



SECURE
TECHNOLOGY
ALLIANCE

NOVEMBER 2018 SECURE TECH TALK

A quarterly newsletter for members and friends of the Alliance

Executive Director Message



This has been a busy year, seeing security technology advances across multiple markets that the Alliance serves. As the end of 2018 approaches, it seems fitting to take a look ahead and see what's in store. In my letter for this final quarterly newsletter of the year, I write about some significant developments in the markets around security and security standards that will keep Secure Technology Alliance members engaged in 2019.

[Click to Read Letter ...](#)

In This Issue:

- ② **Executive Director Letter** >>
- ③ **Alliance News** >>
- ④ **Council Reports** >>
- ⑥ **Feature Article** >>

On the Web:

[Alliance in the News >>](#)

[Members in the News >>](#)

IDENTITY ON A MOBILE DEVICE WEBINAR

MOBILE IDENTITY PROOFING IN HIGHER EDUCATION & AIRPORT WAYFINDING USE CASES

DEC. 13 - 2 PM EST

[REGISTER NOW >>](#)

Upcoming Events:



[Securing Digital ID](#)

Crystal City, VA, Dec. 4, 2018

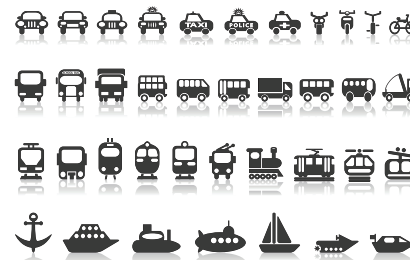
This event is designed for those interested in integrating secure identity technology into their systems. Make your plans to attend and register today.



[Payments Summit 2019](#)

Phoenix, AZ, March 11-14, 2019

The Payments Summit covers all things payments over a range of business, technology and FinTech topics. [Register today](#) to take advantage of early-bird pricing.

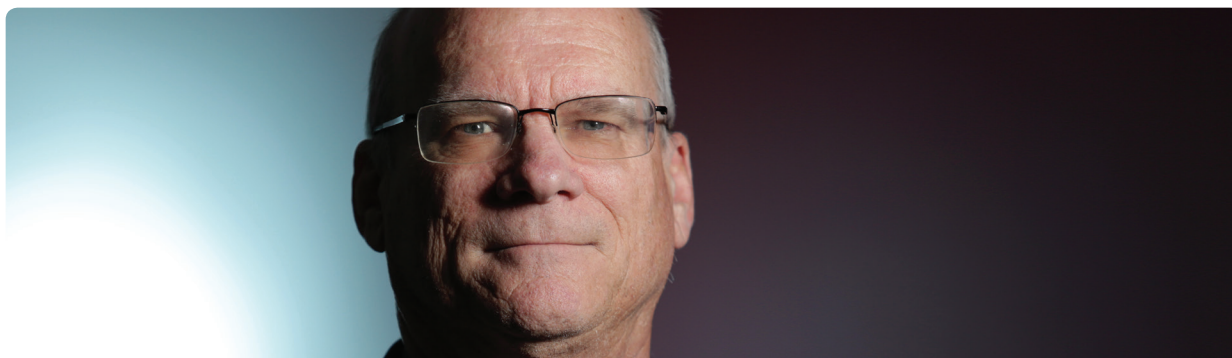


Feature Article:

Multimodal Payments Convergence: Challenges and Opportunities for Implementation

The mobility options available to travelers are expanding, and services such as ride-hailing, bike share, car share and micro transit have grown rapidly. Travelers can get real-time information on available transportation options, but payment for each type of service varies and can be confusing. This article is an extract from the Secure Technology Alliance Transportation Council white paper, Multimodal Payments Convergence – Part Two: Challenges and Opportunities for Implementation, and describes alternative visions of multimodal payments, the drivers and benefits of payments convergence, potential barriers to implementation and suggestions for actions to achieve payments convergence.

[Click to Read More ...](#)



2018 – A Year of Rapid Change

Dear Members and Friends of the Alliance,

As the end of 2018 approaches, I'd like to take a look ahead at some significant developments in the markets around security and security standards that will keep Secure Technology Alliance members engaged in 2019.

