



WHITE PAPER

Extending the Self-Service Revolution

A new generation of secure, interactive payment devices is set to revolutionise the payments landscape.

Convenient, safe and easy to use, they offer vendors new ways to engage and extend services to modern techno-savvy consumers.

Executive Summary

Wherever customer service is crucial, kiosk and unattended technology is on the rise. No other technology can help retailers achieve a more dramatic change in the way they interact with their customers, allowing them to deliver individualised messages and services where, and whenever they want - while actually saving costs and increasing revenues.

Airports are installing check-in kiosks as de facto, supermarkets are adding self-checkout terminals to more branches every day, banks offer their customers ever more sophisticated service through ATMs - even fast food has got faster through advancements in vending!

The applications for interactive, unattended payments technology are endless and so are the opportunities. Every serious research organisation that has analysed the market agrees that the self-service kiosk industry is set for huge growth in the coming years.

The flood of new self-serve and unattended applications is further fuelled by innovative technologies including touch screens and contactless payments. With this growth, however, comes new challenges; levied by security requirements, integration issues and more extreme physical environments.

As a market leader and pioneer of unattended solutions, VeriFone is well placed to help retailers, fuel companies, transport companies, public and private utilities and other organisations meet these new challenges.

VeriFone believes that the secret to successful kiosk and self-service deployment is proven operating systems capable of running multiple applications simultaneously and seamlessly; teamed with hardware that offers customers user-friendly interfaces, unsurpassed service flexibility, unequalled reliability and unquestionable security.

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Introduction

Unattended payment devices enable consumers to pay for a multitude of goods and services without the necessity for any contact with a service or sales assistant.

Traditional ‘vending’ machines have been around for centuries. Indeed the first recorded reference was in the first-century for a machine that accepted coins to dispense holy water. The first ATM, installed in 1967, brought new levels of interaction but it wasn’t until 1977 that the first self-service interactive kiosk was developed at the University of Illinois. In 1991, the first commercial kiosk with internet connection was displayed at Comdex; and in the late 90’s, we saw full scale roll-outs with the introduction of Kodak’s ubiquitous photo kiosk machines.

By 2008, connection to the internet had become the norm; providing access to customised applications often in conjunction with local devices such as credit card readers, bar code scanners, receipt and ticket printers, and even biometrics.

Today’s unattended payment devices now combine vending principles with high-tech communications and complex robotic and mechanical internals. These sophisticated hardware devices work in combination with self service software; allowing users to perform any number of possible transactions.

To some extent, the uptake of self service devices, however, has been restricted by lack of secure card payment technology. The introduction of secure EMV certified verification is set to change this. Before Chip & PIN, there was no way to authenticate a card or verify a customer’s identity and the liability for fraud was with the merchant. Now that integrated EMV systems are available, retailers have a reliable method of verifying cardholders freeing them from the worry of excess liability. This will, inevitably, increase the number of unattended applications.

Consumers are already demonstrating their eagerness to exploit these new platforms. For them, self-service pays in terms of expediency, ease of use, and the freedom to choose the time and place to make a purchase. As a result, unattended payment transactions are accelerating in a variety of sectors, including ticketing, vending, car parking, photo kiosks, and pay-at-pump petrol retailing.

For retailers, unattended payment solutions can generate significant extra revenue and increase profitability whilst at the same time eradicating the costly and labour intensive problems relating to cash processing (including the losses due to fraud), making it possible to locate goods and services exactly where the consumer is, and enabling the introduction of new and evermore sophisticated merchandising strategies.

Extended Service Benefits

The primary benefits of unattended, kiosk and self-service payment, for both consumers and retailers, are speed and convenience in terms of location, availability and card usage.

Unattended payment delivers effectively against changing consumer customer service expectations, enabling speed and simplicity when paying for transactions; self-serve check out options have been shown to generate a 40 per cent reduction in average queue times, with increased throughput of up to 20 percent ^(Source: IDC). For retailers, increased throughput equates to increased revenue, and reduced customer drop-out.

Retailers report that unattended and self-service options are being embraced enthusiastically by all customer segments, and demographics - from the elderly to younger and more IT-literate customers. The trend isn't just limited to low-value payment transactions; high value goods such as mobile phones and MP3 players are also being successfully sold through vending machines.

