by Yuriy Kostenko and Elisabeth Magnor, 18 October 2024

SoftPOS Creeping Slowly Towards Potential?

SoftPOS, also known as "tap-to-pay" and "pin-on-glass," has been touted for years as the future of face-to-face payments, with the promise of transforming how businesses accept payments by eliminating the need for payment hardware. Ten-plus years since the technology was first created, the question remains: Has SoftPOS truly arrived, or is it still awaiting its breakthrough? In this article, we examine the foundations of SoftPOS, assess its development vs. expectations, and explore growth headwinds.

What is SoftPOS?

Simply put, SoftPOS is a software-based application that allows non-payment devices, like smartphones or tablets, to accept card-based payments. This technology emerged from advancements in Near Field Communication (NFC), mobile operating systems, and cloud-based payment processing. Initially, mobile payment acceptance depended on hardware-based POS systems or attachments, such as dongles connected to smartphones. However, as NFC technology became more prevalent in smartphones and tablets (as seen with mPOS devices like Zettle and SumUp), it paved the way for software-only POS solutions, eliminating the need for additional payment hardware.
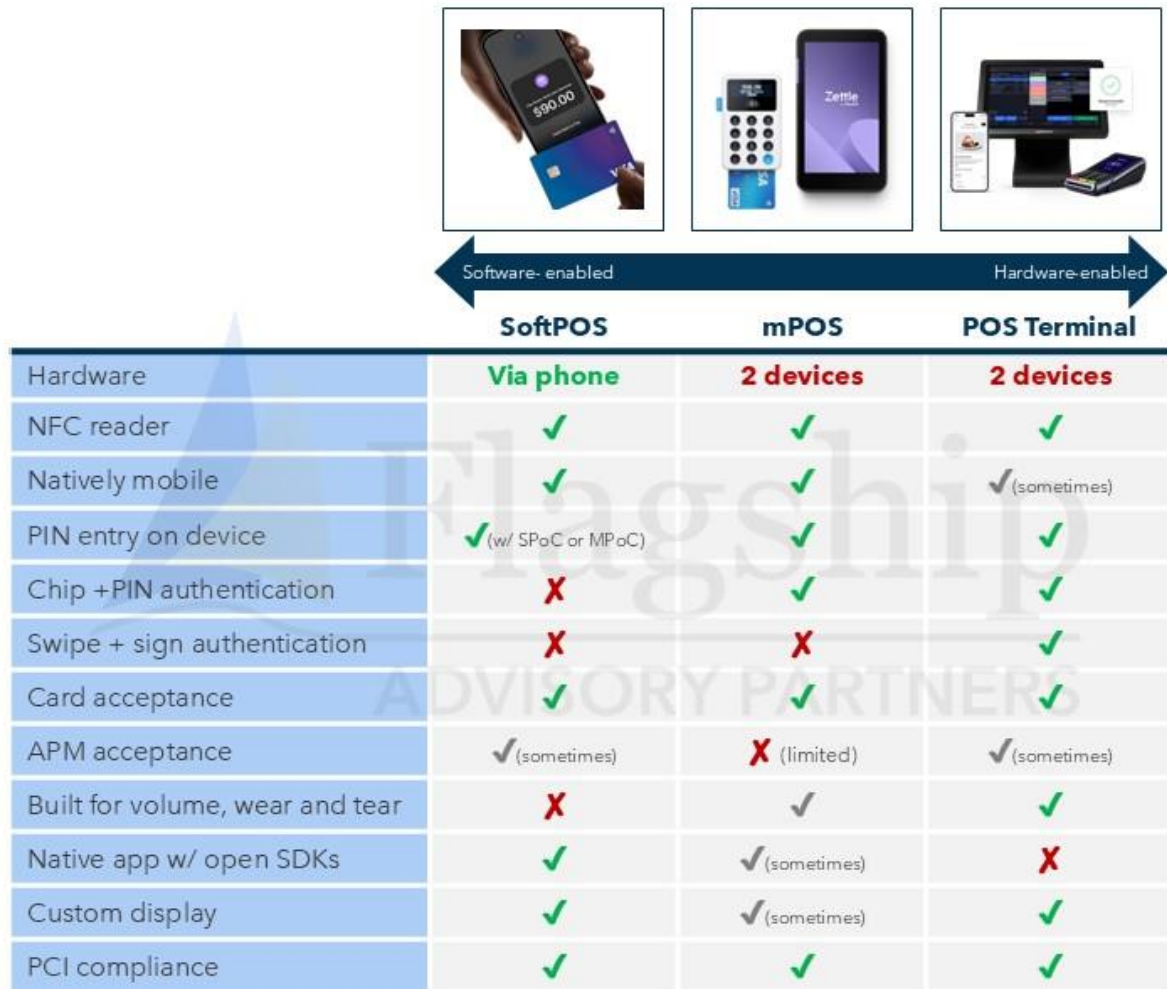
Figure 1: What is SoftPOS?
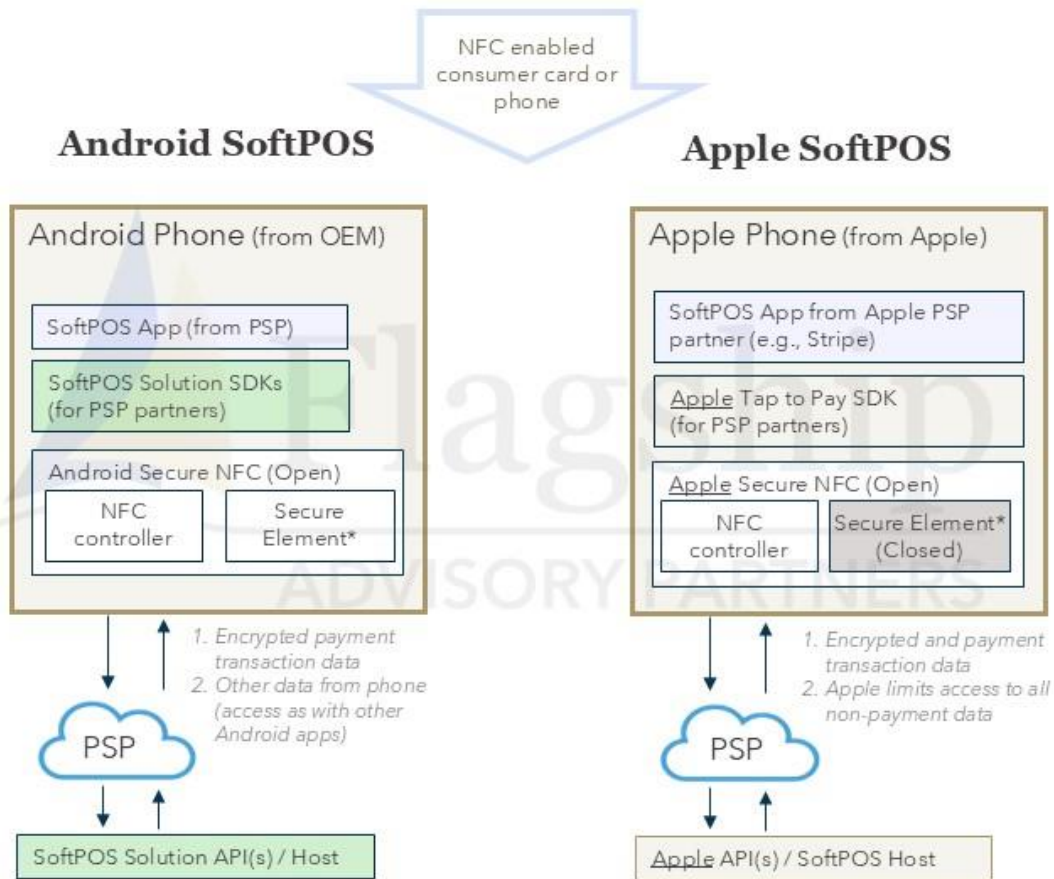
* EMV kernel. In 2024 Apple opened access to the secure element via hosted card emulation (HCE).
Source: Flagship Advisory Partners
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In Figure 2 below, we outline the key distinctions between SoftPOS, mPOS, and traditional payment devices. In simple terms, the main distinctions between SoftPOS, mPOS, and traditional POS terminals are in their hardware requirements and flexibility. **Traditional POS terminals** are specialized hardware solutions built around payment features and security, with mostly one purpose in mind. **mPOS** technology innovated by payment devices by further thinning the needs of the payment device by leaning on connected mobile phones for communication and more advanced features (via a mobile app). **SoftPOS** goes a step further, removing the need for a payment device entirely. It relies solely on technology either native to mobile phones or delivered via a mobile app and corresponding payment host. By eliminating the need for a specialized device, SoftPOS offers clear ease of use and incremental cost advantages.

