits in the middle between brands and MNOs can still charge a brand or enterprise for an authentication service via flash calling. Additionally, there is no infrastructure in place to determine which traffic is A2P or P2P via the originating identity.



In the future, operators will need to implement solutions that can identify this traffic. This will allow operators, who are providing the underlying network connection, a way of monetising flash calling by differentiating traffic.

As an increasing number of A2P SMS are terminated internationally, brands and enterprises will be looking to minimise the costs of A2P SMS authentication traffic. This can be achieved via the implementation of flash calling procedures.

Figure 3: Average A2P SMS Message per Mobile Subscriber per Month in 2021, Split by 8 Key Regions

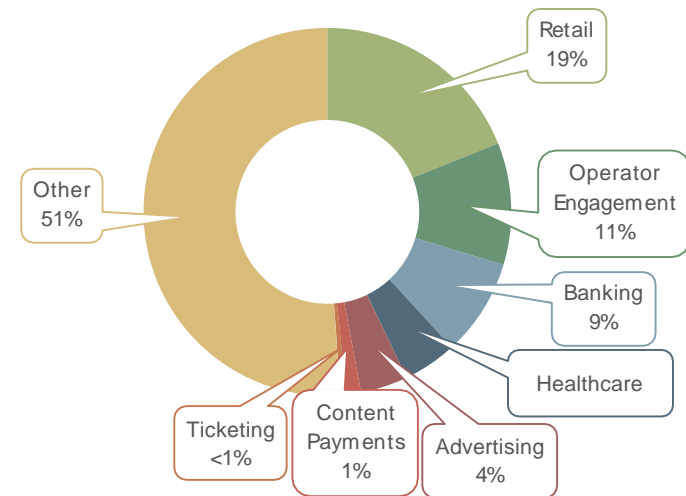


Source: Juniper Research

In areas where interest in SMS is high, there is clear room for disruption from flash calling authentication methods. As a result, we expect North America to lead the disruption from flash calling over the next few years. However, network operators must prepare for competition from OTT players, such as WhatsApp and Messenger, who are continuing efforts to grow A2P revenue over their channels. Operators must act quickly to ensure that this emerging traffic and subsequent revenue stream are not similarly lost to OTT players in the same way that MNOs lost P2P messaging traffic.

As can be seen, North America offers the highest revenue opportunity for business SMS messaging. In turn, the region offers the most potential for disruption from the increase in usage of flash calling for authentication and OTPs.

Figure 4: Sector Share of A2P SMS Traffic in 2021, Split by 8 Key Sectors: 2.7 Trillion



Source: Juniper Research

As visible in figure 4, there are a variety of industries that use A2P SMS business messaging services. Within these categories, there will be traffic used to authenticate users and transactions; flash calling has the potential to replace this traffic.



1.2 Capitalising on Flash Calling Solutions

Flash calling has the potential to disrupt A2P SMS business messaging, as it provides many benefits over established processes.

At the heart of this process, a trusted communications platform must be adopted by the brand or enterprise. These platforms, such as VOX Carrier's, will provide the essential link to the end user, which enables secure communication and authentication.

Additionally, flash calling processes will be more efficient at connecting with end users; traffic can be terminated more efficiently than SMS. This is essential for the delivery of mission-critical traffic that requires immediate termination to the end user.

A key benefit of using these platforms is the ability for brands and enterprises to explore flash calling, whilst relying on a fallback to established communications channels, such as SMS.

Communications platforms have striven to offer as many channels to brands and enterprises as possible, and this has proven effective in enabling brands and enterprises to create flow processes that inevitably led to a fallback onto SMS, a ubiquitous technology amongst mobile subscribers. It must also be noted that not all subscribers will prefer to be contacted via voice message, lending further credence to this business model.

