



2012 e-Yearbook

A Smart Card Alliance Publication • Volume 2



EMV



- Fully integrated EMV migration in 12 weeks
- Complete range of contact, contactless and dual-interface products

NFC Now



- Secure elements
- NFC platforms (TSM)
- Contactless and mobile applications
- Managed services
- NFC adaptors

Mobile Money



Pay, send and receive money with a mobile phone - at home and abroad

Smart Authentication



- Secure access to online services
- Full range of devices and mobile applications

Trusted by over **250 mobile operators** and more than **5,000 banks** and financial institutions

More than **200 EMV migrations** worldwide

65 worldwide references and **10 years** of experience in OTA platform supply

Global and local support capabilities with over **35 service centers** covering **5 continents**



Securing mobile life.



Creating Confidence. Giesecke & Devrient has been developing security solutions for 160 years. As the world has advanced, we've kept pace. Today, we are a world leading supplier of pioneering technologies that help people by enhancing the security of payments, communication, and authentication. Our solutions, products, and services range from innovative hardware and software to end-to-end solutions for EMV, NFC and TSM, SIM and Device Management, LTE, Mobile Authentication, Subscription Management and M2M. Get to know us at www.gi-de.com.



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Creating Confidence.

yearbook contents



The Smart Card Alliance E-Yearbook is produced by the Smart Card Alliance, a not-for-profit, multi-industry association working to stimulate the understanding, adoption, use and widespread application of smart card technology.

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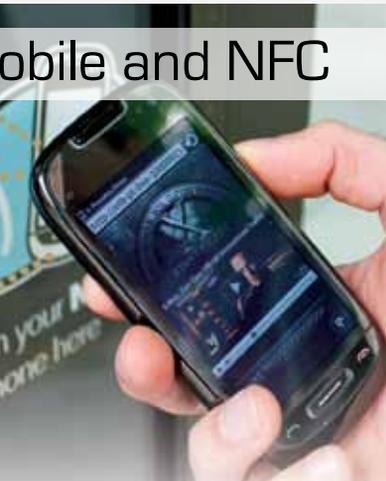
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Crossing the Chasm of Market Adoption

Leading the way over the benefits of smart card technology



Fulfilling the mission of the Smart Card Alliance to accelerate the understanding, adoption, usage, and widespread application of smart card technology involves many different activities for this continually growing and changing organization. These activities stretch across every aspect of the technology and reach across every market where the adoption of smart card technology is thriving. This edition of the 2012 Smart Card Alliance E-Yearbook is an attempt to capture the es-

sence of a year's worth of smart card industry leadership and advancement using this exciting new electronic publication platform.

Successfully serving diverse interests across many markets – from the technology advances all the way through the supply chain to the individuals and organizations that apply smart cards in their everyday lives – requires strong industry support and participation. Our success is the result of more than 200 industry organizations in North America and Latin America working collectively in specific geographically-focused and industry-focused councils and work groups. Such groups are the heart and soul of this thriving organization, and they provide the eyes and ears of the emerging trends and shifting priorities of the rapidly changing marketplace, whether the secure, microprocessor-based chip technology we collectively call smart cards comes in the form of cards, USB tokens, e-Passports, mobile phones, stickers, chip-enabled add-on devices, or embedded security hardware.

The Smart Card Alliance's ability to affect the timing of smart card adoption and shape the outcome for how the industry will apply the capabilities of the technology was best illustrated in 2012 by two significant market directions. The United States financial industry made the decision to promote the migration to EMV payments and further accelerate NFC mobile payments, based on contact and contactless chip technologies, enabling North American merchants and consumers to move to a more secure and convenient form of payment. Stimulated by the success of the 2012 Payments Summit in February in Salt Lake City and led by the ongoing strong industry support from the Payments Council, new initiatives emerged to push EMV payments forward. As a result, we launched the new EMV-Connection.com website, updated and expanded the EMV roadmap white paper, held a comprehensive payments educational workshop, and conducted video interviews with EMV and NFC experts.

Subsequently, the four major payments brands, the nation's bank card issuers, processors, merchants, and suppliers throughout the United States became convinced that the industry was ready to invest in a new payments infrastructure to add efficiency, reduce fraud, improve the experience of international travelers, and accelerate the use of mobile devices for payments. Demand for industry coordination and collaboration to align all of the stakeholders for the U.S. EMV migration led to the creation of a new separate, but related, organization called the EMV Migration Forum. The Forum was designed to satisfy the need for all payments industry stakeholders, regardless of their previous knowledge or experience with smart cards, to have a neutral arena to discuss EMV migration challenges. In less than four months, more than 90 payments industry organizations have

joined this new organization, and the group has held two in-person meetings and formed four working committees who meet virtually to address the early priority issues facing U.S. EMV migration.

In part energized by the push of EMV to update payments acceptance locations to support chip-enabled contact, contactless, and mobile EMV payments, the financial industry and mobile industry made major strides towards the widespread adoption of NFC mobile payments. Again, the Smart Card Alliance was ahead of the market by creating a new industry council, the Mobile and NFC Council in 2012. The new council was part of the program planning committee that helped deliver a new joint conference with the NFC Forum called the NFC Solutions Summit in May 2012.

The transportation fare payments industry, spurred by interest for face-to-face dialog and new information about open loop bank card, prepaid card, and mobile fare payments technology from major transportation operators representing Chicago, New York, Philadelphia, Washington, DC, South Jersey, Los Angeles, San Francisco, Salt Lake City, and other regions, led to the council holding their own Transportation Council Meeting in Philadelphia in September 2012. With two major multi-million dollar open loop payments projects in Chicago and Philadelphia now underway, and with Washington, DC, in its procurement stage, the Smart Card Alliance has been at the center of the discussions between financial institutions, transit operators, fare payments providers, integrators, and mobile payments industry leaders to pave the way for bank card and mobile ticketing solutions.

All of this emphasis on the changing landscape of smart card usage in payments, mobile, and transit is not meant to overshadow the significant effort by the Smart Card Alliance and its members to advance the use of smart card technology in the identity and security markets. In a market that is still driven mostly by federal government-led initiatives such as PIV and PIV-I, TWIC, e-Passport, and NSTIC, there is still much work to be done and a strong insistence by the federal government for a public-private industry partnership to achieve the government's demand for standards-based, tamper-resistant, interoperable, secure identity credentials and systems to be enabled to accept these credentials for access to physical and logical security ecosystems. The Identity Council, the Access Control Council, and the Healthcare Council are all working independently and in cross-council projects to further the accelerated adoption of strong authentication technology based on level 3 and level 4 assurance level standards. These groups meet regularly with the government authorities such as ICAMS, IAB, NIST, IDESG, TSA, and ONC who are engaged in identity management and security initiatives and who are currently using smart cards or developing policies and standards that may involve smart cards in the future. The 2012 Smart Card Alliance Government Conference, held in November in Washington, DC, is the largest industry gathering for government identity management, security, and healthcare leaders to focus on the opportunities to advance smart card usage throughout the government, which leads to faster and broader adoption in commercial markets as well.

I feel truly privileged to represent the more than 200 organizations and more than 1,000 individuals who are the Smart Card Alliance organization. Our best years are surely ahead of us and there are still great things for this organization that are yet to be realized. I hope that this edition of the 2012 Smart Card Alliance E-Yearbook provides you with valuable insight into all that our community of industry leaders has accomplished this year and that it gives you some insight into what lies ahead for you, your organization, and the smart card industry.

Randy Vanderhoof
Executive Director
Smart Card Alliance

A Message from Willy Dommen, Smart Card Alliance Chair, 2011-2013



Looking back on my first year as the Chairman of the Board, the impact of the organization on multiple industries over the last year is quite an accomplishment. The credit for this accomplishment first goes to our Executive Director, Randy Vanderhoof and his team, and the incredible energy driving the organization. Second, I need to acknowledge the work that the councils are delivering to our marketplace. The deliverables created by the councils are the fuel that sustains the relevance of the Smart Card Alliance for our membership. So, for all of the generous contributions of energy, time and intellect, I am thanking Randy, his team, and all of the contributors to the council activities over the last year.

Looking forward, I see nothing but opportunity for the Smart Card Alliance to continue to facilitate the adoption of smart card related technologies across multiple industries. One of the strengths of the Alliance is the diversity of our membership and the many industries our membership covers: we are not just a “bunch of consultants or hardware manufacturers;” we are also not a “bunch of bankers or government employees.” Our diversity is manifesting itself in many of our cross-council projects -- e.g., we are leveraging off of the identity management work that has been performed for government ID to mobility and health care; and transportation and the payments industry have been collaborating for many years. As members, we should all continue to work to maintain this characteristic of the Alliance.

The formation of the EMV Migration Forum and the market response to this organization demonstrate the confidence the market has in the Smart Card Alliance to support the adoption of EMV in the U.S. We have worked hard over the years to serve as an independent and objective source of information for smart card related technologies. Today it would be difficult to make any predictions around EMV adoption in the U.S. other than it is happening, and given the experience in other parts of the world, all of our member organizations will be touched in varying degrees by this undertaking. So while today the EMV Migration Forum may primarily consist of the payments industry, in the future, members may include government, healthcare and mobile. Given the diversity in our membership, we are well positioned to continue to serve the market.

The Alliance accomplishments over the last year are continuing to solidify the foundation to sustain the organization into the future. My objective as Chairman is to continue to work with the Executive Director and the Board to complete the long term strategy for securing the future of this organization. I believe we need to continue to draw on the ideas of the membership to maintain the organization's viability into the future.

Willy Dommen
Senior Manager
Accenture

membership

Member List

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ABnote North America
Accenture LLP
ACI Worldwide, Inc
ACT Canada
Acumen Building Enterprise, Inc
Advanced Card Systems, Ltd.
AMAG Technology, Inc.
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American Express
AMF Medios Transaccionales S.A. - SCALA
Angelo Buscemi - Independent Management Consultant
Apriva
Athena Smartcard Solutions Inc.
Autoridad Nacional Para La Innovacion Gubernamental (AIG) - SCALA
Axway Federal
Bank Association of Panama - SCALA
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Banred S.A. - SCALA
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Capgemini USA Inc
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Intercede Group Plc
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Latinus E-Professional Business S.A.- SCALA
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LifeMed ID, Inc
Linxens
Lockheed Martin
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MAGICARD-Ultra Electronics Card Systems- SCALA
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MasterCard Worldwide- SCALA
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Oberthur Technologies- SCALA
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As of 11/21/2012

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Alliance Management

Executive Director

Randy Vanderhoof

Randy Vanderhoof is the Executive Director of the Smart Card Alliance. He came to the Alliance in January, 2002 and became the Executive Director in August, 2002. During his tenure as the chief executive, he has directed the transformation of the organization from primarily a networking organization into a diverse, education oriented, international, multi-industry organization that gathers industry stakeholders together to help stimulate the rapid adoption of all forms of smart cards (cards and other form factors) for electronic payments and digital security applications. In December 2008, Randy was named by Security Magazine to the list of the Top 25 Most Influential People in the Security Industry.

Randy is a graduate of Saint Joseph's University in Philadelphia, PA with a BS in Management Marketing. He received his MBA from Rider University in Lawrenceville, NJ.

Board of Directors

2011 – 2012 Executive Board

Chair: Willy Dommen, Accenture

Vice Chair: Garfield Smith, Oberthur Technologies

Treasurer: Paul Legacki, Infineon Technologies

Assistant Treasurer: Brian Russell, Giesecke & Devrient

Secretary: Greg Garback, Washington Metropolitan Area Transit Authority

Assistant Secretary: Debbie Bartoo, Bank of America

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Frazier Evans, Booz Allen Hamilton

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David Batchelor, LifeMed

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John Mears, Lockheed Martin Corporation

Oliver Manahan, MasterCard Worldwide

Dominic Morea, First Data Corporation

Dori Skelding, Chase Card Services

Keith Ward, Northrop Grumman Corporation

membership

Membership Value Statement

Your membership dollars support the council initiatives, networking meetings and industry events, web site development, marketing programs, newsletter, Educational Institute workshops, industry advocacy and media outreach efforts that all contribute to the growth of the smart card industry in North and Latin America.

Our strategy for the coming year is to continue to engage the many diverse aspects of our industry and to strive to bring together the providers of the technology and the users of the technology in a friendly, open community.