One of the biggest developments will be the addition of contactless EMV cards and the further changes in consumer choice about which method of payment they will use. The options now are inserting a card into a chip reader, tapping a contactless card or mobile device to pay, or going full mobile checkout through their smart phone with their chosen online retailer. This latter option – leading to more use cases that remove payments entirely from the transaction, such as using home assistants like Google Home and Amazon Echo to place orders using only our voice. These payments innovations require further education and implementation guidance from the Alliance Payments and Mobile Councils.

Transit payments is another area that developed rapidly in 2018 after several years of slow progress with open loop payments. New York City and Boston – within a few months of each other – contracted to begin pilots leading towards full implementation starting in 2019. This development has added pressure on issuers and payments networks in those metropolitan areas to tailor their dual-interface EMV cards to meet offline data authentication requirements for securing contactless transactions on buses and subways.

In healthcare, the House of Representatives passed a nearly 10-year-old bill to begin pilots of a smart card for Medicare that would finally address the estimated \$60 billion fraud problem with fake and stolen health insurance cards and fake medical claims. This legislation still has to make it through the Senate, but this year marks the first time that both parties took a major step forward towards stopping government waste, fraud, and abuse instead of continuing delays over partisan politics and special interest concerns.

Also on the government front, the Federal Office of Management and Budget (OMB) released a draft of a comprehensive identity management and security policy that further enshrined the smart card-enabled PIV card as the only true federal identity credential. The draft includes tightened requirements for all civilian agencies to use the PIV card to access physical facilities and to enable two-factor authentication to information systems. Several state governments are also developing standards for issuing mobile driver's licenses that can be authenticated for applications requiring driving eligibility, age verification, proof of residence, and access to secure areas such as airports and government buildings.

This has been a busy year, seeing security technology advances across multiple markets that the Alliance serves. Our hope is that our members' leadership in moving these markets forward will attract new members to join the Alliance to help shape the adoption of security technologies today and in the future. As always, thank you for your support of the Secure Technology Alliance.

Sincerely,

Randy Vanderhoof

Executive Director, Secure Technology Alliance

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Upcoming Webinar: Identity on a Mobile Device - Mobile Identity Proofing in Higher Education and Airport Wayfinding Use Cases

The [Identity Council](#) is hosting a webinar, [Identity on a Mobile Device: Mobile Identity Proofing in Higher Education and Airport Wayfinding Use Cases](#), on December 13, at 2pm ET/11am PT.

The webinar will discuss:

- Mobile identity technology use cases in airports to promote a seamless passenger journey and to assist blind travelers with wayfinding applications
- Benefits and use case examples for secure identification proofing and authentication in higher education
- Use cases for biometric identity and access management across multiple industries

Speakers are: Tom Lockwood, NextgenID; Chris Runde, American Association of Airport Executives; Mark Sarver, Biometric Signature ID; and Randy Vanderhoof, Secure Technology Alliance.

Recordings of the first three webinars in the Identity on a Mobile Device series are available on the [Alliance web site](#).

2018 Secure Technology Alliance Member Recognition

The Secure Technology Alliance announced its 2018 Honor Roll and Center of Excellence organizations, recognizing the top individual and organizational contributors to Alliance activities and projects this year.

The Secure Technology Alliance's [2018 Honor Roll](#) recognizes individual members and top contributors in each of the industry councils.

The 2018 Honor Roll included a total of 74 industry professionals and was compiled based on council leadership, project leadership, and project participation from July 2017 through June 2018.

The Secure Technology Alliance also announced the organizations receiving the 2018 Secure Technology Alliance [Center of Excellence](#) designation. This program recognizes an elite mix of member organizations who, each year, reach the highest level of active participation in the Alliance by having made outstanding contributions in the form of organization-wide leadership of time, talent and resources across a wide mix of Alliance activities.

The 13 member companies selected for the 2018 class of Center of Excellence were: American Express, CPI Card Group, Discover Financial Services, Entrust Datacard, First Data, G+D Mobile Security, Gemalto, IDEMIA, Infineon Technologies, Ingenico North America, NXP Semiconductors, Underwriters Laboratories (UL), and Visa.