Following the roll-out of EMV cards in Europe, many businesses are now tapping into unattended payment to deliver enhanced 24/7 service in response to the demands of today's increasingly sophisticated consumer. Unattended payment technologies enable enhanced operational efficiencies, and make service delivery possible 24x7 in environments that were previously uneconomic or impractical.

Sectors that spearheaded the move to unattended payments have been quick to benefit. Self-service banking through ATMs has reaped dividends for the financial services sector, including improved customer service, convenience and business efficiency. Many airlines have embraced self-service check-in technology to slash check-in times and reduce congestion in check-in halls.

Evidence from the United States and Europe demonstrates that as well as boosting throughput, unattended payment devices help to drive increased sales and user spend, capturing impulse purchases while ensuring customers aren't excluded from the purchase cycle by the unavailability of cash resources.

Retailers

- Increases sales window 24/7
- Increases revenue
- Reduces staffing costs
- Eliminates cashier errors
- Reduces cash handling & fraud
- Increases throughput
- Increases order value
- Flexible payment locations
- Improves utilisation of space
- Increases cross and up -selling
- Improves staff productivity

Consumers

- Faster check-out times
- Reduced queuing
- More conveniently locations
- Broader range of products
- Transact in private
- Freedom to purchase anytime

Card Issuers

- Increases card transaction volumes
- Increases revenues
- Penetrates cash markets
- Minimal infrastructure changes

Market Overview

Self-service payment is proving to be a growth phenomenon. According to Summit Research Associates, the only international consulting firm devoted to kiosks and unattended payment, the worldwide kiosk installed base is expected to reach 1.9 million by the end of 2010 and 2 million in 2011.

North American will see growth of 13 per cent and Europe and Asia-Pacific both 12 per cent. The rest of the world will see the most kiosk expansion through 2011, with a projected growth rate of 17 percent.

North America:

This region persistently dominates the global kiosk market, representing two-thirds of the installed base, with 1.2 million deployments in 2008. According to Summit's findings, 53% of all kiosks deployed today are in the United States. This dominance is unlikely to change in the next three years.

Europe:

With an installed base of 321,000 kiosks, European kiosk deployments represent 18 percent of the global market. Europe is the second-most populated kiosk region. Summit anticipates a "renewed level of activity" in Europe, specifically in Russia, where there has been upswing in the deployment of financial-services kiosks.

Asia-Pacific:

This region closely trails Europe, with 271,000 kiosks, or 15 percent of the global installed base. Despite its smaller number of kiosk players, several large deployments will precipitate steady growth in the region and eventually, the Asia-Pacific region will eclipse the other regions.

Rest of the World:

With only 33,000 kiosks installed, ROW, represents only 2 percent of the global kiosk market. Here, infrastructure issues, such as unreliable power supplies and low labour costs, are prohibitive factors in the growth of self-service.

Applications Driving Growth

The advent of secure EMV authentication for payment cards and cardholders has meant kiosks and unattended devices are now able to securely handle high value transactions. For retailers, this has opened new routes to market and lower distribution costs, stimulating a meteoric global growth in kiosk sales.

Unattended payment solutions are currently gaining traction in Europe, as consumers become accustomed to undertaking self-service transactions. In the UK, large supermarkets have successfully utilised self-service checkouts to cope more easily with peaks and troughs in demand, satisfying customer demand for convenience and reduced waiting times.

Within Europe's parking sector, chip and PIN card-activated meter and device roll-outs look set to increase as inflation-driven prices make carrying coins impractical. In Belgium, Germany and the Netherlands, consumer familiarity with e-purse transactions at parking meters and vending machines are also smoothing the shift to self-service payments with EMV cards.

Contactless Self-Service

The growth of contactless cards will also fuel the growth of unattended. Already today there are 16 million PayPass cards being used at more than 56,000 merchants in 19 countries including: Australia, Canada, Japan, Lebanon, Malaysia, Philippines, South Africa, South Korea, Taiwan, Thailand, Turkey and the USA. According to Frost and Sullivan, the global contactless payment card marketplace has grown to almost 1% of all card-accepting merchants, and roughly 3.5% of all general purpose payment cards.

Looking ahead, IMS Research forecasts that the number of locations accepting contactless payments will increase by over 12.5 million by the end of 2013. IMS also suggests that the number of contactless-enabled points of sale in existence will grow more than six times faster than the overall EFTPoS market. As customers move from cash to card, then the opportunities for unattended applications become immense. Systems such as Transport for London's Oyster card are already successfully familiarising users with the convenience of 'tap and go' usage.