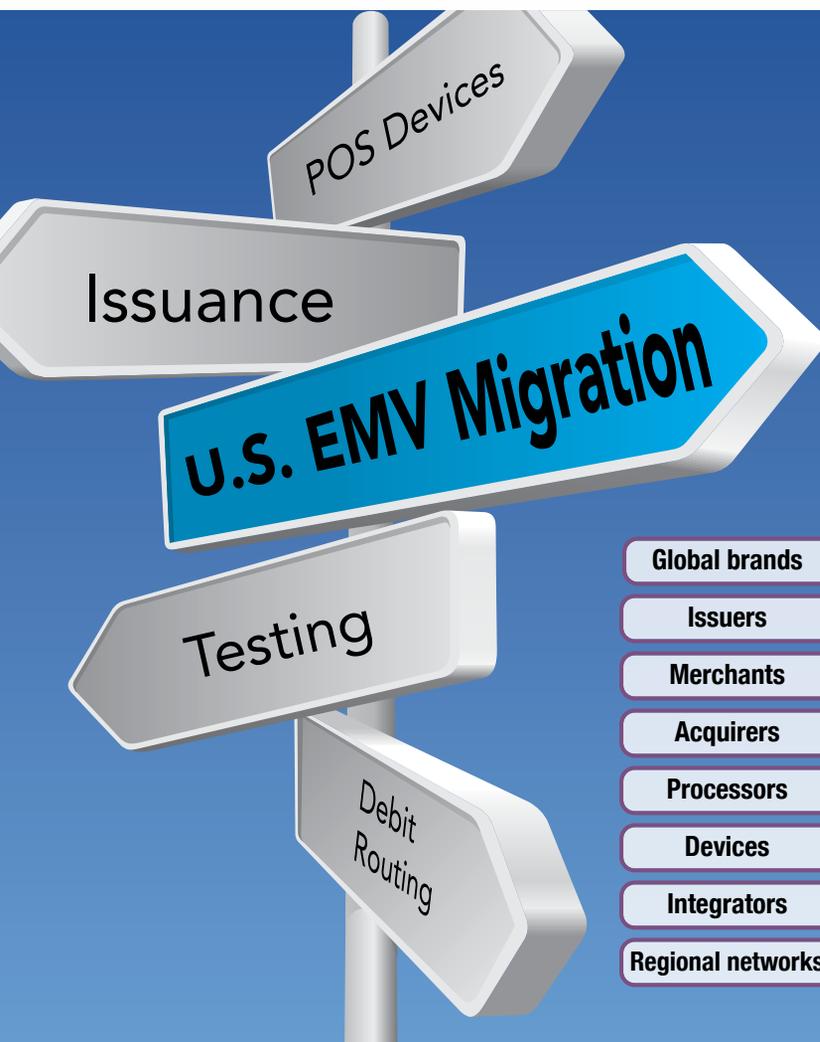
The Alliance is a founding member of ISCAN, an international network of smart card associations with representatives from smart card industry organizations from Europe, Canada, India, Asia, South Africa, and China. ISCAN facilitates the sharing of information and market trends involving the smart card industry around the world.



Membership Benefits

As a not-for-profit, membership organization, the Smart Card Alliance mission is to accelerate the widespread adoption, usage, and application of smart card technology in North and Latin America by bringing together users and technology providers in an open forum to address opportunities and challenges for our industry. This balance makes the Smart Card Alliance a unique place where users, issuers and suppliers meet to exchange ideas, discuss common issues and work together to develop and expand the use of all types of integrated circuit “chip” cards and alternative smart card technology form factors in the Americas. Members come from all industry sectors, including financial, retail, transit, corporate, government, healthcare and mobile, along with the technology and solution providers that service these sectors.

- Alliance meetings and conferences
- Company visibility
- Information, research and education
- Support for standards and industry interoperability
- Outreach to government and commercial organizations
- Innovative ways of approaching common business goals
- Professional development



EMV IS COMING TO THE U.S.

Join the only cross-industry association that is solely focused on supporting alignment of EMV migration in the U.S.

Cross-industry Members include: Global Payments Brands, Financial Card Issuers, Merchants, Payments Processors and Acquirers, Regional Debit Networks, Industry Suppliers, Consultants, Integrators, Industry Associations, and Government

Be part of the team that is collaborating on moving EMV forward in the U.S. If you have a direct role in the EMV migration, consider joining the Forum today!

For membership, news and resources, visit www.emv-connection.com

Education | Collaboration | Influence | Teamwork | Work Groups | Leadership

EMV MIGRATION FORUM

A Smart Card Alliance Affiliated Chapter Organization

membership

Member Survey Profile

What Are Smart Card Alliance Members Saying?

The Smart Card Alliance conducts an annual member survey to get input on our activities so that we can ensure that our programs focus on member-driven priorities and provide significant value to the membership overall. We had 125 members from 78 member organizations (49.7% of member organizations) respond to the May 2012 survey.

Member Satisfaction

The 2012 member survey results showed that Alliance members are satisfied, with satisfaction continuing to improve. We ask members to give us a numeric score between 0-99 to indicate satisfaction, with 90-99 indicating high satisfaction, with Alliance delivering excellent performance; 80-89 indicating satisfaction, with membership value clearly present; 70-79 indicating low satisfaction, with improvement needed; and 0-69 indicating dissatisfaction.

This year our average satisfaction rating was 86.0, improving slightly over 2011's 85.7 rating, with satisfaction good across all member categories. As with previous years, active members (those who are involved in councils, 59.2% of respondents) rate their satisfaction significantly higher than non-active members – 87.7 rating from active members vs. 81.4 rating from non-active members.

Value of Alliance Activities

Communications, conferences, councils and council deliverables are highly valued by members. Activities rated as highest value in the 2012 survey were:

- Conferences: networking opportunities; complimentary and discounted registration; speaking opportunities
- Email announcements about council projects
- Monthly Alliance member news bulletin
- Media coverage of Alliance and member activities
- Smart Card Alliance website – members-only site: [white papers, reports, and resources](#); [past conference proceedings](#); [member contact information](#)
- Industry council participation and deliverables
- Smart Card Alliance website – public site: [Industry News](#); [Smart Card Products & Services Directory](#)

Benefits of Alliance Membership

Members were asked to tell us what they thought the top benefits of Alliance membership were – generating a wide variety of responses. As with past years, our conferences and the networking and education opportunities that they provide are of high value. The top benefits identified were:

- Networking
- Staying abreast of industry news, market trends and technology
- Market/brand awareness and exposure
- Conferences, speaking opportunities, sponsorships and exhibits
- Council participation and white papers
- Education
- Influence of market directions
- Cross-industry interaction/collaboration

Benefits in the words of a few members included:

“Visibility in industry, collaborative work on white papers and webinars for education, and networking with industry and potential customers.”

“Ability to debate the business needs of the smart card industry - many other organizations spend too much time on technical discussions.”

“Networking and the ability to exhibit and speak at the conferences, as well as gain a wealth of knowledge from government and industry professionals.”

“Professional networking and thoughtful collaboration with other industry professionals on significant issues facing the industry...white papers are valuable resource.”

“Keeping up with the state-of-the-art. Learning from early adopters and use case best practices. Networking and understanding industry reaction to either policy changes or introductions.”

“Networking opportunities with industry leaders and open, unbiased educational sessions and white paper projects which do indeed impact both industry and government.”

Areas for Improvement

The survey results did suggest some areas for improvement. Approximately 30% of respondents were unfamiliar with many of the Alliance activities and deliverables, and 40% of respondents were not active in Alliance activities. Continued outreach to members to communicate what the Alliance is doing and how members can get involved is a critical part of our strategy – both to improve member satisfaction and engage members in activities that are critical for the industry.

Another area that scored both high and low satisfaction was industry outreach. The Alliance has an active public relations program and partners with a number of other industry organizations to reach our target audiences with smart card industry positions and educational material. As we move into 2013, we'll be asking our industry councils to specifically look at the outreach programs that they need to have impact in their vertical markets.

Important Industry Issues

Every year members are asked what they think are the most important industry issues; this input is valuable in helping to align our industry councils and outreach efforts. Top issues mentioned this year were:

- EMV: U.S. migration
- NFC: mobile payments, use for non-payment applications, standards, mobile wallet
- Identity and access: healthcare, FIPS 201-2/PIV/PIV-I, strong authentication, NSTIC
- Transit: open payment for transit, NFC

Our industry councils cover many of the topics identified by members, and we encourage all members to participate in the council activities.



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membership

Membership Value Testimonials

The Alliance delivers value to its membership. Below are some quotes from participating organizations about their experience of being members of the Smart Card Alliance:

“At some point, every industry goes through periods of significant changes and innovations. The payments industry is no exception. Today, the entire electronic payments ecosystem is experiencing an exciting revolutionary transformation, by embracing more secure chip-enabled cards and new mobile payments technologies. During those turbulent times, it is vital to have a professional industry organization such as the Smart Card Alliance which serves as the industry’s steward for all stakeholders, by providing a centralized hub for information and thought leadership on the latest trends and major developments in payments. Ingenico is proud to be an active participant and contributor to this important Alliance.”

- **Thierry Denis**, President of Ingenico, North America

“As UL Transaction Security (formerly known as Collis) strives for thought leadership, we feel a strong connection with Smart Card Alliance, as we can discuss the industry improvement on a strategic level. Our experts and customers are always aware of the latest developments through Smart Card Alliance events and educational programs.”

- **Berend van Geffen**, Commercial Director UL Transaction Security (formerly known as Collis)

“The Smart Card Alliance provides an ideal forum to discuss and debate topics of great relevance to the industry, such as chip, mobile and authentication. Beyond that, we gain great insights through market research, white papers and first-hand information. The interaction with others in the ecosystem also allows us to build new relationships and stay abreast of current and emerging trends.”

- **Oliver Manahan**, Vice President, MasterCard Worldwide

“One of the most important member benefits of the Smart Card Alliance has been for both the industry and key members of the user community to be able to speak to important issues of our collective industries’ technology adoption and provide education, as one trusted voice. This has proven very effective in supporting the roll-out of several programs, such as ePassports, PIV and PIV-I, along with educating policy makers and consumers about the benefits of the technology for their applications. Of course the other benefit, as always, is the very active interaction with the user community and in particular those in the federal government. The Alliance has played an invaluable role in providing a vendor-agnostic forum where industry and government decision makers can work out the practical issues towards creating interoperable and standards-based solutions for government applications.”

- **Neville Pattinson**, Senior Vice President, Government Affairs, Gemalto

member profiles

Each month, we featured a Member Profile in our Smart Card Talk Industry Newsletter to inform members about their industry, main business profile and offerings. You can access all the interviews [here](#).



Xerox (formerly known as ACS, A Xerox Company)
January 2012



From fare collection to toll solutions and back-office processing to infrastructure installation, ACS, A Xerox Company, provides a full range of systems and services that help solve major transportation problems for governments and travelers in 35 countries around the world. As part of Xerox, a \$22.5 billion leading global enterprise for business process and document management, ACS has the resources of

134,000 people, global brand strength and innovative technology and services to add relevancy to the company's offerings and more value for customers. The company's offerings include Transportation Systems and Services, Public Transport, and Parking and Safety Solutions.

Smart Card Talk spoke with Michael Nash, who is Senior Vice President of Emerging Markets for ACS Transportation and Local Government Solutions, in January 2012 about the company and market trends.

"The movement to open payment systems has long been evident to ACS and we have championed solutions long before the industry recognized the power of the new approach," said Nash. "Open payments allow transit agencies to accept bank issued contactless payment cards directly at the point of entry. This eliminates the costs of providing proprietary agency only smart cards and uses capabilities of cellular technology to support on-line processing of all transactions."

With smart cards in use in the majority of ACS's fare collection systems, the company has developed a comprehensive solution for public transit agencies.

"We touch people's lives every day," he said.

Read the complete interview [here](#).



American Express
February 2012



American Express is a global services company, providing customers with access to products, insights and experiences that enrich lives and build business success. Established in 1850 as an express delivery service, American Express has consistently reinvented itself and is currently evolving and expanding the business to focus on new technologies that will revolutionize the way people make payments globally.

Smart Card Talk spoke with Patricia Partelow, Vice President/General Manager of Innovative Payment Solutions for American Express, in February 2012.

"Our customers are becoming ever more internet savvy and stay-connected wherever they are. They go out with smart phones in hand looking for new experiences, terrific deals, and the easiest way to pay for goods, bills or each other at any moment," observed Partelow. "At the same time, merchants are trying to refine and maximize their marketing spend (location based services, smart posters, digital coupons, loyalty programs). As a trusted payments partner, American Express works to create an ecosystem where merchants and consumers can transact seamlessly and securely, using the tools that best fit their preferences."

Global Merchant Services, the organization where Partelow works, acquires and maintains relationships with millions of merchants around the globe, developing technologies that will enable the future of payments tools. "We are very committed to enabling the next generation of payments," she said. "Smart card technology is a key growth driver for our company as it facilitates the EMV, contactless card, contactless transit, and mobile payments that our customers are increasingly seeking."

Read the complete interview [here](#).

member profiles



Accenture
March 2012



Accenture is a global management consulting, technology services and outsourcing company serving clients in more than 120 countries. Accenture works with clients in multiple industry sectors to design and implement solutions based around smart card technologies. This includes ticketing and payment systems for mass transit providers and road tolling agencies, U.S. Federal agencies providing

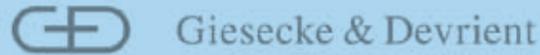
management and border control services, healthcare agencies and providers seeking to adopt electronic medical records, and financial services companies migrating to EMV compliance.

Smart Card Talk spoke with Michael J. Wilson, Partner, Managing-Director, Mass Transit, North America, with Accenture, in March 2012.

“Since Accenture is technology agnostic, our approach is to support the technology solution that best meets the clients’ needs and work with many vendors. We think this open architecture philosophy yields great benefits for everyone in the industry,” said Wilson. “Our clients include companies in mass transit, U.S. federal agencies, and healthcare agencies. Our smart card technologies form the key component in many of the solutions we offer our global clients.”