Updates from the Alliance Industry Councils

Access Control Council

- The [Access Control Council](#) led a member group to content for the September 17th GSA Physical Access Control (PACS) Reverse Industry Training. Council members presenting at the event included: Identification Technology Partners; Integrated Security Technologies; Parsons; Signet/Convergint Federal Solutions; Software House; Systems Engineering, Inc.
- The [Access Control Council](#) has two active projects, implementing the electronic version of the GSA PACS playbook and developing guidance to compliment the NIST SP 800-116 v2 publication

Identity Council

- The [Identity Council](#) is hosting its fourth webinar, [Identity on a Mobile Device: Mobile Identity Proofing in Higher Education and Airport Wayfinding Use Cases](#), on December 13, at 2pm ET/11am PT. Speakers for the webinar are: Tom Lockwood, NextgenID; Chris Runde, American Association of Airport Executives; Mark Sarver, Biometric Signature ID; and Randy Vanderhoof, Secure Technology Alliance
- The Identity Council held the third webinar in the series, [Identity on a Mobile Device: Healthcare, Banking and Transportation Use Cases](#), on September 20. Webinar speakers included: Jeffrey Fountaine, Ingenico Group; Jerry Kane, Southeastern Pennsylvania Transportation Authority (SEPTA); Judy Keator, SecureKey Technologies; Tom Lockwood, NextgenID; Randy Vanderhoof, Secure Technology Alliance. Additional webinars are planned in fourth quarter
- The Council continues work on a white paper on the mobile identity landscape. The white paper will assess the market landscape, document use cases and identify best practices and requirements for the industry

Internet of Things Security Council

- The [Internet of Things \(IoT\) Security Council](#) hosted a well-attended webinar, [IoT Security: Mitigating Security Risks in Secure Connected Environments](#), on October 11. The webinar discussed the risks and risk mitigation approaches for IoT applications and specific vertical market use cases. Speakers included: Steve Hanna, Infineon Technologies; Josh Jabs, Entrust Datacard; John Neal, NXP Semiconductors; Sri Ramachandran, G+D Mobile Security; Randy Vanderhoof, Secure Technology Alliance
- The Council elected its first chair, Sri Ramachandran, G+D Mobile Security, and is currently planning its 2019 activities

Mobile Council

- The [Mobile Council](#) is holding its third interactive web briefing, Mobile in Transit, on December 12, with David deKozan, Cubic Transportation Systems, presenting. The first briefing, "Biometrics on Mobile Devices," was presented by Andrew Jamieson, UL. The second briefing, "Tokenization," was presented by David Worthington, Rambus. The briefings are open to all Alliance members with recordings posted on the Mobile Council's members-only collaboration site. Please contact Cathy Medich, cmedich@securetechalliance.org if you would like additional information

Payments Council

- The [Payments Council](#) is working on a new white paper on biometric payment cards. The white paper will provide a high-level description of biometric payment cards to educate issuers on functionality and benefits