Figure 2: Comparison of SoftPOS, mPOS & Traditional POS

Software-enabled ◄──────────────────────────────► Hardware-enabled

	SoftPOS	mPOS	POS Terminal
Hardware	Via phone	2 devices	2 devices
NFC reader	✓	✓	✓
Natively mobile	✓	✓	✓ (sometimes)
PIN entry on device	✓ (w/ SPoC or MPoC)	✓	✓
Chip + PIN authentication	✗	✓	✓
Swipe + sign authentication	✗	✗	✓
Card acceptance	✓	✓	✓
APM acceptance	✓ (sometimes)	✗ (limited)	✓ (sometimes)
Built for volume, wear and tear	✗	✓	✓
Native app w/ open SDKs	✓	✓ (sometimes)	✗
Custom display	✓	✓ (sometimes)	✓
PCI compliance	✓	✓	✓

Source: Nexi, Zettle, Flagship Advisory Partners
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Users of SoftPOS

Early adopters of SoftPOS in Western markets (North America and Europe) are mostly small and micro businesses. These businesses are cost-sensitive, complexity-averse, and tend to be operated via the owners' mobile device. SoftPOS providers can equip these merchants with the ability to accept payments almost instantly, offering a flexible and cost-effective solution. This is especially beneficial in sectors where mobility is a premium and where commerce interactions are already app-based. Note that this general persona fit also takes us beyond small/micro businesses and into corporate verticals such as gig platforms, transportation, and field services. Figure 3 highlights industries and use cases where SoftPOS is making a notable impact.

Figure 3: Typical SoftPOS Users & Use Cases in the Western World (non exhaustive)

VERTICAL	USE CASE EXAMPLE	MERCHANT EXAMPLES
Delivery & Transport	Enables driver to accept payments directly at the point of delivery	▪ Couriers ▪ Last-mile delivery drivers ▪ Transportation services
Food & Drink	Accept card payments at non-permanent locations	▪ Cafes and restaurants ▪ Food trucks
Retail	Accept card payments at market stalls and event locations	▪ Independent retailers ▪ Second-hand retailers ▪ Handmade goods
Field Services	Accept payments directly after the job is completed	▪ Electricians ▪ Plumbers ▪ Landscapers
Charity	Receive donations via card in public spaces and at events	▪ Fundraisers ▪ Non-profit organizations
Healthcare	Medical professionals offering services outside of traditional clinic	▪ Home healthcare providers ▪ Mobile clinics ▪ Therapists
Travel	Accept payments during tours or at remote locations	▪ Tour guides ▪ Small travel agencies ▪ Adventure providers

Common merchant traits:
- Small merchants and freelancers
- Require quick set-up of payments
- Infrequent transactors
- Require on-the-go payments

Source: Flagship Advisory Partners
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SaaS platforms with embedded payments are also a segment where we see early adoption of SoftPOS. These SaaS companies, or ISVs, are keen on SoftPOS as a means to eliminate the need for a second payment device. POS ISVs already provide or operate via commerce-enabling hardware (tablets, desktops, etc.), so having a second or third hardware domain (payments devices) complicates their lives materially. Many ISVs, particularly those in less volume-intensive verticals (beauty, field services, etc.) want to simply enable their existing devices for payment acceptance. As mobile payments continue to gain momentum, the synergy between SoftPOS and SaaS is set to transform how businesses manage their operations and process payments. These partnerships promise a more flexible and cost-effective future, empowering businesses to streamline their processes while offering seamless payment experiences.

Providers of SoftPOS

SoftPOS is not yet disruptive in scale, but most of the top merchant PSPs in Western markets are now actively marketing the product, a clear indication that we are on the precipice of real scale. As shown in Figure 4 below, we analyzed the top 50 merchant PSPs in Europe and North America, and determined that 72% of these PSPs are actively marketing SoftPOS while 28% are not yet marketing SoftPOS.

Figure 4: Payment Service Provider SoftPOS Offering
(% top 50 providers in Europe and N. America; as marketed)

Source: Flagship Advisory Partners
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The scaling of Apple's Tap-to-Pay rollout is another indicator of SoiftPOS' scaling curve. As shown in Figure 5, Apple now has more than 100 active or in-flight solution/GTM partners, up 63% from last year (with 3 months remaining in the calendar year). Note that Apple's approach to SoftPOS enablement is fundamentally different from Google's (Android's) approach as Apple directly wholesales a closed platform to merchant payment service providers, while Google provides an open (more or less) capability set to the market, allowing innovators to build product with these capabilities.