“The biggest challenge we face is educating the consumer to change behavior and adopt new technologies, whether that is new border control systems, e-ticketing systems on public transport, or automated road tolling systems,” he added. “With the imminent adoption of EMV ‘chip and PIN’ bank cards in the United States, this is likely to be a big challenge for card issuers.”

Read the complete interview [here](#).



Giesecke & Devrient
April 2012



Giesecke & Devrient (G&D) is a leading provider of mobile security solutions, covering the telecommunications, payment, transportation, health, identification, government and enterprise markets. G&D is also the leading company in the world offering banknote and security printing, security paper, and banknote processing services. The privately held, international corporation,

founded in 1852, is headquartered in Munich, and today has over 50 subsidiaries in 32 countries.

Smart Card Talk spoke with Brian Russell, Senior Vice President, Payment and Transit, for Giesecke & Devrient’s U.S. Mobile Security Division, in April 2012.

“Over the past 40 plus years, G&D has developed smart card technology, driven standards to ensure interoperability, educated our customers and built strong relationships with banks, mobile network operators, transit authorities, governments and corporations,” Russell said. “We continually develop new products and services to meet market demands and innovations to eliminate obstacles to smart card adoption.

Russell understands that convenience for the consumer is an important factor, but stresses that technology must be secure and trusted. “With smart phones becoming commonplace, we are in a position of capitalizing on the convenience of doing everything with one device through NFC, from paying bills and purchasing items to turning on house lights and closing garage doors to validating the authenticity of people and products.”

Russell added that G&D is also watching the cloud to ensure there are appropriate measures implemented to manage the security of data and credentials.

Read the complete interview [here](#).



Bank of America
May 2012



Bank of America is one of the world's largest financial institutions, serving individual consumers, small-and middle-market businesses and large corporations with a full range of banking, investing, asset management and other financial and risk management products and services. The company provides unmatched convenience in the United States, serving approximately 58 million consumer and small business relationships

with approximately 5,700 retail banking offices and approximately 17,750 ATMs and award-winning online banking with 30 million active users.

Smart Card Talk spoke with Deborah (Debbie) Bartoo, Senior Vice President responsible for Product Strategy & Business Performance, in May 2012.

"We are focused on keeping the customer at the forefront," said Bartoo, whose focus is on understanding customer needs and finding innovative solutions for the broader market." We want to continue to ensure we are aware in understanding not only where the technology is heading but where thought leaders are placing their bets. It is this open dialogue that is important to planning the future. We are still in the very early stages of innovation with much of this and there is still a lot of test and learn that will need to be done.

Bartoo believes that as new technologies are introduced, organizations need to constantly evaluate new opportunities with market entrants. "The rate of new technology innovation is continuing at rates we haven't seen before," she said. "Consumers are adopting these new technologies faster and we continue to launch new services based on what we hear from our customers. It is a very exciting time to be involved with this industry."

Read the complete interview [here](#).



Gemalto
June 2012



Gemalto is the world leader in making digital life secure and convenient for billions of people worldwide. The company was formed in June 2006 by the combination of two companies, Axalto and Gemplus International. Gemalto N.V. is a public company incorporated in the Netherlands; the North America headquarters are in Austin, Texas.

Last year Gemalto supplied more than 1.4 billion secure personal devices for mobile connectivity, identity and data protection, credit card safety, health and transportation services, e-government and national security.

Smart Card Talk spoke with Neville Pattinson, Vice President, Government Affairs & Programs for Gemalto North America, in June 2012.

"Gemalto's expertise spans the entire process for creating digital security solutions that embed the trust of our clients and their customers," said Pattinson, past president of the Smart Card Alliance Board of Directors. "We develop secure operating systems and run them on trusted devices – like UICCs and smart cards, banking cards, ePassports, eID cards, tokens and other devices – which we assemble and personalize. We deploy the software for managing these, and the services they enable, throughout their life-cycle."

Gemalto continues to provide innovation with research and development to offer more ways of enhancing convenience and security for the end user and their digital lives.

"Smart card technology is at the heart and foundation of Gemalto's business," Pattinson said, adding that the company is the leading provider of SIMs, UICCs, chip payment cards, ePassports and eHealthcare. "Gemalto builds on this foundation with smart card innovation to offer software and value-added services while we look for the best solutions for protecting the digital ecosystem."

Read the complete interview [here](#).

member profiles



INSIDE Secure July 2012



At the time of this interview in July 2012, Charles Walton was GM and EVP of INSIDE Secure; he has since moved to SecureKey Technologies.

INSIDE Secure is a leading designer, developer and supplier of semiconductors, embedded software and platforms for secure transactions and digital security. INSIDE mobile NFC, secure payment and digital security products provide security for a wide range of information processing, storage and transmission applications. Contactless technology and a focus on security have driven the company's growth since its founding.

age and transmission applications. Contactless technology and a focus on security have driven the company's growth since its founding.

"INSIDE Secure's focus on security is unsurpassed," said Walton. "We build security into the systems and devices that power consumer electronics and others devices across the globe. In the payment world, INSIDE products are certified by Visa and MasterCard for compliance with the latest card brand security requirements. Our broad portfolio of secure microcontrollers, turnkey solutions, and software are specifically designed to implement advanced security capabilities."

Smart card technology represents a significant portion of INSIDE's business. The company provides chips that power smart cards used for a wide range of applications, including payment, ID, transit fare collection, and access control.

"We think that one of the most serious challenges for widespread NFC adoption is security," Walton said. "Specifically, there must be a way to authenticate the identity of the user and handset. We see the industry beginning to rally around an approach that involves a common authentication framework for NFC devices in order to accelerate adoption and we are very involved in moving this forward."

Read the complete interview [here](#).



Oberthur Technologies August 2012



Oberthur Technologies is the world's second largest provider of security and identification solutions, services and systems based on smart card technologies, focusing on innovation and high quality services and solutions in its main target markets:

Smart Card Talk spoke with Garfield Smith, Vice President of Marketing for the Americas Region of Oberthur Technologies

(North and South America), in August 2012.

"Oberthur Technologies offers a complete, turnkey solution that provides critical components required to launch NFC services: secure elements, contactless payment applications, mobile wallet and core TSM (trusted service management)," said Smith. Oberthur also provides EMV cards in the U.S., having shipped over 2.5 million in 2011 alone. "We are able to offer a comprehensive range of EMV payment solutions to meet clients' needs, including contact, contactless and dual interface payment cards and prepaid cards," Smith added.

"To lessen the technical hurdle associated with an EMV migration, we offer EMV-in-a-Box, a fully integrated EMV migration solution and management program based on best practices gained by Oberthur's experience from hundreds of EMV projects worldwide. The migration plan enables EMV cards to be issued within 12 weeks from project initiation."

With a strong expertise in managed services, Oberthur Technologies can operate its solutions from its highly secured data centers in a certified environment with 24/7 support and maintenance. And thanks to its unique Common Personalization System (CPS) and a network of 30+ worldwide service centers, Oberthur has been a leader in the field of smart card personalization for well over 20 years.

Read the complete interview [here](#).



Capgemini
September 2012



Capgemini is a global leader in consulting, technology, outsourcing and local professional services. With a network of 21,000 professionals serving over 900 clients worldwide, Capgemini collaborates with leading banks, insurers and capital market companies to deliver business and IT

solutions and thought leadership which create tangible value.

Smart Card Talk spoke with Deborah Baxley, an international payments consultant with Capgemini who serves as a principal for the firm.

“The Capgemini group as a whole services a whole gamut of industries such as financial, retail, government services, consumer products, life sciences, high tech, telecom media and entertainment,” said Baxley. The financial services business of Capgemini (Capgemini Financial Services USA Inc.) has extensive industry experience which it utilizes to bring innovative service offerings and next generation global delivery to serve the financial services industry.”

“Capgemini collaborates with leading banks worldwide to provide leading edge thought process and solutions to them,” she added. “With worldwide adoption of smart card technology either voluntary or through government regulations or mandates from organizations (eg., Visa, MasterCard) banks and issuers have to adapt to these changes and change their systems, strategies and approaches to ensure they are on the forefront in providing what consumers want and governments/organizations mandate.”

As a leading partner/solution provider to banks and issuers worldwide, the company is on the leading edge of technological advancements in the cards arena.

Read the complete interview [here](#).



C-SAM
November 2012



C-SAM is a pioneer in secure mobile transactions technology offering a range of mobile phone based applications for financial as well as non-financial services. Based in the U.S., with operations in Singapore, Japan and India, its customers are mobile network operators, large merchants, industry consortia, financial institutions, payment service providers,

and specialized verticals like government and healthcare.

Smart Card Talk spoke with innovative mobile leader Barbara Ballard, who is Vice President of Customer Experience and Marketing for the mobile technology transactions company.

“The mobile transaction ecosystem is beginning to thrive, and C-SAM sits at its center, with a mobile transaction platform that is agonistic to device and technology type,” said Ballard. “We support all payment technologies, including smart cards, and in this way we can meet the needs of any mobile wallet operator, merchant, or financial services organization.”

Our view is that smart cards and wallets are not just about payments. Rather, they are two key technologies within the secure mobile transaction market. C-SAM looks holistically at the whole transactions picture, not just the payments portion. Mass transit, airlines, and medical records are just a few examples of non-payment services within the larger secure transaction market where smart cards and wallets play role.”

Ultimately, the company’s mission is to help customers enhance the relationship between merchants and end users when using a mobile-wallet service by leveraging the just-in-time power of mobile and big data to create high-touch relationships at low cost.

Read the complete interview [here](#).

conferences and events



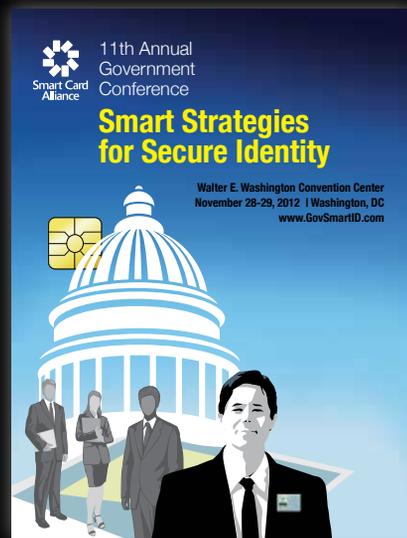
2012 Smart Cards Payment Summit
Hilton Salt Lake City Center
Salt Lake City, UT
February 8-10, 2012

This “all payments” event covered every leading transaction platform: EMV card payments, mobile payments and transit payments. The Summit’s overflowing keynote presentations, packed sessions and busy exhibit hall confirmed strong market interest in next generation payments from professionals at the forefront of advancing the U.S. payments industry.



2012 NFC Solutions Summit
Hyatt Regency San Francisco Airport
Burlingame, CA
May 22-24, 2012

Jointly presented by the NFC Forum and the Smart Card Alliance, more than 450 industry leaders convened near Silicon Valley for what was certainly the North American showcase for the high-growth NFC technology industry. The broad range of uses for NFC-enabled devices in both payment and non-payment applications was the theme that sparked lively discussions and conversation.



11th Annual Smart Card Government Conference
Walter E. Washington Convention Center
Washington, D.C.
Nov. 28-29, 2012

This leading event for ID security provided a comprehensive agenda on efforts toward strong authentication technology in government identity programs. Global trends in secure identification, mobile PIV usage, NSTIC, healthcare and developments in state and local ID programs were the focus of this always anticipated event in the nation’s capital.



Save the Date for These 2013 Events



2013 Payments Summit Conference

February 5-7, 2013

Grand America Hotel, Salt Lake City, UT



NFC Solutions Summit

May 15-16, 2013

Hyatt Regency San Francisco Airport, Burlingame, CA



12th Annual Smart Card Government Conference

Oct. 15-16, 2013

Walter E. Washington Convention Center, Washington, D.C.



Smart Card Alliance Annual Conference/Members-Only

Dec. 8-10, 2013

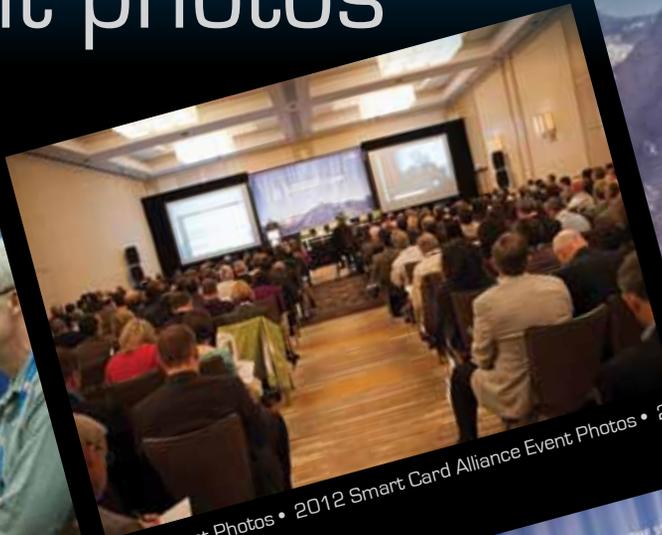
Location TBD



event photos



Smart Card Alliance Event Photos • 2012 Smart Card Alliance Event Photos



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EMV and Mobile Payments: Shaping the Future for Payment Innovation
Event Photos • 2012 Smart Card Alliance Event Photos



Event Photos • 2012 Smart Card Alliance Event Photos

Certified Smart Card Industry Professional (CSCIP)

The Smart Card Alliance offers three CSCIP credentials: CSCIP, CSCIP/Government and CSCIP/Payments. CSCIP is an internationally recognized credential for smart card industry professionals, and is the smart card industry's only standardized certification program that acknowledges professionals who possess advanced levels of smart card industry knowledge and experience.

