# AUGUST 2019 TECHNOLOGY ALLIANCE Aguarterburger

### **Executive Director Message**



Let's begin this issue's letter with a question. What do electric vehicles, driver's licenses, and credit cards have in common? Before I attempt to answer that question, let's explore some things that they don't have in common. Do you need a driver's license to operate an electric vehicle that has autonomous car features? One could make an argument that if you are not doing the actual driving of the car, and instead simply plugging in a destination and hitting the start button, then you are not the one actually driving the car. Such suspense! Please read my letter in this issue to learn more.

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#### **Feature Article: Consumer Experience at the Contactless Point of Sale**

Contactless payments, which are common around the globe, have typically emerged as a result of the convergence of three trends: maturing acceptance of contactless at the point of sale; nascent but growing issuance of contactless-enabled cards; and consumer readiness for contactless payments. This article, an extract from the U.S. Payments Forum white paper, Consumer Experience at the Contactless Point of Sale, describes best practices for contactless implementation at the point of sale to ensure contactless payments maximize the increased speed and convenience they offer.

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#### **Upcoming Event:**



**13th Annual Payments Summit** Feb. 24-27, 2020 Salt Lake Marriott Downtown at City Creek, Utah https://www.stapayments.com

Registration is now open for this comprehensive gathering of card and payments professionals! The Payments Summit is the premier industry event covering all things payments, including FinTech, payment technology, mobile payments, NFC, contactless, transit payments, mobility as a service and more. The additional audience due to the U.S. Payments Forum All-Members meeting ensures a comprehensive gathering of card and payments professionals. Register today and save on fees by enjoying early-bird discounts.

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## What Do Electric Vehicles, Driver's Licenses and Credit Cards Have in Common?



Dear Members and Friends of the Alliance,

Let's begin this issue's letter with a question. What do electric vehicles, driver's licenses, and credit cards have in common? Before I attempt to answer that question, let's explore some things that they don't have in common. Do you need a driver's license to operate an electric vehicle that has autonomous car features? One could make an argument that if you are not doing the actual driving of the car, and instead simply plugging in a destination and hitting the start button, then you are not the one actually driving the car.

Do you need a driver's license for identity purposes if you have a mobile identity that can visually offer the same appearance of your state-issued document, but with added digital capabilities and security features? One could also argue that your bank-issued mobile credit card stored in your mobile wallet looks like, and is just as good as, the physical credit card but with added digital capabilities and security features.

Do you need a credit card to charge your electric vehicle? Not likely, if public EV charging stations talk to the computer inside the car. That then can start a secure two-way communication between the charger and a secure element inside the car that identifies the vehicle, the owner, and the method of payment – like Apple Pay on wheels.

The one thing that electric vehicles, driver's licenses, and credit cards have in common is they are all undergoing a transformation from the physical world to the new digital, mobile world. The Secure Technology Alliance has an active community of experts organizing work groups and workshops, and holding education forums on all three of these topics.

The EV Charging Open Payments Framework Project is bringing together the leading automotive manufacturers and EV charging solutions providers to document a standards-based common payments framework that leverages the existing digital payments platforms that have the backing of the payment brands and processors.

The Mobile Driver's License Coordination Group is leading the way to advance the implementation of rapidly evolving mobile driver's license standard within state motor vehicle agencies and the national association that represents them. It does this by facilitating cross-industry discussion and providing guidance on use cases beyond driving privileges and law enforcement. A strength of the Alliance is the ability to provide guidance that is based on experience with the proven provisioning and authentication techniques used by mobile wallets and globally-interoperable payment credentials.

The Payments Council is working on several projects involving changes to credit cards, like the addition of biometrics, powered cards with dynamic security codes, and the addition of contactless capability on EMV cards.

To show you how quickly things change, and how agile the Alliance is at shifting our focus to address new markets and challenges on a broad range of important market opportunities, many of the members on all three of these teams were working on other projects or were not part of any Alliance work group just a few months ago. Consider joining one of these work groups or look at some of the other industry council activities and find out where you can contribute and make a difference. As always, thank you for your support of the Secure Technology Alliance.