Figure 5: Number of 'Tap-to-Pay' Partners & Operating Markets

Source: Apple, Flagship Advisory Partners
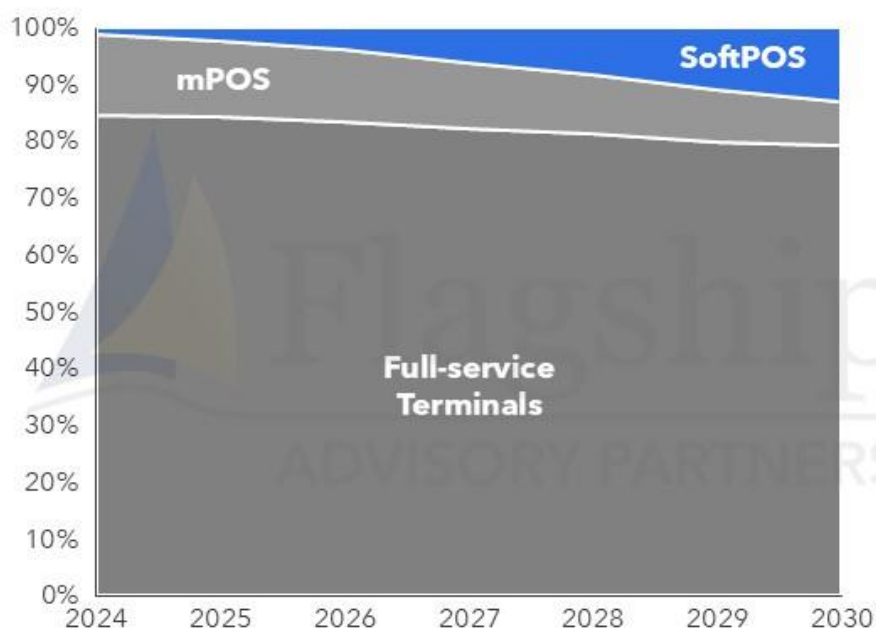© Flagship Advisory Partners, October 2024
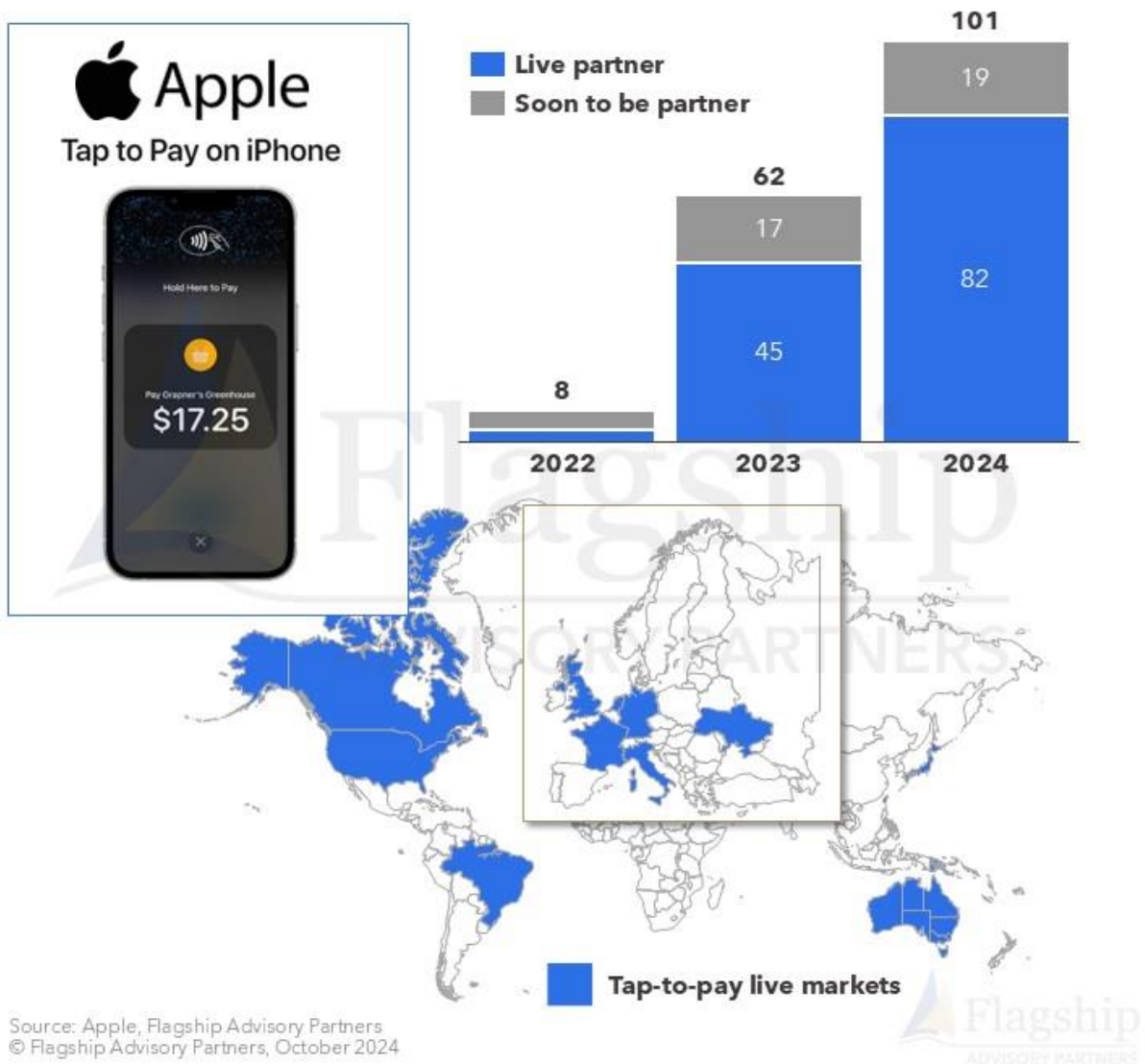
Growth Challenges