The CSCIP certification demonstrates that individuals have broad knowledge of smart card technology and applications, and have passed a multi-part exam developed by leading smart card industry experts with the support of international industry associations.

Regardless of the specific credential, all CSCIP certifications require demonstrated proficiency in a broad body of industry knowledge, including:

- Smart card technology fundamentals
- Security
- Application and data management

- Identity and access control usage models
- Mobile and Near Field Communication (NFC) usage models
- Payments usage models



CSCIP/G certification includes these fundamentals, plus FIPS 201, PIV card and Federal identity management initiatives. New for 2012 is the CSCIP/P certification, which covers the fundamentals as well as in-depth content on EMV and EMV migration, mobile and NFC payments, and smart card use in card- and account-based transit payment systems.

About LEAP

The Smart Card Alliance Leadership, Education and Advancement Program (LEAP) is an online, members-only organization for smart card professionals. Its purpose is two-fold:

- To advance education and professional development
- To manage and confer, based on a standardized body-of-knowledge exam, the Certified Smart Card Industry Professional (CSCIP) designation

LEAP provides resources and materials including white papers, FAQs, position papers and archives of webinars, workshops and conference proceedings in the access security, payments, identity, healthcare, mobile and transportation markets, all of which are updated regularly. LEAP membership also offers plenty of opportunities for individuals to further their careers and showcase their professionalism within the industry.

LEAP is especially valuable for new entrants to the market or professionals working for small organizations without access to full Smart Card Alliance membership benefits.



2012 CSCIP Recipients

Vishal Arora, Datacard Group
Juan Bautista, Giesecke & Devrient de Mexico
Bret Berta, FIS Global
Nidia Ceballos Molinar, First Data
David Chawira, Gemalto
John Coker, Identive Group
Carmen Gonzalez, Visa International

Steve Grande, Datacard Group
John Honeysett, Ultra Electronics Card Systems Inc
Simon Knight, The Royal Bank of Scotland Group
Kent Landerholm, Datacard Group
Randy Lehman, Identive Group
Dariusz Lewicki, CryptoTech, Ltd.
Alex Lithgow Smith, Gemalto
Juan Marinas, First Data
Andy Matko, Ultra Electronics Card Systems Inc
Tony McGee, CPI Card Group
Bill Pallot, The Royal Bank of Scotland Group
Chris Pellegrino, Ultra Electronics Card Systems Inc

Edward Pollan, LTK Engineering Services
Ariadne Quintero, TELERED
Steve Rogers, IQ Devices
Terry Schindler, Q-Card Company
Steve Schow, CPI Card Group
Jay Schwisow, CPI Card Group
Douglas Smith, Identive Group
William Thaw, Visa Inc
Jeff Wold, Datacard Group
David Worsdell, Ultra Electronics Card Systems Inc
Mark Wright, Datacard Group
Tim Zurn, Datacard Group



2012 CSCIP/G Recipients

Lena Abdelahad, HID Global
Katherine Becker, XTEC, Incorporated
Mehdi Benyebka, Datacard Group
Heather Brooks, XTEC, Incorporated
Jonathan Brooks, Global Enterprise Technologies Corp
Jesse Devitte, XTEC, Incorporated
Anna Dukes, XTEC, Incorporated
NhatQuynh Duong, ActivIdentity
Robert Fee, Legic Identsystems
Orlando A Garcia, Core Quality Services, S.A.
Terrence Gold
Derevia Gray, U.S. Department of State
Tom Greiner, Identification Technology Partners
Alan King, HID Global
Catherine Levoir, Entrust
Jonathan McGill, XTEC, Incorporated
Kimberly A Michalik, Identive Group
Ranga Narayanam, Datacard Group
Alecia Peacock, XTEC, Incorporated
Ian Reilly, Entrust
Chadrick Sine, SAIC
Shane Speicher, XTEC, Incorporated
James Thomas, Thursby Software Systems Inc

2012 CSCIP/G and CSCIP/P

Brian Keltner, Wells Fargo

2012 CSCIP and CSCIP/P

Deborah P. Spidle, Paragon Application Systems

2012 CSCIP/P

Catherine Baughman, FIS
Dana Blegen, Paragon Application Systems
Rosalyn Chang, TSYS
Eddie Chu, Ingenico Canada Ltd
Fred Csaky, FIS
Shrinath Eswarahally, Infineon Technologies
Dawn Gallagher Murphy, A La Card Marketing and Consulting Services Limited
James Lock III, J.P. Morgan Chase
Uzma Makhdumi, Visa, Inc
Sridher Swaminathan, First Data
Raymond St. Aubin, Home Trust Company
Manoj K Thulaseedharan, American Express
Thomas Wong, INSIDE Contactless

For a full list of CSCIP recipients go to:

<http://www.smartcardalliance.org/pages/activities-leap-cscip-registry>

Smart Card Alliance Professional Certification Trainers

Bryan K. Ichikawa, Senior Manager
Enterprise Risk Services, Deloitte

Bryan Ichikawa is a Senior Manager for Deloitte's Enterprise Risk Services group based out of Arlington, Virginia. As a globally recognized expert in biometrics, smart card, security, credentialing and identity and access management, Bryan serves as a trusted advisor to both the U.S. federal government, as well as other national government clients around the world, regularly assisting clients in the identification, design, integration and deployment of these technologies to deliver complete and comprehensive identity management solutions.

Bryan has contributed extensively to the Smart Card Alliance, where he has held many active roles including as vice-chairman on the Board of Directors. He holds two patents for data security and user privacy in communications systems and is a contributing author for "Smart Cards—Seizing Strategic Business Opportunities."

Gilles Lisimaque, Partner
ID Technology Partners

Gilles Lisimaque is a Partner with ID Technology Partners, a leading consulting firm in Washington, DC, supporting high assurance identification solutions.

Gilles, who has more than 25 years of experience developing smart card solutions, has worked with most aspects of smart cards including chip design, manufacturing, packaging, operating system design, application development, international standards, reader interfaces, and host applications, and has received the 2008 OSCA Individual Leadership award from the Smart Card Alliance. He holds multiple patents on smart card security and smart card operating system design and has held high-level seats with numerous smart card and security forums, associations and standards bodies including AFNOR, ANSI, ISO and ISTPA (International Security, Trust and Privacy).

Gerald Smith, Senior Consultant
ID Technology Partners

Gerald Smith is a Senior Consultant with ID Technology Partners, a leading consulting firm in Washington, DC, supporting high assurance identification solutions. He has more than 30 years of experience deploying card solutions.

Gerald has worked with all aspects of smart cards including chip manufacturing, packaging, operating system design, virtual machines, application development, reader interfaces, and host applications. He is a National Merit Award recipient from the U.S. INCITS standards organization as well as an ISO project editor on smart card standards.

Rich Uhrig, Senior Manager
Identity and Access Solutions, XTEC, Inc.

Rick Uhrig is a Senior Manager with XTEC, Inc., a leading provider of trusted products and services for authentication and security solutions. Rick has more than 25 years of experience designing, developing and evaluating information security solutions, including nearly 15 years with smart card solutions.

executive director letters

One of the highlights of the monthly Smart Card Talk Newsletter is the letter from Executive Director Randy Vanderhoof. Check out his thoughts during a very busy year for the Alliance and the industry.

January 2012 - The Smart Card Markets

It feels like yesterday that I was talking about our 10th annual Government Conference, first encouraging each of you to join us, and then recapping what was certainly one of the highlights of a very busy and satisfying year for the Smart Card Alliance. Now I invite you to attend the 2012 Payments Summit next month in Salt Lake City, where we'll be taking a comprehensive look at the future of "all payments." We are very excited about this event, which already has more than 300 registrants. I also invite you to check out our first-ever eYearbook, which is filled with photos of our 2011 events and the networking and knowledge sharing that took place.

Read the full letter [here](#).

March 2012 - Steady Pace Needed

This month has been filled with a flurry of activity. I have mixed emotions about the imminent mash-up of EMV and NFC mobile payments for consumers and merchants. I'm enthusiastic about the new payments tools we have and yet have a sense of foreboding about the lack of experience in using the tools. Taking a step back and think about things logically and rationally, my simple observation is this: the correct path for the roll-out of EMV is to keep it easy and low cost for everyone, and then it can happen relatively quickly. Mobile payments should come after EMV and not be too closely intertwined with EMV at the start. Things will fall into place the way they were meant to be.

Read the full letter [here](#).

February 2012 - A Year of Progress

Around this time last year, the Smart Card Alliance was coming off a very successful 2011 Mobile and Transit Payments Summit in Salt Lake City. At this year's 2012 Payments Summit, also in Salt Lake City, we debated whether the Google wallet or the Isis wallet schemes have the right stuff, or if the PayPal wallet in the cloud will capture the market's imagination. Our first "all payments" conference saw a record number of attendees, with thoughtful conversations, lively debates and dynamic workshops that surpassed all expectations. I'm looking forward to see what exciting things will come out of the [NFC Solutions Summit in May](#) at the San Francisco Hyatt Regency.

Read the full letter [here](#).

April 2012 - The NFC Spring?

A few weeks ago, I was asked to give [testimony to a Congressional subcommittee](#) about the future of money and how mobile payments will change financial services. I was honored to be selected to participate in a panel of witnesses to express the Alliance's views about how mobile payments, and particularly NFC payments, are based on proven technology and with sound security, backed by trusted organizations in both the mobile industry and financial industry. NFC has not yet bloomed for myriad business obstacles but the Smart Card Alliance is doing what it can to hasten the arrival of springtime for NFC. I look forward to seeing all the NFC industry stakeholders together for the NFC Solutions Summit 2012, being held May 22-24 in San Francisco.

Read the full letter [here](#).

May 2012 - New Initiatives Deliver More Value

One of the exciting things about leading the Smart Card Alliance is the "newness" of what we do. We have a dedicated management team that works on programs, communications, event development and operations, membership and education services both in the United States and across Latin America. We're always being stretched and challenged to keep the entire Smart Card Alliance organization up-to-date - plus we're always adding something new! We have just launched our newest industry council - the Mobile & NFC Council, focused on promoting the adoption of secure payments, ticketing, identity and access applications using NFC and other mobile technologies. I am proud that the Alliance is at the center of a robust, constantly evolving smart card marketplace centered here in the Americas.

Read the full letter [here](#).

June 2012 - An Established NFC Presence

Among the many benefits of hosting a conference is the opportunity to meet members and friends of the Alliance face-to-face. Last month's NFC Solutions Summit, held in conjunction with the NFC Forum, allowed me to talk to literally hundreds of members, suppliers, providers and implementers in the NFC space. I'm energized by the ideas, knowledge sharing and camaraderie that flowed in San Francisco. As demonstrated by the successful conference, which drew 450 attendees and 25 exhibitors over the 4 days, it's clear that mobile technology's influence on payments, identity and access control, healthcare, and transportation means that the NFC community includes a rich source of technology and business application experts across the many industry verticals within the Smart Card Alliance organization.

Read the full letter [here](#).

September 2012 - Purpose, With a Sense of Urgency

We all live with September 11, and maybe that's why we seem to move with more of a sense of urgency, and we take on as many projects and responsibilities as we can both personally and professionally, because as history has proved, we are not guaranteed a tomorrow. September 11 also changed the urgency for addressing the way we view identity and security. What began as a force for change in secure identity credentialing and access security has evolved into a pervasive cultural shift to adding security to payment transactions, mobile applications, and healthcare data. We can never forget September 11 and we can never go back to a time when security was a feel-good thing, not a necessity.

Read the full letter [here](#).

July 2012 - Medicare Needs Strong Authentication

The recent Supreme Court decision upholding the constitutionality of the Affordable Care Act, the comprehensive healthcare reform legislation that has reshaped the healthcare industry, now puts the spotlight on the technology necessary to protect the privacy of the electronic interchange of personal health records and the means to cut into the massive amount spent each year on waste, fraud and abuse of Medicare. Smart cards are a solution that addresses both fraud problems and privacy issues that currently drain the government-run Medicare system of \$60 billion per year. Implementing a secure chip smart card would authenticate healthcare providers and beneficiaries, securely protect patient identification and save billions in abuse and waste, even based on the most conservative of estimates.

Read the full letter [here](#).

October 2012 - Both Sides of the Story

Major changes are afoot - both for the migration of traditional credit and debit cards to EMV chip cards and for the emergence of mobile payments from the test labs and pilot locations to Main Street. I feel that the debate over the future of card payments and mobile payments is turning partisan - just like politics. I've sat in on a number of industry forums recently where the discussion has taken a caustic tone when debating the right path concerning changes in the U.S. payments market. While watching the presidential debates, the two candidates sounded as familiar in tone and substance to the business and technical debates between the leaders of the established payments elite, and the start-ups and alternative payments providers who want to unseat them.

Read the full letter [here](#).