Sincerely,

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Randy Vanderhoof Executive Director, Secure Technology Alliance rvanderhoof@securetechalliance.org

## **Updates from the Alliance Industry Councils**

Secure Technology Alliance councils continue to be active in providing education and commentary on new and emerging secure technologies.

#### **Access Control Council**

- The <u>Access Control Council</u> elected its 2019/2020 officers. New officers are: chair – Clay Estes, HID Global; vice chair – Lars Suneborn, Identification Technology Partners; secretary – William Windsor, U.S. Department of Homeland Security
- The Council compiled and submitted comments on the Transportation Worker Identification Credential (TWIC\*) NEXGEN specification. Council members contributing to the comments included: CertiPath; Exponent; G+D Mobile Security; GSA; HID Global; IDEMIA; Identification Technology Partners; Identiv; Integrated Security Technologies, Inc.; NXP Semiconductors; SigNet Technologies; U.S. Department of Homeland Security; Veridt; XTec, Inc.
- The Access Control Council and Identity Council held a wellattended joint Council meeting at the 2019 Securing Federal Identity Conference. Topics discussed included FIPS 201-3 changes, a potential new project on short-term temporary credentials, the mobile driver's license initiative, and updates from both the Access Control and Identity Councils on past year activities.
- The Council is now developing a new white paper on temporary identity credentials for Federal agencies

#### **Identity Council**

- The <u>Identity Council</u> held a workshop, **Mobile Driver's** Licenses for Retail Use, on Tuesday, July 16, in Atlanta, GA. The workshop provided an overview of mobile driver's license (mDL) technology and explored how mDLs would be used for a wide variety of retail use cases
- The Council held a well-attended mDL project meeting at the 2019 Securing Federal Identity Conference, discussing example use cases and project plans
- The Council is now developing an mDL overview white paper and continuing work to discuss the draft ISO 18013-5 specification and document use cases in different industry sectors

#### **Payments Council**

- The <u>Payments Council</u> held a well-attended webinar on <u>Biometric Payment Cards</u> on July 25<sup>th</sup>. Speakers included: Oliver Manahan (Infineon Technologies); Jose Correa (NXP Semiconductors); Tom Rapkoch (Visa); Gerry Glindro (IDEMIA); Randy Vanderhoof (Secure Technology Alliance). The webinar recording is available on the <u>Alliance web site</u>
- The Council currently has three active projects: dynamic security code cards white paper; wearables white paper update; and open payments framework for electric vehicle charging

#### **Transportation Council**

• The <u>Transportation Council</u> is developing a vision white paper focused on payments integration for Mobility as a Service (MaaS) initiatives

#### Other Council Information

- Secure Technology Alliance members are now able to request guest participation in U.S. Payments Forum projects. The list of active Forum projects is available on the <u>Alliance member</u> web site. If you would like to participate in one of the Forum projects, please contact <u>Cathy Medich</u>. A list of <u>active Secure</u> <u>Technology Alliance Council projects</u> is also available to promote cross-council participation
- If you are interested in forming or participating in an Alliance council, contact <u>Devon Rohrer</u>

Alliance Members: Participation in all current councils is open to any Secure Technology Alliance member who wishes to contribute to the council projects. If you are interested in forming or participating in an Alliance council, contact <u>Cathy Medich</u>.





## **Consumer Experience at the Contactless Point of Sale**

Contactless payments, which are common around the globe, have typically emerged as a result of the convergence of three trends: maturing acceptance of contactless at the point of sale; nascent but growing issuance of contactless-enabled cards; and consumer readiness for contactless payments.

Contactless payments, which can be made using enabled cards or mobile wallets, use radio frequency (RF) to transmit payment information from a device to a terminal. While many consumers are familiar with making contactless payments with Near Field Communication-enabled mobile wallets, it is less well known that contactless-enabled credit and debit cards. EMV\* chip cards that have an embedded antenna can be used for contactless, contact chip, or magnetic stripe payments.