Transportation Council

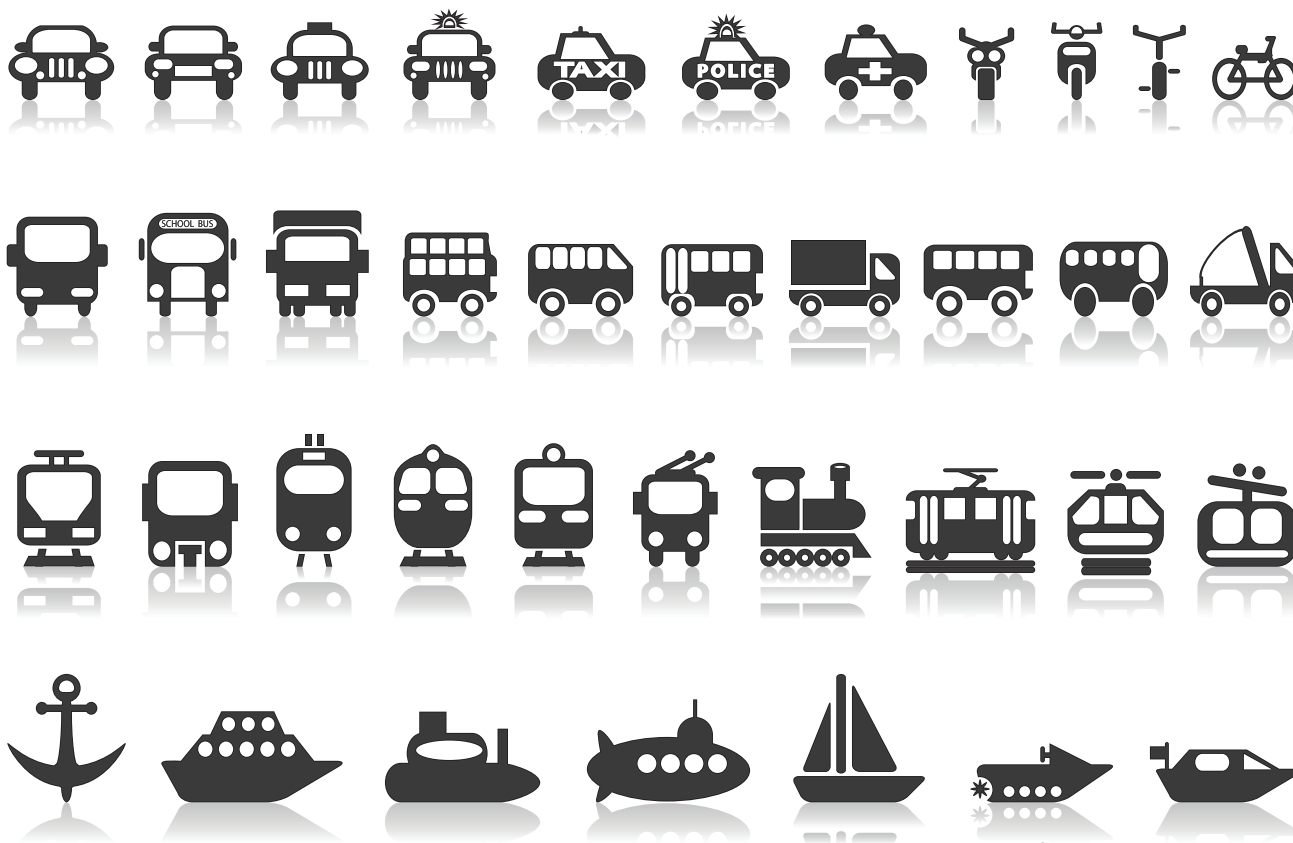
- The [Transportation Council](#) held the very successful “Transit Payments Workshop,” on Nov. 5th, in collaboration with the U.S. Payments Forum’s Transit Contactless Open Payments Working Committee. Over 100 members and guests attended the workshop with many staying for the two-day Forum Member Meeting. Topics discussed included: the Forum’s technical framework and stakeholder considerations for accepting contactless open payments in transit; transit agency future fare collection plans; advances in mobile ticketing; and multimodal payments convergence. Members presenting in the workshop included: American Express; Chicago Transit Authority (CTA); Cubic Transportation Systems; Dallas Area Rapid Transit (DART); FIS; G+D Mobile Security; Mastercard; Massachusetts Bay Transportation Authority (MBTA); Metropolitan Transportation Authority (MTA); Metropolitan Transportation Commission (MTC); SEPTA; Tri County Metropolitan Transportation District of Oregon (TriMet); Visa.
- The Council published the new white paper, “[Multimodal Payments Convergence – Part Two: Challenges and Opportunities for Implementation](#).” The white paper (the second in a series) describes alternative visions of multimodal payments, the drivers and benefits of payments convergence, potential barriers to implementation, and suggestions for actions to achieve payments convergence. Members and guests contributing to the white paper included: American Express; Axonvibe; Cardtek; Clever Group; Discover Financial Services; Everis; FIS; FourNines; Genfare; Incomm; Invoke Technologies; KPMG; Mastercard; MTC; Quadagno & Associates; SEPTA; Trek bikes; U.S. Department of Transportation (DOT)/Volpe Center
- The Council is currently discussing projects for 2019 and steering committee election

Other Council Information

- The Access Control, Identity, Mobile, Payments and Transportation Councils will be electing new steering committees and officers in December and January. Watch for the nominations announcements and consider nominating yourself or someone else to take a leadership position in the industry.
- 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 [Alliance member web site](#). If you would like to participate in one of the Forum projects, please contact [Cathy Medich](#). A list of [active Secure Technology Alliance Council projects](#) is also available to promote cross-council participation.
- If you are interested in forming or participating in an Alliance council, contact [Devon Rohrer](#)

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 [Cathy Medich](#).