August 2012 - Industry Collaborates on EMV Migration

One of the reasons the Smart Card Alliance is successful in our endeavors, especially in our ability to effect change, is due to our collaborative nature. It is from this framework that we have created the EMV Migration Forum, a separate organization focusing on the entire ecosystem involved in EMV migration in the U.S. As I write this, the [press release](#) announcing the creation of the Forum is barely a week old and has already generated new energy across the entire payments industry. The EMV Migration Forum welcomes organizations with no previous involvement with or usage of smart cards or chip technology other than how this technology is integrated into the EMV payments infrastructure.

Read the full letter [here](#).

November 2012 - A Controlled Approach

There's a lot going on in the smart card industry. I know it seems as if my letters either begin or end with that statement, but at this juncture, we are particularly busy, and privileged to be so. The Smart Card Alliance is putting the final touches on our Annual Government Conference that will be held later this month in Washington, D.C. At the same time, we're working at an accelerated pace to keep up with the membership and activities in the EMV Migration Forum, which has already filled a very necessary void. If you're not already part of either organization, I both encourage and invite you to do so.

Read the full letter [here](#).

Smart Card Alliance Web Site Highlights

- Scrolling selection of featured slides shows and videos
- Recent and popular reports
- Quick links to popular content
- Average monthly site visits -105,000
- Number of page views per visit: 4.92
- Most Popular Download – White Papers
- Runner-Up – Council Reports

Number of page views per visit – 4.92

Top Accessed Web Resources	Jan.-Sept. 2012
Reports and white papers	433,752
Smart card products and services directory	
- Visits	62,696
- Page views	225,693
Industry news	1,171,778
Press releases (Alliance)	224,487
Smart card reader catalog	9,125

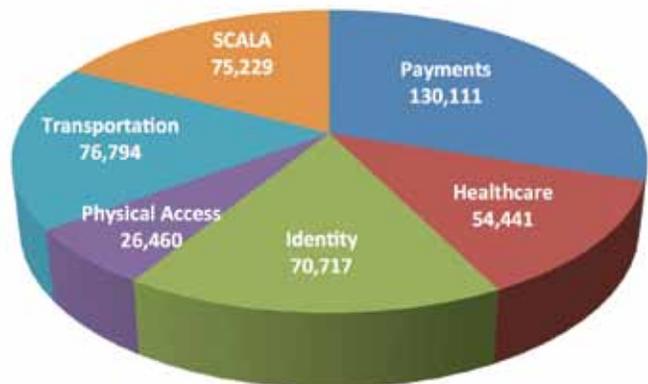
Over 62,000 smart card products and services directory visits



New in 2012: Videos, Slide Shows, Publications, Workshops and Webinars

- [Smart Card Alliance Perspectives: Expert Series Videos](#): 21 new videos on commercial identity verification, EMV, FICAM, first responder credentialing, smart healthcare cards, mobile identity authentication, mobile payments, NFC, NSTIC, and transit open payments.
- [Smart Card Alliance News](#): Randy Vanderhoof testimony to House Committee on Financial Services, Subcommittee on Financial Institutions and Consumer Credit hearing, "The Future of Money: How Mobile Payments Could Change Financial Services"
- [Topical Slide Shows](#): Two new slide shows – transit and contactless open payment, NFC mobile payment
- [Smart Card Alliance Publications](#): 14 new publications on biometrics, CIV/PIV-I/PIV credentials, EMV, mobile/NFC, smart healthcare cards, and strong authentication.
- [Educational Institute Workshops](#): Two new workshop videos on contactless payments and NFC (LEAP members only)
- [Webinars](#): Three NFC Application Ecosystem webinar recordings (members only)

Publication Access/Downloads - Council and SCALA Reports



web site highlights



Active social media programs

- LinkedIn Groups: [Government Smart ID](#) – 1,475 members; [Smart Payments](#) – 983 members; [Healthcare Identity Management](#) – 123 members; [Smart Transit](#) – 63 members; [LEAP](#) – 406 members
- [Twitter](#): 400+ tweets, 2,010 followers
- [Facebook](#): 162 “likes”

New EMV-focused web site
www.emv-connection.com

Average monthly site visits – 105,000



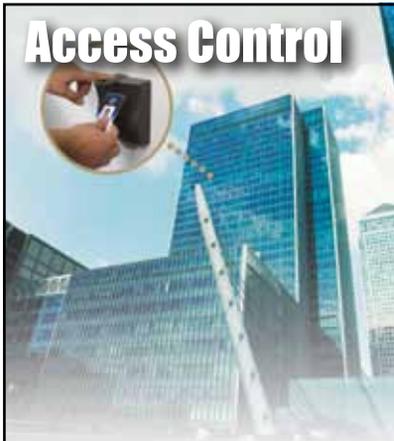
Over 48,000 white paper downloads per month

New EMV Connection web site

- EMV educational resources for issuers, merchants, acquirers/processors and consumers
- Up-to-date information on U.S. EMV migration status
- EMV news and informational blog
- EMV Migration Forum membership information

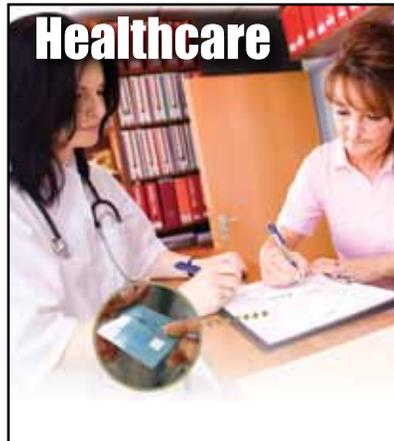
industry councils

Through six industry councils, the Smart Card Alliance proactively addresses topics of key concern in the different smart card vertical markets. Alliance members lead Council activities and contribute to a wide variety of projects, including white papers, webinars, workshops, web resources, position papers and industry commentary. The results of the councils' work help to drive smart card implementations in the U.S. and provide authoritative educational material for both the U.S. and international smart card markets.



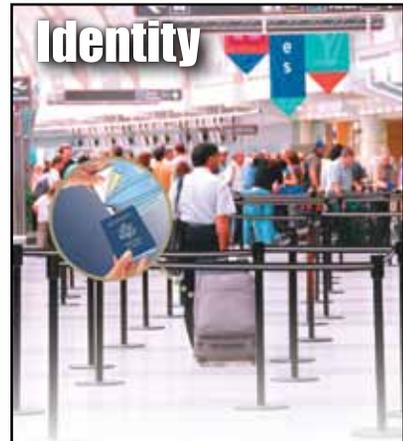
Access Control

The Access Control Council's charter expanded in 2012 to include both physical and logical access. The council's activities included two workshops, two white papers, and collaboration with other councils on FIPS 201-2 comments and NSTIC. The council is made up of more than 150 individuals from over 55 leading organizations.



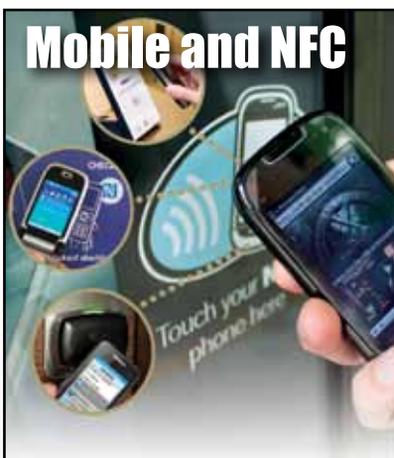
Healthcare

The Healthcare Council focused on policy guidance and educational resources on smart card technology in healthcare applications, completing one white paper, a FAQ, and two submissions of industry comments and recommendations in 2012. More than 60 individuals from over 30 leading organizations participated in the council.



Identity

The Identity Council expanded its charter in 2012 to include strong authentication and non-person entity authentication. The council delivered two white papers and an analysis of a prominent security attack, and led cross-council activities on NSTIC. More than 100 individuals from over 40 leading organizations participated in the council.



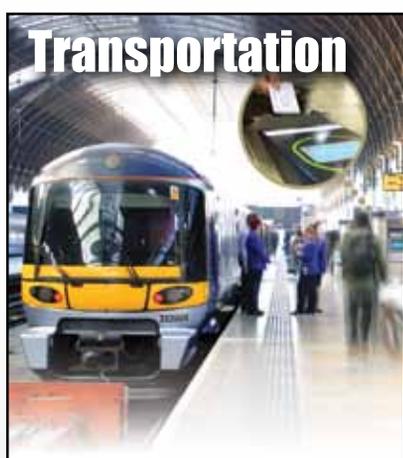
Mobile and NFC

The Mobile and NFC Council was formed in 2012 to raise awareness and accelerate the adoption of all NFC applications. First-year activities focused on education, delivering three webinars on application ecosystems and a reference guide on standards and specifications. The council is made up of more than 150 individuals from over 70 leading organizations.



Payments

The Payments Council focused on the U.S. payments industry migration to EMV and EMV's relationship to NFC in 2012, publishing two white papers, developing an EMV ecosystem resource, and providing up-to-date web resources. The council is made up of more than 200 individuals from over 65 leading organizations.



Transportation

The Transportation Council provided guidance on using open contactless bank card payments for fare collection and NFC for transit applications, delivering one white paper and holding a successful in-person Transportation Council meeting. More than 150 individuals from over 65 leading organizations participated in the council.

A Look at our 2012 Councils

Expanding charters to address industry opportunities



We've had another busy and productive year with our six Industry Councils – growing membership, delivering exceptional industry resources, and expanding council scope and topics to address new industry opportunities.

In 2012, the councils completed 11 white papers, three full-day workshops, five industry comment submissions, three webinars and two interactive tools – covering a broad array of topics including EMV, smart healthcare cards, PIV/PIV-I/CIV credentials, FIPS 201, mobile devices and identity applications, strong authentication, open payments for transit, and NFC standards and applications. We have tremendous participation in the councils, with over 530 individuals participating from 126 member organizations. Over 74% of all members organizations are active in at least one council.

The scope of council activities expanded in 2012 in the mobile/NFC, access control and identity markets. We formed our newest council, the Mobile and NFC Council, in May 2012, with the objective to cover all mobile and NFC applications. The Council got off to a fast start, with over 150 individuals from a record 75 member organizations participating. Staying ahead of market developments, the former Physical Access Council expanded its charter to include logical access and adopted the new name, Access Control Council, and the Identity Council expanded its charter to include NSTIC, strong authentication and non-person entity authentication.

Five of our councils – Access Control, Healthcare, Identity, Payments and Transportation – completed their biennial elections this fall and are planning 2013 activities with their newly-elected officers and steering committees. Each council has a cross-industry steering committee made up of the different categories of industry stakeholders. This structure has been quite successful for the Alliance, keeping councils focused on key industry issues and ensuring that deliverables are balanced across all industry interests.

As we move into 2013, we expect to see continuing work on many of the same topics from this year – providing educational resources to assist the U.S. in migrating to EMV and to NFC-enabled mobile applications, promoting the need for smart card technology for strong authentication in the national identity ecosystem and in the national healthcare information infrastructure, and providing assistance to the Federal government in implementing FIPS 201-2. We're seeing considerable cross-council activity as well – for example looking at how mobile and NFC impact identity, access control and transit applications and how EMV impacts transit and NFC-enabled mobile payment. The councils will take on these new questions and more to stay at the forefront being the “go to” organization for collaboration and education for smart cards technology and applications.

Lastly, I want to thank all of our council members for their continued contributions and support. An important part of the Alliance culture is the strong commitment our members show to industry activities – as evidenced by the continued success of the councils in delivering educational resources and working on projects that address key industry challenges. We couldn't accomplish our industry goals without the many individuals who contribute their time and expertise to activities that make a marked difference for our industry.

Cathy Medich

Director, Strategic Programs
Smart Card Alliance

access control council



Access Control Council Mission

Accelerate the widespread acceptance, usage, and application of smart card technology for physical and logical access control.

2012 Council Officers

Chair: Lars Suneborn, Hirsch-Identive

Secretary: Salvatore D'Agostino, IDmachines

2012 Council Steering Committee

- Salvatore D'Agostino, IDmachines
- Tony Ferguson, Bioscrypt / L-1 Enterprise Access Division
- Walter Hamilton, Identification Technology Partners
- Kevin Kozlowski, XTEC, Inc.
- Lolie Kull, HP Enterprise Services
- Steve Rogers, Intellisoft, Inc.
- Jason Rosen, NASA
- Adam Shane, AMAG Technology
- Mike Sulak, Department of State
- Lars Suneborn, Hirsch-Identive

2013/2014 Council Officers

- **Chair:** Lars Suneborn, Identive Group
- **Vice Chair:** Lolie Kull, HP Enterprise Services
- **Secretary:** Salvatore D'Agostino, IDmachines

2013/2014 Council Steering Committee

- Dave Adams, HID Global
- Salvatore D'Agostino, IDmachines
- Tony Damalas, Damalas LLC
- Michel Escalant, Gemalto
- Frazier Evans, Booz Allen Hamilton
- Walter Hamilton, Identification Technology Partners
- Kevin Kozlowski, XTEC, Inc.
- Andy Kuchel, Quantum Secure Inc.
- Lolie Kull, HP Enterprise Services
- Roger Roehr, Roehr Consulting
- Steve Rogers, IQ Devices
- Jason Rosen, NASA
- Adam Shane, AMAG Technology
- Mike Sulak, Department of State
- Lars Suneborn, Identive Group
- Mike Zercher, NXP Semiconductors

2012 Access Control Council Honor Roll

Top 3 Contributors

- Sal D'Agostino, IDmachines
- Lolie Kull, HP Enterprise Services
- Steve Rogers, Intellisoft, Inc.