Despite the current low adoption of contactless payments, adoption is expected to accelerate in the near future due to a number of reasons:

**1. Acceptance is maturing.** According to Visa, more than 60% of face-to-face Visa transactions occur at

contactless-enabled merchants as of December 2018.<sup>[1]</sup> In addition, most point-of-sale (POS) terminals installed with the U.S. EMV migration have the hardware capability to process contactless transactions. Additionally, several U.S. transit agencies are moving to open contactless payments, which is expected to drive consumer habituation for contactless payments.

- 2. Issuance is beginning to accelerate. Several large financial institutions have begun offering contactless cards, including J.P. Morgan Chase, Capital One, American Express, Discover Network, and Citi (with the Costco card). Visa estimates that, by the end of 2019, 100 million contactless Visa cards will have been issued; Mastercard has stated that it has agreements with its bank partners that will bring contactless cards to customers and account for two-thirds of Mastercard's total payment volume within two years. <sup>[2]</sup>
- **3. Consumers are interested**. Around the globe, once contactless acceptance and issuance reached critical mass,

consumer adoption followed rapidly. An illustrative example is Russia, where contactless penetration of card payments increased 38 percentage points between September 2017 and September 2018. [3] In the U.S., more than 75% of consumers say contactless payment methods are at least somewhat appealing, and about half are "extremely or very interested." [2] The primary benefits of contactless payments are increased speed and convenience with the same level of security as EMV chip. All players in the payments ecosystem may see some benefit:

- Merchants may see faster throughput at the POS, enabling them to serve more consumers faster.
- Issuers may see increased spend as consumers opt for the issuer's contactless device rather than competing forms of payment.
- Consumers may be presented with a faster experience at the POS, saving them time.

Currently, the contactless POS experience is fragmented. Often, consumers are not aware that contactless payments are available. In other implementations, consumers attempt to use contactless payments at locations that have contactless signage, but the transaction is unsuccessful because the terminal does not actually support contactless payments. This article describes best practices for implementing contactless at the POS to reduce stakeholder and consumer confusion and to help contactless deliver fully on its benefits to merchants, issuers, consumers, and the entire payments ecosystem.

#### How Does a Consumer Know Contactless Can Be Used?

Merchants can use several methods to communicate to consumers that they accept contactless payments.

A merchant best practice is to display the EMVCo Contactless Symbol (Figure 1) prominently on the terminal and/or during the checkout experience if contactless payments are accepted. The symbol should be displayed *before* the consumer begins the checkout experience, because consumers usually decide on their payment type before the payment process starts.

Merchants can also leverage the terminal display screen to communicate contactless acceptance by prompting consumers to "Tap/Insert/Swipe" during the checkout experience.

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Figure 1. The EMVCo Contactless Symbol for Merchant Acceptance

Additionally, many merchants already display mobile wallet acceptance marks. While these marks do indicate that consumers can tap, consumers do not associate these symbols with the acceptance of contactlessenabled cards. The EMVCo symbol is inclusive of both cards and mobile wallets, and is recommended to be displayed as the baseline for contactless acceptance, regardless of other acceptance marks. To ensure consumers are tapping at the proper location, terminal vendors and merchants should position the EMVCo Contactless Symbol with the optimal location on the terminal (i.e., the location that is best for reading the contactless device). The optimal point varies depending on terminal manufacturer and even models from the same manufacturer. Merchants should work with their terminal vendor or acquirer to determine the appropriate location for the EMVCo Contactless Symbol on their acceptance device.

Merchants who do not accept contactless transactions should not display the EM-VCo Contactless Symbol since this would lead to significant consumer confusion. Note that some payment terminals are being sold to merchants with the EMVCo Contactless Symbol on the body of the terminal; in these cases, a merchant should cover the symbol if they do not accept contactless transactions to reduce consumer confusion.

#### When Should a Consumer Tap?

While integrations vary among merchants, two implementation methods are generally used that influence when consumers can tap for contactless payments: Traditional EMV and Faster EMV. [4] In both implementations, it is best practice that the terminal should prompt consumers to tap, and be ready to receive the tap at the same time when all other acceptance interfaces (swipe/insert) are also prompted and ready to be accepted.