Multimodal Payments Convergence: Challenges and Opportunities for Implementation

The mobility options available to travelers are expanding, and services such as ride-hailing, bike share, car share and micro transit have grown rapidly. Travelers can get real-time information on available transportation options, but payment for each type of service varies and can be confusing. Travelers expect convenient ways to plan, book and pay for multimodal transportation. Transportation service providers want to leverage new technology to provide better service to customers. Integration of payment services across transportation modes is a natural part of the evolution to seamless mobility services. This article describes alternative visions of multimodal payments, the drivers and benefits of payments convergence, potential barriers to implementation and suggestions for actions to achieve payments convergence.

Future Visions for Payments Convergence

The goal of payments convergence is to have simple, convenient ways for all travelers to pay for any type of transportation or mobility service. Payments should be part of seamless multimodal travel, where travelers can dynamically plan, book and pay for trips involving a variety of mobility services. For example, a traveler could plan a journey involving rail, bus and bike share using a single mobile trip planning app and pay for these services with a contactless smart card or an app on a mobile device, using value from a single account.

Open payment architectures make it easier for customers to use a variety of payment media. Customers with bank accounts can pay using contactless bank cards and wearables, mobile tickets and mobile wallets. Other customers may choose to purchase

pre-paid cards at retail outlets or vending machines. Also, customers will be able to use contactless identification credentials which are linked to employer, academic or social service accounts.

Account-based payment architectures are being implemented by transit agencies in many regions. In some regions, customers can use value in transit accounts to pay for other types of mobility services. Some organizations envision offering customers a “universal transportation account” for any type of transportation payment. Account-based payment systems strengthen customer relationships and will make it easier to dynamically adjust pricing and incentivize travel. Incentives will be personalized to individual travelers and will anticipate their needs and preferences before and during their journey. Transportation payment accounts can be linked directly to employer



PAYMENTS CONVERGENCE AND CONTACTLESS PAYMENT MEDIA WILL DECREASE BOARDING TIMES AND INCREASE OPERATIONAL EFFICIENCIES.

and social service benefit accounts and will facilitate offering special fares and loyalty programs.

In some regions, transit authorities and other mobility management organizations may provide a Mobility as a Service (MaaS) platform, which aggregates mobility offerings for the region into a mobility marketplace and provides a single point for booking and payment of any mobility service. Multimodal platforms will have middleware to connect the service providers, and to manage pricing computations to provide the customer with best value for multimodal journeys. The pricing and payment platform would be integrated with each service provider using a standard set of payment application programming interfaces (APIs).

A key goal of payments convergence is to provide convenience and efficiency by reducing friction in the payment process. All electronic tolling systems have revolutionized highway toll payment by replacing cash collection with radio frequency (RF) tags and video license plate readers. Connected vehicle technology is extending this capability to enable vehicles to make wireless payments for fuel services, parking and other services. Some transportation organizations are using cell phone locations and contactless tokens to detect travelers' movements on different modes of transportation and charge them without the traveler being actively involved in making a payment.

Drivers of Payments Convergence

Several factors are driving multimodal payments convergence. Travelers are expecting to have a diverse set of transportation services to choose from and are expecting seamless ways to plan, book and pay for every part of their journey.

Transit authorities and other mobility service providers are linking their services to provide seamless end-to-end journeys, and payments convergence supports this integration.

The majority of travelers have mobile phones and devices, and many travelers are accustomed to using mobile apps for trip planning and payment.

Mobile apps and open architectures are expanding, enabling travelers to use a variety of payment media to pay for their trips, including contactless smart cards, mobile wallets, and mobile ticketing.

Transit authorities are under continual pressure to make payment processes more efficient and secure, and to reduce the costs of handling cash.