Common Applications

- Parking
- Ticketing
- Mass transit
- Self-service checkouts
- Food vending machines
- Drink vending machines
- Photo kiosks
- Retail kiosks
- Pay-at-pump
- Stadium or venue access

The trend to deploy transport and contactless payment small-value payment transactions - below \$25 in the US, 25 Euros in the Euro zone and £15 in the UK - is also helping to propel contactless payment into a variety of retail environments, including fast food, local convenience stores, sandwich and coffee shops, pubs, as well as taxis.

Adding contactless payment to the PoS offers significant advantages for quick service restaurants, supermarkets, petrol stations and other establishments where speed and convenience are crucial to maintaining customer loyalty and maximising revenue during peak hours. Rather than inserting a payment card into an EFTPoS device, or swiping it through a magnetic stripe reader, a cardholder can use contactless device, such as a card of key fob, to pay for goods by simply waving the device within 10cm of a contactless reader.

In terms of deployment, existing PoS devices can be easily modified; VeriFone provides contactless readers as a modular add-on for existing EFTPoS devices.

Public Transport

In many countries the public transport sector is leading the way in self-payment solutions. The number of card-enabled ticketing machines at train and bus stations is proliferating, enabling time-pressed commuters to use self-service touch-screen kiosks to purchase tickets. Train operators and consumers alike can benefit from reduced peak-time queues and improved customer service delivery. The implementation of new automatic ticket barriers and self-service machines has also helped to reduce fare evasion, while eradicating theft from or vandalism of machines.

Petroleum Retail

As part of an overall customer service strategy, petrol retailers are undertaking major deployments of EMV-enabled pay-at-pump systems across forecourts to speed throughput, reduce cash handling and staffing and offer 24/7 service. In countries where pay-at-pump usage is well established, such as the Nordic region, Benelux, Italy and Canada, the deployed solution base is being upgraded to accept EMV chip and PIN cards.

In the UK and Germany, motorists are increasingly encountering chip-enabled pay-at-pump devices on the forecourt with large displays and secure PIN entry keypads. Tesco, which is now the largest fuel retailer in the UK, already offers EMV payment at pump across its entire UK estate. Today's top of the range pay-at-pump systems also offer the ability to provide value-added services and generate new revenue streams for retailers, by partnering with content providers to stream advertising and promotional information to customers as they re-fuel.

Additional Retail Services

The latest touch screen unattended devices combine a secure payment solution with a powerful multimedia delivery platform capable of delivering highly targeted branding, cross-line promotions, as well as advertising at the PoS.

Consequently, Kiosk and unattended payment devices are fast becoming vital components of multi-channel retail strategies. Retailers are embracing unattended technologies to deliver an improved in-store experience that drives consumer loyalty. Merchants are also utilising unattended to deliver revolutionary merchandising programmes that leverage new revenue generating partnerships.

Expanding on these market trends, on an individual level 86% of North American shoppers stated that they prefer to do business with companies that offer self-service technology.

Equally, if not more important than the kiosks, is the technology that Time Magazine recently named as one of the 10 most prominent technologies to advance over the next 10 years: Digital Advertising.

According to figures featured on CNN from research specialists IMS, the digital signage advertising market reached \$3.9 billion last year and is expected to grow strongly. Indeed, industry research leader Frost and Sullivan states that although digital advertising slowed from its pre-2008 25% growth rate, the industry maintained more-than-respectable 10% growth throughout the recession before going on to predict that this figure would increase to 15% this year and 20% by the end of 2011.

Kiosks also enable retailers to deliver a wide range of product information including price, size and colour choices, technical specifications or upgrade options, and even to offer purchase recommendations for a range of related items.

This virtual sales assistance approach is proving popular with consumers, and current research confirms a higher-than-average consumer spend in unattended payment scenarios. It is also opening the way to the emergence of unique co-branding sales partnerships, where global product brands leverage brand recognition to cross-sell products or services from new or local merchandising partners.

With high resolution VGA screens, and sophisticated real-time network management capabilities, merchandisers can drive offers or promotions on a country, region or city location, pinpointing delivery of offers or price options to specific customer profiles.