- Traditional EMV requires the final total amount to be sent to the terminal before consumers can tap or insert
- Faster EMV allows consumers to tap or insert before or in parallel to the tender being totaled. This is referred to as a pre-tap or pre-insert. Please note: the placeholder value used in pre-tap can impact the merchant choice of AIDs and CVMs

Some terminals require cashier action before consumers are able to pay (i.e., the terminal needs to be in an active state). As implementations may vary, it is beneficial for the consumer experience and a best practice to have all payment interfaces (magnetic stripe, contact and contactless) enabled at the same time, rather than requiring a separate action to enable the contactless interface.

Certain scenarios may call for different methods. For example, in self-checkout implementations, a common practice is to allow a tap after the total is known, since the consumer is also executing the checkout process. In a scenario with pre-authorization, such as with petro, pre-tap should be used to initiate the order. Some self-service scenarios allow the customer to initiate the order with a tap. This is common when paying at a vending machine.

## What Do Cashiers Need to Know?

Cashier training is crucial to a successful contactless implementation; training should be simple and easy. It is important that cashiers understand when, where and how to properly execute a contactless transaction based on the merchant's implementation in order to minimize consumer confusion and provide a seamless and convenient checkout experience. First, retail cashiers should be aware of the EMVCo Contactless Indicator (Figure 2). If this indicator appears on the front or back of a credit or debit card, the card is contactlessenabled and can be tapped to pay.



## Figure 2. EMVCo Contactless Indicator for Card Enablement

#### When

Both cashiers and the payment terminal should be able to tell consumers when they are able to tap during a transaction. The timing of a consumer's tap depends on the contactless implementation.

#### Where

Cashiers should also be able to describe where consumers should tap on the terminal. The location should be clearly presented on the terminal. While the terminal should clearly indicate where to tap a device or card, the cashier will often need to help direct the consumer. The EMVCo Contactless Symbol should be placed to indicate the optimal read (antenna) location on the terminal. There are typically three places a consumer may tap:

- On the terminal: screen
- On the terminal: other location
- On a separate, contactless-specific device

#### How

Cashiers should receive training on how to execute contactless transactions with both cards and mobile wallets. Cashiers should also be aware of the Cardholder Verification Method (CVM) options, including the Consumer Device Cardholder Verification Method (CDCVM) for mobile transactions.

#### What Are Best Practices for the Consumer Transaction Flow?

The optimal consumer experience will vary across merchant implementations and market segments. For example, checkout at a grocery store looks very different from checkout at a quick-service restaurant. However, several contactless best practices apply regardless of the merchant or segment.

- The consumer is alerted to the fact that the merchant accepts contactless by the presence of the EMVCo Contactless Symbol before the checkout process is initiated.
- At the appropriate time in the checkout process, the terminal prompts the consumer to "Tap/Insert/ Swipe."

- 3. The terminal display is designed, and cashier is trained, to help the consumer follow the prompts to complete the transaction.
- 4. The terminal indicates a payment confirmation when the tap has been accepted. Often this confirmation is a message on the screen, but it could also be audible (e.g., a "beep") or visual (e.g., a "green light").
- 5. The terminal communicates that the transaction is complete. When the authorization response is received, the approved or declined result is displayed.

#### Conclusions

Contactless is the preferred payment method in many parts of the globe. While nascent in the U.S., contactless payments are poised for mass adoption due to maturing acceptance, increasing availability, and growing consumer preference.

This article described best practices for contactless implementation at the point of sale to ensure contactless payments maximize the increased speed and convenience they offer.

Consumers know that they can tap through clear and consistent signage and use of the EMVCo Contactless Symbol

The POS terminal should communicate when and where to tap during the transaction through clear messaging and communication that directs the consumer to tap at the optimal read location

Consumers should receive confirmation that their card was read and whether the transaction was approved or declined Retail cashiers should be familiar with the experience for contactless payments to help consumers as they transact

If these practices are implemented properly, contactless will be more likely to deliver on its value proposition of making the checkout experience faster.