2012 Honor Roll

- Sal D'Agostino, IDmachines
- Tony Damalas, Diebold
- Bob Dulude, HID Global
- Frazier Evans, Booz Allen Hamilton
- Marty Frary, Independent
- Walter Hamilton, Identification Technology Partners
- Lolie Kull, HP Enterprise Services
- LaChelle LeVan, Independent
- Gilles Lisimaque, Identification Technology Partners
- Diana Loughner, IDenticard
- Don Malloy, NagraID Security
- Rick Pratt, XTEC, Inc.
- Roger Roehr, Roehr Consulting
- Steve Rogers, Intellisoft
- Jason Rosen, NASA
- Adam Shane, AMAG Technology
- Mike Sulak, U.S. Department of State
- Lars Suneborn, Hirsch-Identive
- Rick Uhrig, XTEC, Inc.
- Chris Williams, SAIC
- Rob Zivney, Independent

2012 Activities

- [A Comparison of PIV, PIV-I and CIV Credentials](#) brief, providing an easy-to-use comparison of PIV, PIV-I and CIV credentials.
- Standards-Based Secure Identity Credentials Workshop, ISC West 2012.
- Collaboration with the Identity Council to submit comments to NIST on the second draft of FIPS 201-2.
- [PIV Card/Reader Challenges with Physical Access Control Systems: A Field Troubleshooting Guide](#), documenting guidance to help users diagnose the cause of PIV card/reader issues with physical access control systems and provide troubleshooting guidance to quickly identify corrective actions
- [Strong Authentication Using Smart Card Technology for Logical Access](#) white paper, discussing the benefits of using smart card technology for strong authentication for logical access.
- Mobile Devices and Identity and Access Control Applications Workshop, 2012 Government Conference, in collaboration with the Identity Council and the Mobile and NFC Council
- Expansion of Council charter to include logical access.
- Relationships with the Security Industry Association (SIA) and the International Biometrics & Identification Association (IBIA).

Council Members

3M Cogent, Inc. • ABnote Group • Accenture LLP • AMAG Technology • Athena Smartcard Solutions • Booz Allen Hamilton • CertiPath LLC • Codebench, Inc. • CSC • Cubic Transportation Systems • Dale Laszig • Damalas LLC • Datacard Group • Datawatch Systems • Defense Manpower Data Center (DMDC) • Deloitte & Touche LLP • Diebold Security • E & M Technologies Inc. • Eid Passport Inc. • ENTRUST • Exponent • Gemalto • General Services Administration • Giesecke & Devrient • HID Global • HP Enterprise Services • IDenticard • Identification Technology Partners • Identive Group • IDmachines • Infogard • Ingersoll Rand Security Technologies • IQ Devices • L-1 Identity Solutions • Lenel Systems International • Lockheed Martin • MAGICARD - Ultra Electronics • Morpho • NagraID Security • NASA • NXP Semiconductors • Oberthur Technologies • Probaris, Inc. • Quantum Secure Inc. • Roehr Consulting • SafeNet, Inc. • SAIC • Secure Missions Solutions, Inc. • Shane-Gelling Company • Smartrac N.V. • STMicroelectronics • Tyco Software House • U.S. Department of Defense • U.S. Department of Homeland Security • U.S. Department of State • U.S. Department of Transportation • Washington Metropolitan Area Transit Authority (WMATA) • Xerox • XTEC, Incorporated

Year in Review: Access Control Council Chair *Council Embraces Name Change and Development*

As 2012 is nearly over, a look at the activities conducted during this year shows that this has indeed been a year of change and development for the Access Control Council.

In January, we followed up on a project topic that was suggested during the in-person meeting at the 2011 Smart Card Alliance Government Conference – a “cheat sheet” of the differences between PIV, PIV-I and CIV credentials. This was completed, and in February 2012, “A Comparison of PIV, PIV-I and CIV Credentials” was published. This is a short document that complements the white paper, *“The Commercial Identity Verification (CIV) Credential – Leveraging FIPS 201 and the PIV Specifications: Is the CIV Credential Right for You?”*

The CIV credential is now emerging and some of our members are actively involved with CIV credential deployments in corporate and university markets.

As the year began, and in parallel with the CIV project, we decided that we needed to expand our charter to better lead our industry segment and reflect the changing market. The Council’s former name, the Physical Access Council, reflected its activities and focus. However, emerging technology and requirements were moving in a direction that included secure access to logical (IT) resources, so this made an evaluation of the name and charter of the council a prudent step.

The Council members agreed. We had a discussion of a new name and drafted an expanded charter that is aligned with today’s market requirements. In addition to physical access control, the new charter includes logical access control. We voted on the new name as well as the new charter and the Physical Access Council (PAC) evolved and became the Access Control Council (ACC).

Shortly thereafter, we were approached by the Department of Homeland Security, Cyber Security Office of Science & Technology. The DHS planned to conduct a pilot of physical access control system (PACS) and logical access control system (LACS) interoperability and had been advised to contact the Smart Card Alliance ACC to invite member companies who might be interested in participating. We scheduled a cross-council meeting and invited Karyn Higa-Smith from DHS as guest speaker to present the intent and scope of the project and describe how interested companies may participate.

The Council also completed a white paper that describes how strong authentication with smart cards may be used in for logical access. This outstanding document was published in time for the 11th Annual Government Conference that was held in Washington, DC, in November.

NIST invited industry to comment on the revised draft FIPS 201-2. As a cross-council effort, the ACC and the Identity Council reviewed the draft and provided over 30 comments and recommendations to NIST.

In an effort to enhance usability and aid potential troubleshooting of PIV cards and readers, we produced a white paper titled, “PIV Card/Reader Challenges with Physical Access Control Systems: A Field Troubleshooting Guide.” This guide has already received excellent feedback and triggered requests for a more in-depth PACS interoperability document.

Recognizing the growing trend to bring your own device (BYOD) strategies, the Federal government requested that the Alliance produce a short white paper on possible approaches for implementing smart credentials such as PIV in a mobile device. This timely and much anticipated Identity and Access Control Council project is led by the Identity Council and may have significant industry impact when published next year.

With 2013 fast approaching with new standards, the Alliance and the Access Control Council are in an excellent position to provide guidance, education and support to both federal agencies and commercial entities as the industry continues to evolve and adopt new technologies.

Finally, I’d like to take this opportunity to welcome and congratulate the newly elected Steering Committee members and express a sincere thank you to the outgoing members.

Lars R. Suneborn
Director, Government Program
Hirsch Identive



PIV Card/Reader Challenges with Physical Access Control Systems: A Field Troubleshooting Guide

In response to Homeland Security Presidential Directive (HSPD) 12, the National Institute of Standards and Technology (NIST) Computer Security Division initiated a program to improve identification and authentication of Federal employees and contractors who need access to Federal facilities and information systems. Federal Information Processing Standard (FIPS) 201, *Personal Identity Verification of Federal Employees and Contractors*, was developed to satisfy the requirements of HSPD 12 and issued in February 2005.

FIPS 201 mandates the use of a Personal Identity Verification (PIV) card by all U.S. Government employees and contractors who need access to government resources. The card is used to access secured buildings (physical access) as well as computer resources (logical access). HSPD-12 requires that the card and supporting systems be interoperable across all departments and agencies.

Physical access control systems (PACS) that meet the requirements imposed by HSPD-12 and FIPS 201 are often assembled using components listed on the General Services Administration (GSA) Approved Products List (APL). Agencies can acquire individual product items, deployment services, complete contractor-managed services, or bundled, integrated solutions. Components obtained from several different vendors can be installed by one or more contractors. Although each component must be tested before being listed on the APL, all products may not necessarily interoperate; specifications and functionality can change over time. An end-to-end test is necessary to ensure correct configuration and operation of an assembled system. New components introduced subsequent to system rollout (new readers, reader firmware updates, updated PACS software, new generations of PIV cards) must also be tested for interoperability before being incorporated into an installation. In addition, both FIPS 201 specifications and local PIV card profiles can change.

This troubleshooting guide describes how to approach resolving various documented difficulties with PIV cards and systems in the field. Offline testing in a proper lab environment is recommended to enable new components to be tested appropriately before they are introduced into live systems. A proper lab environment replicates the field environment and includes both PIV- and non-PIV compliant products. When a PACS must undergo significant changes, a comprehensive, planned approach to upgrading the field installations is necessary to avoid compromising the integrity of the installed systems.

However, even the most extensively tested system can experience problems, such as:

- Intermittent operation (a reader does not read a PIV card or reads the card intermittently).

- Interaction between the card and card reader produces inconsistent numbers or a non-compliant data stream.
- The reader shuts down after unsuccessful attempts to read a card.
- The PACS fails to register certain cards.

In this white paper, problems are categorized as card and card reader interaction issues, card anomalies (or other card-specific issues), PACS control panel issues, or PACS card registration issues. Specific symptom descriptions help differentiate between the problems in each category. A testing methodology prescribes specific tests so that system managers can pinpoint the cause of a particular problem. The results of each test point either to a solution or to additional tests at increasingly more sophisticated levels. The procedures recommended are practical; they are designed to minimize interruption of daily operations and reduce the need to replace system components. Escalation paths suggest how to reassign insoluble problems to an organization that can resolve them.

About the White Paper

The Smart Card Alliance Access Control Council and Identity Council developed this white paper to help PIV card users diagnose the causes of various problems with card use and identify corrective actions quickly. Information about live field installations are the source for the usage difficulties documented in the white paper. In a spirit of industry cooperation, the use difficulties described were submitted by manufacturers of cards, readers, and PACSs; system integrators; installation companies; and credential issuers. The Smart Card Alliance appreciates this honest and open communication from individuals and organizations who volunteered and supported the inclusion of product and installation information. This white paper is a praiseworthy example of widespread industry and government cooperation to identify a path to resolve component compatibility issues that may be experienced by end users.

Participants involved in the development of this white paper included: 3M Cogent, Inc.; AMAG Technology; Booz Allen Hamilton; Codebench, Inc.; CSC; Damalas LLC; Deloitte & Touche LLP; Eid Passport; Exponent, Inc.; Gemalto; Giesecke & Devrient; GSA; HID Global; HP Enterprise Services; IDenticard Systems, Inc.; Identification Technology Partners; Identive; IDmachines; IQ Devices; NASA; NXP Semiconductors; Oberthur Technologies; Quantum Secure Inc.; RM Industries; Roehr Consulting; SafeNet, Inc.; SAIC; Secure Mission Systems; SHAZAM; Tyco Software House; U.S. Department of Defense/Defense Manpower Data Center; U.S. Department of State; XTec, Inc.

Strong Authentication Using Smart Card Technology for Logical Access

Organizations globally are implementing strong solutions for authenticating an individual's identity before allowing that person to access computer networks, systems, and applications. Identity authentication comprises multiple steps. In general, an individual must prove his or her identity; a credential is then established that asserts proof of, or authenticates, the individual's identity. Three types of determinants, or factors, can be required to tie an individual to an established credential: ownership (something you have, such as a card or badge), knowledge (something you know, such as a password or your mother's maiden name), and inherence (something you are—biometric data, such as a fingerprint or iris pattern). The specific evidence an individual provides to support each factor (the card, the password, the fingerprint) is called an authentication token. Multiple factors can be required, and each can be supported by a variety of appropriate tokens, ranging from simple passwords to information encrypted using the public key infrastructure (PKI).

The increasing number and popularity of e-commerce business applications, the migration to cloud-based systems, critical requirements by employees and customers for remote information access, and the move to bring-your-own-device implementations all argue for strong authentication. Organizations that have been victimized by security breaches also recognize the necessity of protecting systems and information from increasingly sophisticated attacks.



And government regulations, such as the Health Insurance Portability and Accountability Act (HIPAA), now mandate information security and employee, patient, and consumer data privacy.

Strong authentication has no precise definition; it is not a strictly mathematical concept with quantitative measurements but rather a qualitative measure that is evaluated using a relative scale. The strength of an authentication process depends on the number of factors involved, the reliability of the token associated with each factor, and the confidence level that an authentication token is neither compromised nor circumvented.

Smart card technology provides an excellent platform for implementing strong authentication. Smart cards can support and protect authentication tokens, storing password files, PKI certificates, one-time password seed files, and biometric image templates securely. The card can also generate asymmetric key pairs. A smart card used in combination with one or more authentication to-

kens provides strong multifactor authentication that significantly strengthens logical access security. Smart card technology also permits authentication tokens to be carried on a single smart card. The single smart card can be used for both physical and logical access authentication, enhancing the security and privacy of the overall authentication process.

In addition, smart cards can support a variety of the applications used by many organizations, including password management, virtual private network authentication, e-mail and data encryption, electronic signatures, secure wireless network logon, and biometric authentication. Smart card technology is available in multiple form factors, such as a plastic card (with contact or contactless communication capabilities, or both), a USB device, or a secure element that can be embedded in a mobile phone or other device.