Multimedia capability enables consumer focused PoS services

- loyalty scheme admin (*points calculation/voucher generation*)
- gift card issuance
- electronic top-up services
- digital advertising
- internet access
- virtual sales assistants

Security & Standards

The PCI PED (Payment Card Industry PIN Entry Device) security requirements are the security standards for PIN entry devices, and are designed to prevent tampering and protect valuable card data. From January 2008, all devices had to be approved and designed as compliant with existing PCI PED requirements covering:

- tamper protection
- cryptographic control of prompting
- PIN monitoring prevention
- deterrents to prevent visual observation of PIN entry
- authentication of software applications
- credit card reader security
- encryption and key management

In May 2010, the council that administers the PCI Data Standards released new requirements that vendors of payment card devices will be expected to incorporate into their products going forward.

The new requirements are designed to bolster security on retail point-of-sale card readers and unattended kiosks and payment terminals, such as those found at airports and gas stations.

Version 3.0 of the PCI council's PTS includes three new modules for device vendors and their customers to secure sensitive card data. One of the modules contains requirements pertaining to the secure reading and exchange of data on payment card devices. The requirements would enable the secure reading and encryption of sensitive cardholder data at the point where a credit or debit card is swiped.

A second module spells out the security standards that device vendors will be expected to follow while integrating all of the different components that make up an unattended point-of-sale device that accepts PIN-debit card transactions. The third module, called Open Protocols, contains a set of new requirements relating to wireless-enabled payment card devices.

The new version of PTS also consolidates what used to be three separate sets of requirements for point-of-sale devices, PIN entry devices, unattended payment terminals and for encrypting PIN pads. Vendors will be expected to start implementing the requirements contained in Version 3.0 from 2011.

Unattended In Action: Schönbrunn Palace

In 1996 Schönbrunn Palace was declared by UNESCO as a world heritage site. Today, the palace draws about 2,5 million visitors annually, with an additional 6 million visitors in the palace parks and surrounding attractions.

Facing a growing number of visitors and longer lines to buy admission tickets, the managing company of Schönbrunn Palace, Schloss Schönbrunn Kultur- und Betriebsges.m.b.H., decided to place self-service kiosks for visitors to purchase tickets next to existing ticket desks.

The kiosks offer visitors instructions in 5 languages. Visitors can use their credit or debit cards for payment at the kiosk, which dispenses the admission tickets to Schönbrunn Palace.

The kiosks employ VeriFone's PCI PED-approved V^x 700 unattended PIN pad, which combines the highest payment security with outstanding durability. With one of the industry's smallest footprints, the V^x 700 is the perfect fit for self-service payment - indoors or out - for new OEM designs or for existing self-service kiosks. The V^x 700 is coupled with VeriFone's SCR710 hybrid card reader, which accepts both EMV and magnetic stripe cards.

The integration of the VeriFone PIN pads in the kiosks was performed by the TECS telecommunications & e-commerce solutions GmbH. TECS also supplied the payment system, which ensures an end-to-end secure and fast processing of the card transactions, from the VeriFone V^x 700 to the payment card companies.

“The self-service kiosks have helped to significantly shorten the lines in our ticket office at Schönbrunn Palace”, says Michael Leonardelli, IT Manager. “The kiosks and the V^x 700 payment modules step up to the challenge of high and robust performance and help streamline the ticket purchasing process throughout the year, and especially during the peak season. We calculate that at the kiosk we now sell about 2200 tickets per month”.



Once the residence of Empress Maria Teresa and Emperor Franz Joseph, Schönbrunn Palace is one of the most important cultural monuments in Austria.

VeriFone - A Trusted Partner

VeriFone is the industry leader in bringing unattended payment solutions to the market. From pay-at-pump self service, to kiosks for quick service restaurants, it delivers state-of-the-art, highly secure and easy-to-use solutions that work seamlessly with everything else.

VeriFone's solutions architects are experts at designing consumer-facing payment solutions that are as intuitive as they are adaptable. Its unattended solutions range from outdoor PIN pads, to complete systems including multimedia devices, transaction and estate management software. It also provides full implementation and consulting services for self-service and unattended payment from design and trial to installation and full-scale roll-out.

VeriFone's leadership position in contactless technologies was established a decade ago, when it provided integrated contactless readers to support the first Mobile SpeedPass deployments. In 2007, ABI Research provided independent confirmation of our technology and thought leadership in contactless payment, naming VeriFone as one of the top two providers of contactless readers.