#### References

[1] <u>https://usa.visa.com/dam/VCOM/</u> global/pay-with-visa/documents/vsa215-02-contactless.pdf

[2] "At last, US banks are introducing contactless cards," Financial Times, Jan. 15, 2019, <u>https://www.ft.com/</u> <u>content/445a308c-02f3-11e9-9d01-cd-</u> 4d49afbbe3

[3] https://s1.q4cdn.com/050606653/files/ doc\_financials/2018/q4/CORRECTED-TRANSCRIPT-Visa-Inc.(V-US)-Q4-2018-Earnings-Call-24-October-2018-500-PM-ET.pdf

[4] "Optimizing Transaction Speed at the POS," U.S. Payments Forum white paper, October 2017, <u>http://www.uspaymentsfo-</u> <u>rum.org/optimizing-transaction-speed-at-</u> <u>the-point-of-sale/</u>

#### **About this Article**

This article is an extract from the U.S. Payments Forum white paper, <u>Con-</u> <u>sumer Experience at the Contactless</u> <u>Point of Sale</u>. Additional resources on the implementation of contactless and mobile payments can be found on the <u>U.S. Payments Forum web site</u>.

For more information, visit our website at <u>www.securetechalliance.org</u>. Members can also access white papers, educational resources and other content.



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#### About Secure Tech Talk

Secure Tech Talk is the monthly e-newsletter published by the Secure Technology Alliance to report on industry news, information and events and to provide highlights of Alliance activities and membership.

#### About the Secure Technology Alliance

The Secure Technology Alliance is a not-for-profit, multi-industry association working to stimulate the understanding, adoption and widespread application of secure solutions, including smart cards, embedded chip technology, and related hardware and software across a variety of markets including authentication, commerce and Internet of Things (IoT).

## **U.S. Payments Forum Resources**

- The Forum Mobile and Contactless Payments Working Committee published a new white paper, <u>EMV Payment Tokenization Primer and Lessons Learned</u>. The white paper focuses on the current state of EMV payment tokenization, providing the reader with an understanding of payment tokenization, the payment scenarios in which tokenization can be used, and the services that are commonly used in payment tokenization
- The Forum Testing and Certification Working Committee published a new resource, <u>EMV Level 3 Contactless Certification Recommended Solutions to</u> <u>Reduce Deployment Time</u>. The Working Committee identified possible testing and certification challenges to implementation and deployment of Level 3 certified contactless implementations for merchants. The white paper describes these challenges and opportunities to address them, and proposes possible solutions
- The U.S. Payments Forum Communications and Education Working Committee published a new white paper, <u>Consumer Experience at the Contactless Point-of-Sale</u>. The white paper describes best practices for implementing contactless at the point of sale to reduce stakeholder and consumer confusion and to help contactless deliver fully on its benefits to merchants, issuers, consumers, and the entire payments ecosystem

## Alliance in the News

- "IoT Payments: Where Convenience Needs to Meet Security" The Paypers. Executive Director Vanderhoof shares insight on IoT payments and the need for a trust framework that doesn't disrupt usability in this report on payment innovations.
- "Security Technology Alliance releases implementation guide on PIV credentials for physical access control" Secure ID News. This story highlights an Alliance resource on the implementation of PIV credentials for physical access control – a complementary guide to NIST Special Publication (SP) 800-116 R1.

## **Upcoming Industry Events**

#### Global Security Exchange (GSX)

September 8-12, 2019 McCormick Place Chicago, IL

#### www.gsx.org

Formerly the ASIS International Annual Seminar and Exhibits, Global Security Exchange (GSX) builds on a 65- year legacy of event excellence, uniting the full spectrum of security—cyber and operational security professionals from across the private and public sectors, allied organizations and partners, and the industry's leading solution providers—for the most comprehensive security event in the world. **Secure Technology Alliance members – to receive 20% off Conference fees, use this promotional code when registering:** ASIS20DISC (excludes workshop).

#### Money 20/20

October 27-30, 2019 The Venetian, Las Vegas

#### https://us.money2020.com/register

Money20/20 USA is the most anticipated Payments, FinTech and Financial Services event. It's the premier platform where the entire ecosystem unites to create and revolutionize the disruptive ways in which consumers and businesses manage, spend, invest, protect, share and borrow money.

Secure Technology Alliance members - save \$250 at registration by entering this code: STA250

## Congratulations New Certificants

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\*Denotes corporate exam. For more information, contact <u>Randy Vanderhoof</u>