Financial institutions are planning to issue contactless cards and NFC-enabled mobile apps which enable customers to pay for any type of transportation service which accepts their payment media. Financial institutions are focusing on the transit and mobility markets as key parts of their implementation strategies for deploying contactless payment media.

Transit agencies are moving to account-based ticketing and payment systems, making it easier for customers to pay for any transportation service. Account-based payment systems facilitate multimodal payments convergence and provide ways to strengthen and personalize customer relationships.

Transit authorities must provide transportation service for all types of customers, so strategies must be developed to enable the under-banked and those without mobile phones to easily pay for any type of transportation.

The FTA, which provides funding for innovative technology demonstrations, is encouraging transit agencies to consider multimodal payments integration as part of the FTA Mobility on Demand and Mobility Payments Integration programs.

In some regions, national, state or local governments are exploring or mandating interoperability among payment systems to increase customer convenience and mobility.

Benefits of Payments Convergence

Multimodal payments convergence will provide benefits to customers, transit and mobility service providers and technology vendors. Customers will be able to easily plan, book and pay for every part of their journey. More convenient access to different mobility services will provide improved access to jobs, medical services, and other services, and may result in increased ridership, with potential increases in revenue.

Payments convergence and contactless payment media will decrease boarding times and increase operational efficiencies.

Adoption of open, integrated payment system architectures for all modes of transportation should reduce overall development and operational costs and accelerate the delivery of new payment capabilities.

Account-based payment systems will make it easier for service providers to introduce changes in pricing, and to provide incentives to travelers to manage travel demand. Multimodal incentives may help reduce congestion, air pollution and energy use by encouraging use of more sustainable transportation options and supporting regional growth strategies.



Customers will be able to add value to their payments account, and to use it immediately to pay for any transportation service.

Partnerships with retailers, sports venues and other activities could increase sales and stimulate travel demand. Security and transparency of transportation payments will be improved, resulting in increased public trust. Mobile payment apps provide retailers and other service providers with ways to reach large markets very quickly.

Open contactless payment systems enable financial institutions to enter the large transit market and achieve the critical mass needed to justify issuance of contactless media.

Payments convergence and open architectures will provide flexibility in adopting new technology. Markets will expand for technology providers and barriers to entry will be reduced.

Payments convergence will potentially provide a wealth of information on travel behavior, valuable to transportation planners, retailers, financial institutions and many other stakeholders.

Challenges to Payments Convergence

Payments convergence involves many public and private organizations which have little experience working together. Strategies for collaborating and governing their relationships must be developed. Data sharing agreements are needed, as well as agreements on pricing policies, revenue sharing, payment reconciliation, account management, customer service and liability. The business case for convergence should be defined, as well as a better understanding of the value propositions and risk tolerance of all potential partners.

There is little consumer research on multimodal payments convergence, and the needs of all types of riders must be understood and accommodated. Educational material will be needed to make sure that customers understand how to use multimodal payments services.

Standards and specifications to ensure

interoperability of payment technologies, systems and accounts are needed. Issues of intellectual property, security and privacy must be addressed. Contracting mechanisms and partnership agreements are needed to allow public and private organizations to collaborate and continually adapt to evolving innovative technology.

Regulatory requirements must be addressed to ensure compliance with tax rules for use of commuter benefits, regulations on co-mingling of funds, requirements for equitable access to services, and other regulations.

Recommendations

The Secure Technology Alliance Transportation Council advocates that industry stakeholders should continue to play a role in defining multimodal payments challenges and opportunities, and facilitating information sharing and collaboration among the transportation, payment and technology sectors.

Partnerships among key industry groups, such as the Secure Technology Alliance, U.S. Department of Transportation (DOT), the Fare Collection Systems Committee of the American Public Transportation Association (APTA) and other industry associations will help to develop guidance for payments convergence. Working with the U.S. DOT Federal Transit Administration

and the Volpe Center is critical to develop and disseminate a Framework for Mobility Payment Integration. These efforts may include collaboration to ensure use of open APIs, common data definitions, data sharing agreements, improved customer education, innovative contracting methods, partnership agreements and other guidance to help drive convergence.