A leading payment solution vendor, VeriFone has always recognised the critical importance of security at the PoS. VeriFone invested early and substantially in the PCI PED system, and today provides the broadest range of PCI PIN pad solutions for unattended PIN entry devices (EPPs).

As an invited member of the PCI Security Standards Council, VeriFone is committed to supporting merchant education around PCI DSS and PCI PED compliance. Its proactive strategy, in advance of compliance deadlines, has enabled the development of PCI PED approved systems that deliver greater value, lower cost of ownership, and increased reliability and performance.

All VeriFone's unattended payment modules offer the highest degree of PCI and EMV Level 1 and Level 2 Type Approvals for on-line and off-line PIN entry. This includes an approved encrypting PIN pad (EPP), PCI approved Secure Card Readers, and data encryption between the EPP and Secure Card Reader.

VeriFone - Solutions Portfolio

VeriFone offers a wide array of both indoor and outdoor unattended payment solutions. Its full portfolio of offerings and comprehensive, proven solutions are deployed in various types of self-service payment systems around the world.



MX 760

VeriFone's MX760 is a durable, all-in-one unattended electronic payments module designed for the most unforgiving conditions. Ideally suited to applications such as ATM, ticketing or fuel dispenser integration, it operates in the toughest environments. But what sets the MX760 apart is its ability to deliver high-resolution multimedia content allowing for interactive promotions that drive additional revenue and information delivery to improve customer service.



V^x 700

With one of the industry's smallest footprints, Vx700 is designed to fit a standard bill acceptor cutout, making it the perfect choice for adding electronic payments capabilities to kiosks and vending machines for retail, ticketing, drive-thrus, transportation, parking, petro and other self-service settings.



OP 4100

This rugged, PCI approved solution is perfect for pay-at-the-pump and other outdoor kiosks. Its compact, all-in-one design allows for easy and quick installation, and it comes complete with features that make it not only extremely convenient and consumer friendly but also allows it to act as a promotional messaging tool.



OP 3100

VeriFone's OP 3100 is the ideal solution for indoor or outdoor environments such as ticketing, vending machines, parking payments and other self-pay applications. This PCI approved payment module allows merchants to securely dispense goods anytime, anywhere.



Secura Integration Modules

The Secura Integration Modules make up VeriFone's most versatile unattended payment solutions set for manufacturers who want to deploy secure, PCI PED approved, EMV transaction payment technology within their own systems--indoor or out.



MX Payment Kiosk

This secure and easy to use PCI PED- approved payment kiosk goes beyond standard kiosks and merges full-motion video, a colour display, high quality digital sound and highly secure payment capabilities into a single, easy-to-use payment device. Using the MX Payment Kiosk, banks, malls, ticketing companies, utility companies and more can harness additional communication power to create brand awareness, reinforce advertising or even deliver cross-promotions to their customers.

VeriFone also offers a full suite of PAYware software solutions for card acceptance and payment processing. Powerful middleware streamlines transaction authorisation and settlement and handles communication with a variety of devices. And VeriFone can provide flexible payment engine capability for any size business. All VeriFone systems for unattended solutions rely on proven operating systems that run multiple applications simultaneously and provide user friendly interfaces, unsurpassed flexibility, reliability and security.

VeriFone's estate management system enables operators to efficiently monitor remote payment devices, update application software, and more.

Conclusion

Unattended payment offers significant new routes to market in a range of outdoor and indoor environments, where speed and convenience are crucial to maintaining customer loyalty and maximising revenue opportunities.

Adding unattended payment to PoS offers extended benefits for quick service restaurants, supermarkets, petrol stations and mass transport and ticketing environments.

Studies show that unattended is set for further growth in all of the world's key markets. This will be driven by increased competition, customer demand for more convenient purchasing channels, improved security and contactless, prepaid and 'cashless' payments.

As retailers, fuel and transport organisations and commercial businesses strive to maintain competitive edge and market agility - they cannot afford to ignore the tangible benefits of modern interactive, self-service devices and applications.

VeriFone is there to help guide them through the process. It provides the industry's most secure and effective unattended solutions and offers support through testing, implementation and ongoing operations.

VeriFone's complete unattended programme includes training, consulting, professional services, documentation and support; making it the perfect partner for any business serious about exploiting self-service payment platforms.

To learn more visit www.verifone.com/unattended