From an MNOs' point of view, the ability to monetise a flash call channel dedicated to user authentication is essential. As the technology grows, a failure to do so will lead to missed revenue opportunities. From a brand's point of view, this technology should be explored as a new preferred channel for their end users. At present, there is no termination rates for MNOs when the flash calling traffic is processed.



No Termination Rates

At present, operators do not charge for the termination of flash calling traffic



Faster than SMS

SMS termination can be a lengthy process. Call termination rates are faster



Better Message Protection

Reduced possibility of message content being intercepted by fraudulent players



Reduced SIM-box Fraud

Using trusted platforms reduces the loss to SIM box fraud via virtual numbers



Fallback onto Established Channels

This enables brands and enterprises to explore flash calling whilst ensuring message termination



1.3 Strategies for Maximising the Benefits of Flash Calling

Despite all the potential of flash calling, there are numerous strategies that we believe are instrumental in increasing uptake of the service. First and foremost, MNOs must increase their involvement in the technology and start looking to monetise this potential new revenue stream

Operators, who own the network, must find ways to monetise flash calling traffic. Differentiating between flash calling traffic and P2P voice traffic is the first step in accomplishing this.

As flash calling increases in popularity, there will be instances where fraudulent players try to mask their A2P traffic as P2P traffic to benefit from lower costs. The SMS business messaging market continues to be threatened by fraudulent activities. The most prominent issue facing business SMS is the exploitation of grey routes.

Operators now rely on SMS firewalls that leverage machine learning to identify and block traffic in real-time to protect operators' messaging revenue. The same must be done for future flash calling services. Platforms, such as VOX Carrier, are perfectly placed to act as a 'one-stop shop' for brands, enterprises and operators to maximise future flash calling revenue.

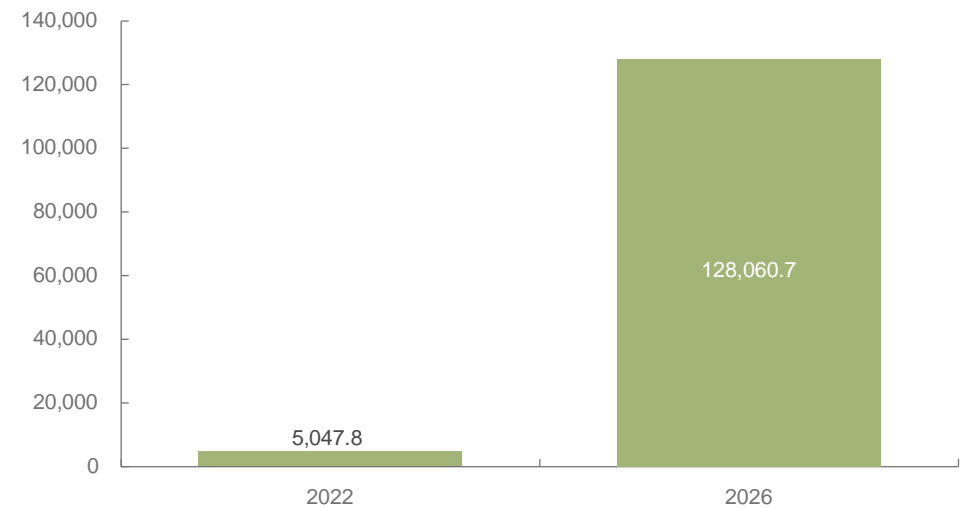
Additionally, many platforms commit to providing operators with a certain level of SMS revenue through a minimum level of generated business messaging traffic. By involving operators in the flash calling ecosystem, and protecting operators from any migration of A2P SMS traffic to flash calling, platforms should be able to meet this requirement by renegotiating minimum levels of generated traffic to include flash calling traffic. A failure to secure operator involvement will significantly impact the uptake of flash calling amongst brands and enterprises, who prefer to continue using SMS as a communications channel.

1.4 Growth of Flash Calling Traffic

Operators leverage their mobile channels for messaging. A2P SMS has been a significant revenue-generating area. However, with the introduction of flash calling, this revenue is under threat as the technology will cannibalise A2P SMS traffic.