The Transportation Council also recommends that industry work with U.S. DOT to identify priorities for demonstrations of innovative payments convergence, and to promote adoption of multimodal payments best practices.

Technology providers and system integrators should develop and implement open payment system architectures, with flexible capabilities to link to any type of transit and mobility service.

Mobility service providers and payment processors should adopt open APIs and agree to share data to enable payments integration among all types of mobility services and payment accounts.

Cross-industry collaboration on the models, policies and infrastructure can help the U.S. transportation industry move more quickly to multimodal payments convergence and deliver its benefits to all stakeholders.

References

[Multimodal Payments Convergence – Part One: Emerging Models and Use Cases](#), Transportation Council white paper

About this Article

This article is an extract from the Secure Technology Alliance [Transportation Council](#) white paper, [Multimodal Payments Convergence – Part Two: Challenges and Opportunities for Implementation](#). The white paper explores the rapidly evolving convergence of multimodal payments. Members and guests involved in the development and review of this white paper included: American Express; Axonvibe; Cardtek; Clever Group; Discover Financial Services; Everis; FIS; FourNines; Genfare; Incomm; Invoke Technologies; KPMG; Mastercard; Metropolitan Transportation Commission (MTC); Quadagno & Associates; Southeastern Pennsylvania Transportation Authority (SEPTA); Trek-bikes; U.S. Department of Transportation (DOT)/Volpe Center

New U.S. Payments Forum Resources

The U.S. Payments Forum (a Secure Technology Alliance affiliated organization) published resources on implementing EMV and other new payments technologies. New Forum resources include:

- The U.S. Payments Forum published a new white paper, [Dual-Interface Card Personalization](#), to provide guidance for the issuing community on issuing and personalizing dual-interface cards for the U.S. market
- The Forum's Transit Contactless Open Payments Working Committee published a major update to the technical framework for transit acceptance of contactless open payments, [Transit Contactless Open Payments: Technical Solution for Pay As You Go](#). The updated white paper identifies and provides guidance for technical solutions that could be used to implement contactless open payments in transit for two use cases: Use Case 1 – Pay As You Go/ Card and Use Case 2 – Pay As You Go/Mobile Device. Transportation Council members are welcome to participate as guests in the Forum's Working Committee. Please contact Devon Rohrer, drohrer@securetechalliance.org, if you'd like to join the group
- The Forum's CNP Fraud Working Committee published a new white paper, [Understanding the True Costs of Fraud](#), reviewing the use cases illustrating the costs of fraud for consumers, merchants and issuers
- The U.S. Payments Forum published a new white paper, [Canadian Card Technical Acceptance](#), to provide guidance and clarification to merchants, acquirers, point-of-sale (POS) terminal vendors and POS solution integrators on application selection logic used by U.S. POS terminals to avoid certain interoperability issues when processing Canadian cards

Welcome New Member

- Secure Element Solutions, LLC

Secure Technology Alliance In The News

- [“Better passwords in California won't help much”](#) Security Boulevard. Executive Director Vanderhoof weighs in on the California IoT password law, noting that it's a prudent first step, but the solutions going forward should be industry-led and involve embedded security.

Congratulations New Certificants



CSCIP/G

- Paul Arsenaault, Department of Homeland Security*
- Robert Mayes, Department of Homeland Security*
- David Walker, Department of Homeland Security*

CSCIP/P

- Gerry Glindro, IDEMIA
- Michael Johnson, LTK Engineering Services
- Kin Mak, IDEMIA
- Oscar Ortega, IDEMIA
- Artur Russ, IDEMIA
- Jim Sanchez, IDEMIA
- Shereena Sherafudeen, IDEMIA

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- Chad Black, Blackhawk Security LLC
- Rob Edwards, Diversified
- Thomas Horgan, AMAG Technology
- Gordon McGlone, Department of Homeland Security
- Rafael Molinari, Kastle Systems
- David Murray, scDataCom
- Fred Nathan, GC&E Systems Group
- Reginald Smith, Johnson Controls

**Denotes corporate exam. For information or to schedule a corporate exam, please contact [Randy Vanderhoof](#)*

For more information, visit our website at www.securetechalliance.org. 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).