Multiple industries already use smart card technology for strong authentication, including banks, manufacturers, business and government consulting firms, and universities. The most striking example of such use is the Federal government's adoption of smart card technology for the Personal Identity Verification (PIV) card mandated by Homeland Security Presidential Directive 12 (HSPD-12). Different use cases are included in the white paper that describe how smart card technology-based strong authentication can be incorporated into enterprise employee identity credentials, consumer online banking identity credentials, and patient and provider healthcare cards. A card-based identity credential can also be used to support payment applications, such as transit fare payment.

The intelligent use of smart cards can be critical to the security backbone of an organization's identity management system, supporting the strong authentication required to validate any individual who accesses that organization's information resources.

About the White Paper

The Smart Card Alliance Access Control Council developed this white paper to discuss the benefits of using smart card technology for strong authentication for logical access.

Participants involved in the development of this document included: AMAG Technology; Consult Hyperion; Damalas LLC; Marty Frary; Gemalto; GSA; HID Global; HP Enterprise Services; Identification Technology Partners; Identive Group; IDmachines; IQ Devices; LaChelle LeVan; NagraID Security; NXP Semiconductors; Oberthur Technologies; Roehr Consulting; SAIC; U.S. Department of Defense/Defense Manpower Data Center; U.S. Department of State.

healthcare council



Healthcare Council Mission

Promote the adoption of smart cards in U.S. healthcare organizations and within the national health IT infrastructure and educate the healthcare market on why smart card technology is the appropriate solution for healthcare identity management applications.

2012 Council Officers

Chair: Michael Magrath, Gemalto

Vice chair: David Batchelor, LifeMed ID, Inc.

Secretary: Anna Fernezian, CSC

2012 Council Steering Committee

- David Batchelor, LifeMed ID, Inc.
- Anna Fernezian, CSC
- Michael Magrath, Gemalto
- Matthew Neuman, Giesecke & Devrient
- Jim Zalnasky, Oberthur Technologies

2013/2014 Council Officers

- **Chair:** Michael Magrath, Gemalto
- **Vice chair:** David Batchelor, LifeMed ID, Inc.
- **Secretary:** Hugh Gilenson, ABnote Group

2013/2014 Council Steering Committee

- David Batchelor, LifeMed ID, Inc.
- Anna Fernezian, CSC
- Hugh Gilenson, ABnote Group
- Michael Magrath, Gemalto
- Matthew Neuman, Giesecke & Devrient
- Jim Zalnasky, Oberthur Technologies

Council Members

ABnote Group • Accenture LLP • Bell Identification B.V. • Booz Allen Hamilton • Clear2Pay • CSC • Dale Laszig • Datacard Group • Defense Manpower Data Center (DMDC) • Deloitte & Touche LLP • Diebold Security • Eid Passport Inc. • ENTRUST • Fiserv • Gemalto • Giesecke & Devrient • Lenel Systems International • LifeMed ID, Inc. • MasterCard Worldwide • NXP Semiconductors • Oberthur Technologies • OTI America • PPG Industries, Inc. • SafeNet, Inc. • SAIC • SecureKey Technologies • STMicroelectronics • Thales e-Security • VeriFone • Watchdata Technologies • XTec, Inc.

2012 Healthcare Council Honor Roll

Top 3 Contributors

- David Batchelor, LifeMed ID
- Anna Fernezian, CSC
- Hugh Gilenson, ABNote Group

Honor Roll

- David Batchelor, LifeMed ID
- Louis Bianchin, Watchdata
- Anna Fernezian, CSC
- Hugh Gilenson, ABNote Group
- Josh Jabs, Datacard Group
- Mike Magrath, Gemalto
- Gupreet Manes, SafeNet
- Bob Merkert, Identive Group
- Rick Pratt, XTec, Inc.
- John Rego, OTI America
- Jim Zalnasky, Oberthur Technologies

2012 Activities

- [Smart Cards and Biometrics in Healthcare Identity Applications](#) white paper, discussing the key considerations for selecting biometric and smart card technology for identity verification, and describing the benefits of combining smart cards and biometrics for identity applications.
- Industry response to Office of the National Coordinator for Health Information Technology (ONC) RFI, "Nationwide Health Information Network: Conditions for Trusted Exchange."
- Council member contributions to the Medicare smart card return on investment project.
- Smart Card Technology in U.S. Healthcare: [Frequently Asked Questions](#), providing an easy-to-use resource for understanding how smart card technology is used for healthcare applications.
- Industry letter to Dr. Farzad Mostashari, National Coordinator for Health Information Technology, Office of the National Coordinator for Health Information Technology, recommending that Level of Assurance 4 be included in the Meaningful Use Stage 3 Requirements.
- Council project to recruit key healthcare stakeholders to participate in the Healthcare Council.
- Relationships with the AMA, HIMSS, WEDI and the Secure ID Coalition.

Year in Review: Healthcare Council Chair

Critical Issues Tackled in a Critical Industry

At a time when the U.S. is migrating from paper-based medical records to electronic records being viewed, exchanged and edited on the Internet, the industry continues to turn to smart card technology to address ever-increasing problems including: fraud, waste and abuse; operational inefficiencies; and patient and provider identity authentication. Widely adopted around the world, over 100 million smart cards have been issued to patients and healthcare professionals. Smart cards provide identity assurance regardless of whether the card holder is authenticating identity at the point of care or using the technology for strong authentication into web portals containing sensitive and private health information.

The Smart Card Alliance Healthcare Council was involved in a number of critical initiatives in 2012 that resulted in positive outcomes for the healthcare industry.

- “The Medicare Common Access Card Act” – bi-partisan legislation introduced in the U.S. House of Representative (H.R.2925) and U.S. Senate (S.1551) in 2011 – continues to gain support on both sides of the aisle. The legislation calls for pilots in five geographic locations featuring smart cards “to combat a reported \$60 billion lost to waste, fraud and abuse within the Medicare system.” The upgraded Medicare card could eliminate a large portion of fraud and improper payments by enabling the Centers for Medicare and Medicaid Services (CMS) to authenticate and verify providers and recipients of equipment.
- The American Medical Association (AMA) continued work on its Health Security Card (HSC) project – a three-year public health translational research grant awarded by the Centers for Disease Control and Prevention (CDC) Office of Public Health Preparedness & Response. The HSC contains essential information for health care providers, and local, tribal, and state health departments to identify individuals, meet their immediate health needs, improve access to critical data, and better obtain surveillance and situational awareness, thereby minimizing morbidity and mortality. After reviewing several technologies and conducting focus groups with citizens around the country, the AMA selected smart cards based on consumer acceptance, durability, portability, open standards and wide availability from multiple vendors.
- In April, FEMA, the AMA and the Southwest Texas Regional Advisory Council (STRAC) conducted a live simulation of a public health triage scenario using the HSC. The exercise helped demonstrate the effectiveness of using health security cards, including reductions in medical errors and medical identity theft, improved emergency care efficiency, and access to emergency contact and notification information.
- In May, the Healthcare Council published a white paper titled “Smart Cards and Biometrics in Healthcare Identity Applications.” The paper provides an overview of smart card and biometric technologies; discusses the key considerations for selecting biometric and smart card technology for identity verification; and describes the benefits of combining smart cards and biometrics for identity applications.

- The National Strategy for Trusted Identities in Cyberspace (NSTIC) began to move from a written document to planning the vision of an “Identity Ecosystem.” In August, the Steering Group convened for the first time, several workgroups were formed, including a Healthcare Workgroup, and delegates were elected to the Management Council. Although it is in its early stages, the NSTIC will help to enhance online authentication of consumers/patients accessing various web portals containing personal health information.
- In September, the Healthcare Council released “Smart Card Technology in U.S. Healthcare FAQ.” The FAQ is an easy-to-use resource for readers to understand how smart card technology is used for healthcare applications. The comprehensive FAQ answers general questions about smart card technology, as well as the role smart cards can play, and the benefits they can provide, in the healthcare ecosystem and with patients, healthcare providers, and payers.

In November, we submitted a letter to U.S. Health & Human Services’ National Coordinator for Health IT in response to the Health IT Policy Committee’s Meaningful Use Stage 3 recommendation requiring multi-factor authentication meeting NIST Level of Assurance (LoA) 3 as defined in SP 800-63-1 for remote access to protected health information. Our letter points out that Stage 3 requirements should clearly state that LoA 3 or LoA 4 should be required for remote access and clearly explain the differences and the additional security and multiple purposes that an LoA 4 solution can offer to reduce fraud, protect patient privacy and secure access to the electronic health records.

- In November, I was privileged to testify at the U.S. Health and Human Services hearing titled, “Trusted Identity of Patients in Cyberspace.” The testimony advocated the adoption of smart card technology in the U.S. healthcare system as a foundational element in identity proofing and authentication approaches for patients.

In 2013, the Healthcare Council will leverage 2012’s progress to:

- Further educate the market on the need to have our nation’s health information systems secure and accessed by healthcare professionals via strong authentication.
- Actively participate within the Identity Ecosystem Steering Group to promote the need for Level 4 authentication in healthcare.
- Promote and educate public and private health plans on the benefits of smart card technology.
- Provide educational resources to support the Medicare Common Access Card legislation.

Michael P. Magrath, CSCIP
Director, Business Development
Gemalto



Smart Cards and Biometrics in Healthcare Identity Applications

Critical to the success of any healthcare facility is the ability to ensure that the right patient is receiving the right treatment. Every step in the patient experience—identification, assessment, testing, and diagnosis—should be accompanied by reliable patient identity verification. Current identity management systems use both smart cards and biometrics to verify identity. Both are options for healthcare providers.

Smart card technology relies on the use of an integrated circuit chip, either a microcontroller (or equivalent intelligence with internal memory) or a memory chip. Smart cards can therefore store large amounts of data, carry out functions such as encryption, mutual authentication, and biometric matching, and interact intelligently with a smart card reader. The card connection to a card reader requires either direct physical contact or a contactless data exchange over a radio frequency. Smart card technology conforms to international standards and can be packaged as a plastic card, a fob, the subscriber identity module used in most mobile phones, or other forms.

Biometric technology ties the identity of a living person to a unique biological (anatomical or physiological) or behavioral characteristic. Biometric systems include four components: a mechanism that creates a digital representation of a scanned and captured biometric characteristic, such as a fingerprint or iris pattern (enrollment), software that processes the data into a template, software that compares the template created at enrollment with a currently created (live) template, and an interface that communicates the result of the comparison to an identity management application.

Biometric systems can be used to both authenticate (confirm) a person's identity and verify it, securely and conveniently; such characteristics cannot be stolen or forgotten and are very difficult to forge. The authentication process can compare a live template to all templates stored in an identity management system, ensuring that an individual is neither enrolled under another identity nor on a list of prohibited persons. The verification process uses a one-to-one comparison to determine whether the live template matches the stored template created at enrollment.

Biometrics alone, smart cards alone, or a combination of smart cards and biometrics are all options for healthcare organizations whose goal is stronger electronic identity authentication and verification. However, many healthcare organizations have additional goals: to streamline processes, improve quality of care, and reduce costs.

Biometrics-only solutions can only support identity authentication and verification. These solutions are convenient and can certainly improve security and reduce fraud. But to be always avail-

able to multiple systems, the templates must either be stored in an accessible central location or distributed, raising concerns about how well information is secured, who can access the information, and whether individual privacy and civil liberties are protected. Moreover, cultural and social considerations can render biometrics-only systems useless. For example, individuals may be unable to place their fingers on a fingerprint scanner because of the long fingernails highly valued by their social group. Others may refuse to have their photographs taken because of cultural concerns, such as the requirement to remove customary adornments, such as scarves.

Smart cards offer healthcare providers benefits beyond identification. Applications and healthcare information can be stored on the card, making current information available to multiple providers and in emergency situations. Stored information can easily be updated after a card is issued. Patient registration can be streamlined, and patient information can be accessed at any point of care, reducing routine paperwork and eliminating errors.

Combining biometrics with smart card technology results in enhanced patient privacy and security along with improved system performance and support for additional healthcare functions. An ID system that leverages both the cryptography supported by smart cards and the identification capabilities of biometrics offers significant security advantages. The combination represents an identity authentication solution that can be used at multiple facilities and in emergency situations. Smart healthcare ID cards can be interoperable across multiple locations and can be used by first responders with portable readers. Speedy patient identification improves quality of care and reduces medical fraud. Storing biometric identification information on a smart ID card and performing a biometric match on the card enhances privacy and security and improves system performance—an ideal situation for healthcare providers.

About the White Paper

The Smart Card Alliance Healthcare Council developed this white paper to provide an overview of smart card and biometric technologies, discuss the considerations key to selecting biometric and smart card technology for identity verification, and describe the benefits of combining smart cards and biometrics for identity applications.

Participants involved in the development of this document included: ABnote Group; CSC; Datacard Group; Gemalto; LifeMed ID, Inc.; Oberthur Technologies; OTI America; Watchdata Technologies Pte Ltd; XTEC Incorporated.

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Meaningful Use Stage 3 Recommendation: Level of Assurance 4

The Healthcare Council submitted a recommendation to the National Coordinator for Health Information Technology, Office of the National Coordinator for Health Information Technology (ONCHIT), advocating the inclusion of Level of Assurance (LoA) 4 for remote access.