SoftPOS is a significant advancement of payment technology, offering merchants an ultra-easy and low cost way to accept face-to-face payments. However, its journey toward mainstream adoption has been slow, given the birth of the concept in 2012. Several factors contribute to the slow growth vs. potential:

- **Trust and education**: merchants oftentimes, still need to get comfortable that SoftPOS is safe and effective relative to the terminals or mPOS solutions they are used to using.

- **Device compatibility**: Not all smartphones or tablets are equipped with the necessary NFC technology, limiting the pool of compatible devices for SoftPOS solutions.

- **Integration and investment**: Integrating SoftPOS into existing business systems can be complex and costly. Many businesses have already invested in traditional payment infrastructure and may not see an immediate benefit in switching to SoftPOS.

- **Limited awareness**: SoftPOS technology remains relatively unknown to many small businesses, and its adoption might require a "crowd effect" to gain momentum across markets.

- **New to business**: New businesses are more likely to adopt SoftPOS, but overall penetration remains slow, as new businesses represent only a tiny fraction of the total merchant base today.

- **Security standards**: SoftPOS faces ongoing challenges in ensuring consistent security standards across various devices and operating environments. Meeting regulatory requirements and building consumer trust are critical areas that still need to be addressed.

Figure 6: Number of Installed Payment Devices by Type
(% total live units globally; N.America & Europe; incl. all models; Flagship estimates)

Source: Flagship Advisory Partners
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The Certification Journey: MPoC Enabling Market-Wide Readiness

SoftPOS evolved through several technical standards milestones, with the latest iteration, MPoC (2022), addressing the major limitations of earlier versions. The first standard, SPoC (2018), allowed PIN entry on a COTS (Commercial Off-The-Shelf) device but still required a separate card reader to accept payments, offering minimal advantages over mPOS devices like Zettle or SumUp. The subsequent CPoC standard (2019) enabled card-reading directly on the COTS device but did not allow for PIN entry, limiting transactions to those that didn't require a PIN (i.e. low-value payments). The introduction of the MPoC standard (2022) was a game-changer, as it enabled both card reading *and* PIN entry on the same COTS device, addressing key security concerns and significantly broadening the appeal and use of SoftPOS solutions across Europe. This progression has laid the foundation for wider adoption. Figure 7 compares the evolution of these standards.

Figure 7: Comparison of SoftPOS Standards

	SPoC (2018)	CPoC (2019)	MPoC (2022)
Card Read by Phone	No	Yes	Yes
PIN-entry on Phone	Yes	No	Yes
Limited to Contactless, PIN-less Eligibility	No	Yes	No
Overall Utility and Key Constraints	▪ Requires a separate card reader, limited benefits over an mPOS	▪ Not PIN enabled, constrained by contactless/pin-less eligibility	▪ Fully contained software solution, PIN ready, no natural NFC transactions limits

Source: PCI Security Standards Council, Flagship Advisory Partners
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The Future of SoftPOS

Despite some ongoing growth headwinds, the future of SoftPOS in Europe and North America continues to look promising. We have no doubt that scale is coming given the marketing prevalence across leading PSPs, the clear and compelling value proposition, and the rising visibility in our day-to-day lives. SoftPOS technology and the advantages it brings (low cost, ease of use, real-time enablement, etc.) are simply too compelling to be held back indefinitely.

As with any innovation, SoftPOS requires bellwethers to drive the herd toward mass-market adoption, and the market seems to be waiting for these leading case studies to be more visible (e.g., we are now seeing it more regularly within field services, weekend markets, etc.). We believe it is only a matter of time before SoftPOS becomes a mainstream payment acceptance tool in North America and Europe, focused around certain merchant segments and use cases where the utility of stand-alone devices are less consequential.

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