Shown below in figure 5 is the predicted growth of global flash calling traffic. In 2022, there will be over 5 billion flash calls to be used for authentication; however, by 2026, this is expected to near 130 billion calls, as an increasing number of brands and enterprises look to capitalise from the benefits of flash calling.

Figure 5: Global Number of Flash Calls for Authentication (m) 2022 & 2026



Source: Juniper Research

As this traffic grows, it becomes increasingly important for operators to be able to ensure they can identify and monetise this traffic. Migration of authentication traffic is inevitable and operators must position themselves to capitalise on it.



1.5 VOX Carrier - Leading Solutions for MNOs & Enterprises



The VOX Group stands at the crossroad of the Technology & Telecommunication space, present in the market for over 11 years. The company's aim is to improve, simplify & optimize International Voice & Messaging, using the latest innovations in technology. In terms of services, VOX has a portfolio of powerful solutions that serve MNOs in A2P messaging, Voice & Flash call monetization and aggregation. For the enterprise segment the company focuses on as A2P messaging, Voice & Flash calls, while also providing solutions focused on Cloud Communications.

For mobile network operators (MNOs) – Capitalizing the Flash Call trend

For MNOs, in the areas of Flash Calls (Voice A2P), the company is focused both on monetization, being the only company in the market with such a solution, and also aggregation. For monetization, the company provides its multi-award-winning VOX360 Manage Services, an AI-based solution which offers a reliable, accurate and real-time view of A2P & P2P Voice and A2P SMS streams, mitigates revenue leakage from grey route traffic and monetizes the services at their maximum potential.

As part of its asset monetisation solutions, the company is able to monitor A2P voice and flash calling traffic over operator networks. Operators will need to capitalise on their share of this traffic. While the current technology stack of operators does not allow for capitalizing on flash calls, the VOX360 solution provides the end-to-end back bone for creating an official channel for A2P Voice, from detection, to billing, monitoring & analytics, as well as grey-route mitigation.

The company's solutions have already proven their **impact**, with ongoing monetization projects with groups such as **TIM** or **Beeline** increasing **A2P revenue already by 240%**.

Additionally, positioned as a tech-first and AI savvy company, the VOX group portfolio makes the company a one-stop-shop for MNOs, also including services such as (apart from Flash Call Monetization):

- A2P SMS Monetization
- P2P Voice Monetization
- VOX360 Network Audit, for grey-route identification
- Voice Solutions
- CPaaS Solutions for creating omni-channel touch points

For Enterprise customers – Capitalizing the Flash Call trend

On the enterprise segment, the company places **mobile identity and consumer security** at its core, with powerful solutions designed to ensure the highest delivery rates for traffic categories such as 2FA OTP messages. Levering on the enhanced customer experience of flash calls (A2P Voice), the VOX Group also ensures the delivery of such 2FA traffic to customers world wide. Being a leading provider of anti-fraud solutions for mobile operators, the VOX Group's capitalizes on its award-winning AI-based solution to analyze traffic aimed at reaching customers to mitigate issues such as fraud, spam or phishing attacks, increasing customer security.

In terms of its Voice and SMS solutions, the VOX Group fostered over **400+** partnerships with the likes of Verizon, TIM, Deutsche Telekom, Telstra, MTN and others to ensure enterprise traffic delivery at a global footprint.

The VOX group portfolio makes the company also a one-stop-shop for enterprises, providing additional services such as:

- P2P Voice Solution
- A2P Voice Solution
- A2P SMS Solution
- VOX360 Inspector, for delivery rate identification and optimization
- Cloud Communications

VOX highlights:



- Established customer base
- Proven partnership impact
- The only functional A2P monetization solution on the market
- Double-time winner of the "Best-Antifraud Innovation" prize at the Global Awards hosted by Capacity Media

Company contact:



Contact us to share your specific needs at:

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