In 2012, the Health IT Policy Committee accepted the Privacy and Security Tiger Team's recommendations for online authentication of providers accessing Electronic Health Records (EHRs) remotely:

"ONC should move toward requiring multi-factor authentication meeting NIST's Level of Assurance (LoA) 3 as defined in SP 800-63-1 for remote access to protected health information. Remote access includes the following scenarios:

- A. Access from outside of an organization's/entity's private network.
- B. Access from an IP address not recognized as part of the organization/entity or that is outside of the organization/entity's compliance environment.
- C. Access across a network any part of which is or could be insecure (such as across the open Internet or using an insecure wireless connection)."

As stated in NIST's Special Publication 800-63-1 *Electronic Authentication Guideline*, "These technical guidelines supplement OMB guidance, *E-Authentication Guidance for Federal Agencies* [OMB M-04-04] and supersede NIST SP 800-63. OMB M-04-04 defines four levels of assurance, Levels 1 to 4, in terms of the consequences of authentication errors and misuse of credentials. Level 1 is the lowest assurance level, and Level 4 is the highest. The OMB guidance defines the required level of authentication assurance in terms of the likely consequences of an authentication error. As the consequences of an authentication error become more serious, the required level of assurance increases."

Ideally LoA 3 for authentication would be sufficient to protect patients' privacy and security in most instances. However, if the Meaningful Use Stage 3 requirements reference only LoA 3, there is no doubt that the majority of healthcare organizations will seek only LoA 3 solutions without considering LoA 4 solutions. The Smart Card Alliance urged ONCHIT to encourage health organizations to issue LoA 4 credentials which provide the highest level of assurance.

Meaningful Use Stage 3 requirements should clearly state that LoA 3 or LoA 4 shall be required for remote access and clearly explain the differences and the additional security and multiple purposes that an LoA 4 solution can offer to reduce fraud, protect patient privacy and secure access to the EHRs.

If only LoA 3 is mandated, perhaps the most critical vulnerabilities are "man-in-the-middle" attacks. Below are healthcare examples based on the examples described in SP 800-63-1.

- An attacker breaks into a router that forwards messages between the EMR application or HIE and a provider. When forwarding messages, the attacker substitutes his or her own public key for that of the EMR or HIE. The provider is tricked into encrypting his or her password so that the attacker can decrypt it.
- An attacker sets up a fraudulent website impersonating the EMR/HIE. When an unwary provider tries to log in using his or her one-time password device, the attacker's website simultaneously uses the provider's one-time password to log in to the real EMR/HIE.

LoA 4 provides end-to-end encryption without relying on the web browser. In addition, users are authenticated cryptographically to web sites with digital certificates. This prevents spoofed websites and "man in the middle" attacks. At this level, in-person identity proofing is required. LoA 4 is similar to LoA 3 except that only "hard" cryptographic tokens are allowed. The use of an LoA 4 credential would significantly reduce the risk of a fraudulent transaction, since the device has the ability to electronically authenticate both the rightful credential owner and the relying parties' services.

As of September 24, 2012, 29 breaches classified as a "Hacking/IT Incident" have been reported, with 1,338,773 individuals affected since the "Breach Notification List" was implemented in 2009. As reported by the Privacy and Security Tiger Team's Trusted Identity of Providers in Cyberspace Recommendations on August 1, 2012, about five percent of reported HIPAA breaches were associated with unauthorized use on the network (not directly associated with hacking). Had two-factor authentication been required, many of these breaches may have been prevented. If any of these attacks were "man in the middle attacks," LoA 4 assurance could have prevented the incident from happening.

Healthcare records offer identity thieves a vault of personally identifiable information. With growing identity theft and medical identity theft, the Smart Card Alliance strongly recommended that ONC include LoA 4 in its guidance and educate the healthcare market on the benefits of LoA 4 authentication, since it is superior to LoA 3 in protecting patient privacy and security.

About the Recommendation

The Healthcare Council is active in advocating the use of smart card technology for patients, providers and insurers and provides educational resources for the industry on the benefits of smart card technology for healthcare applications. The LoA 4 recommendation letter was sent to Dr. Farzad Mostashari, National Coordinator for Health Information Technology, Office of the National Coordinator for Health Information Technology (ONCHIT), in November 2012.

Smart Card Technology in U.S. Healthcare: Frequently Asked Questions

A smart card is a small card or similar device with an embedded integrated circuit chip. The increasing use of smart cards in the United States has been accompanied by increasing interest in using smart cards to resolve certain current healthcare issues. The Healthcare Council's compilation of frequently asked questions (FAQs) describes the potential use of smart cards in healthcare applications and patient identity management systems. The FAQs are organized by category.

General Questions about Smart Cards

The general FAQs cover the salient features of smart cards, describing how smart cards work, what they look like, and how they are commonly used. The general questions introduce the cards' specific applicability to healthcare and describe both the type of healthcare information they can store and the security features that protect that information. The advantages of using smart cards over magnetic stripe cards and biometrics-only solutions are also enumerated.

Questions about Smart Cards and the Healthcare Ecosystem

FAQs about the ecosystem summarize the benefits that patients, healthcare providers, and payers can realize through the use of smart healthcare cards and describe the current status of smart cards in healthcare. General ecosystem questions address potential implementation and integration issues, such as barriers to implementation, appropriate implementation timing, and potential for integration with current systems; operational considerations, such as how card/patient data is maintained and who is responsible for maintenance; business considerations, including who pays for what and how return on investment (ROI) can be demonstrated; and regulatory considerations, such as whether smart card use can facilitate HIPAA compliance and meet the criteria for meaningful use.

Questions about Smart Cards and Patients

Smart healthcare cards can help patients in a number of ways, all stemming from the card's ability to authenticate a patient's identity when the patient seeks medical care. The FAQs in this category address how patients would use a smart healthcare card, explain why such a card would be beneficial, and describe the security that protects patient information stored on the card.

Questions about Smart Cards and Healthcare Providers

Smart card-based systems can support various applications and capabilities that are important to healthcare providers. In addition, they can significantly reduce hospital administrative costs while maintaining or improving the quality of care and customer service.

FAQs about smart cards and providers enumerate the numerous administrative, security, and healthcare functions that smart cards support. Potential benefits to hospitals are described, including the effects of smart healthcare card use on emergency and critical care. Implementation, operations, and business considerations are addressed in detail. This discussion covers IT requirements, interoperability issues, and integration concerns; addresses workflow change issues; lists the fixed and variable costs associated with issuing smart cards; defines ROI for a smart healthcare card; and suggests approaches to branding and community involvement.



Questions about Smart Cards and Payers

Some of the issues faced by providers are also issues for payers: increased administrative costs, aging accounts receivables, and litigation disputes. In addition to offering relief in these areas, using smart cards can have immediate benefits for a payer's bottom line. FAQs about smart cards and payers discuss these issues and benefits and address additional concerns about barriers to adoption, payment responsibilities, patient eligibility, and the interaction between a smart healthcare card and government programs such as Medicare and Medicaid.

About the FAQ

The Smart Card Alliance Healthcare Council developed the FAQ to provide an easy-to-use resource for understanding how smart card technology is used for healthcare applications and for discussing the benefits that smart healthcare cards deliver to patients, healthcare providers, and healthcare payers. The specific features supported by and the capabilities of a particular smart healthcare card will depend on the specific solution being implemented. Not all solutions provide all of the capabilities described in this document.

Participants involved in the development of this document included: ABnote Group; CSC; Datacard Group; Eid Passport, Inc.; Gemalto; LifeMed ID, Inc.; Oberthur Technologies; OTI America; RM Industries; SafeNet Inc.; SecureKey Technologies; Watchdata Technologies Pte Ltd; XTec Incorporated.

identity council



Identity Council Mission

Promote best policies and practices concerning person and machine identity, including strong authentication and the appropriate authorization across different use cases.

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2012 Identity Council Honor Roll

Top 3 Contributors

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- Neville Pattinson, Gemalto
- Chris Williams, SAIC

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2012 Activities

- [PIV-Interoperable Credential Case Studies](#) white paper, documenting the benefits of using PIV-interoperable credentials for enterprises and providing implementation case studies of enterprises that are issuing or planning to issue PIV-I credentials.
- [Sykipot Trojan statement](#), providing an overview of the attack and offering perspectives on preventing this type of attack and on specific actions to take.
- [Mobile Devices and Identity Applications](#) white paper, presenting the vision of the secure use of mobile devices for identity applications and describing different use cases for current and NFC-enabled mobile devices.
- [PIV Card/Reader Challenges with Physical Access Control Systems: A Field Troubleshooting Guide](#), documenting guidance to help users diagnose the cause of PIV card/reader issues with physical access control systems and providing troubleshooting guidance to quickly identify corrective actions (in collaboration with the Access Control Council).
- National Strategy for Trusted Identities in Cyberspace (NSTIC) cross-council Tiger Team leadership.
- Mobile Devices and Identity and Access Control Applications Workshop, 2012 Government Conference, in collaboration with the Access Control Council and the Mobile and NFC Council.
- Expansion of Council charter, to include strong authentication, NSTIC and non-person entity authentication.

Year in Review: Identity Council Chair

Assurance Necessary as Cyber Trends Emerge

Our cyber world has grown and spread rapidly. It helps us to do our jobs faster and more efficiently. However, the ubiquitous manner in which cyberspace is integrated with our culture and daily lives generates some of the most serious and critical challenges currently faced by our society. The rapidly evolving world of cyberspace has brought great technological innovation and improvement to almost every aspect of modern society. Social business amplifies the potential value of individual personas and relationships, whether they are employee, customer, prospect or partner.

Correlation of discrete identities across enterprises (both private and public) is required at higher levels of assurance. The OMB guidance defines the required level of authentication assurance in terms of the likely consequences of an authentication error. As the consequences of an authentication error become more serious, the required level of assurance increases. Correlation across enterprises also requires a federated or brokered digital identity service that should also have the ability to render individual, authenticated, non-repudiated assertions on the authentication and authorization of an individual while addressing the privacy implications and concerns. In other words, a service is required that follows a trust framework that will allow different parties to accept digital identities created by that service.

The Smart Card Alliance Identity Council has observed several significant cyber security trends in 2012:

1. Federal agencies are actively implementing HSPD-12 initiatives – impacting federal government agencies, its partners and customers, and solutions offerings. Originating from different mandates and guidance (e.g., NSTIC, OMB M-11-11, Federal CIO Council memo on accepting third party credentials) agencies are developing and implementing plans to get rid of vulnerable usernames and passwords and are moving to the Personal Identity Verification (PIV) and third party credentials.
2. Public and private sectors see a paradigm shift due to technology innovation and offerings – from mobile devices to cloud computing and the possibilities they bring us. Private sector innovations trigger a change in behavior and requisites such as looking for the personal digital assistant (PDA) to be used as an alternate PIV for government use.
3. The public and private sector are shifting from creating identities to managing identities across domains – addressing trust around identities created by different entities and developing standards and frameworks that can be leveraged for common purposes and supported by continued focus on interoperability.
4. The public sector functions under fiscal restraint – doing more with less and ensuring that initiatives yield greater efficiency and effectiveness. Originating from mounting debt, government is putting constraints on budgets and requiring renewed focus on priorities and efficiencies.

Within the Smart Card Alliance and its Councils, we witness the continued importance of identity management across domains. In healthcare, there is the discussion and implementation of electronic healthcare records (EHR). In the payment industry, we observe the use of mobile devices for payment. Understanding and managing your user community is at the heart of the matter. In 2012, we therefore have seen multiple initiatives where the Identity Council has worked with other Councils on initiatives that have a common denominator: managing identities.

The objective of the Identity Council for 2013 and beyond is to remain a trusted source with valuable knowledge in the area of identity management and to provide feedback and guidance on the different initiatives around us (e.g., NSTIC, OpenID, Kantara, FICAM). The Council also aims to have these initiatives work toward common objectives that benefit government and industry, and ultimately the citizens of the United States.

For 2013, we will continue to focus on those and other federal activities that influence us all. The Identity Council, however, also plans to actively follow non-federal identity management related initiatives. This includes activities by state and local governments and in the payment and healthcare industries.

As technology progresses, so does the ability to better serve our personal and business needs while changing the way we think and operate. It is our aim to keep the Identity Council forward looking while being involved in critical initiatives and assisting in making a difference in the world of identity management.

Harold Kocken, LL.M., CIPP/G, PMP
Manager
Deloitte & Touche LLP – Audit & Enterprise Risk Services



Mobile Devices and Identity Applications

Mobile phones and other mobile devices have become a fundamental part of most people's lives. They not only provide a communications platform, they support an ever-increasing variety of applications. Almost all mobile devices now include smart card technology, in the form of a subscriber identity module (SIM) or other secure element form factor, such as a smart secure digital card (e.g., microSD). This technology is essential for ensuring the security of the many different interactions and transactions performed using the device. And mobile devices are increasingly being used for secure transactions—such as payment, transit ticketing, and access control—all over the world.

At the same time, both private enterprises and government organizations are rapidly adopting digital identity credentials. Digital credentials provide better access to e-services, safeguard the privacy of the credential data, protect against fraud, and implement credential interoperability. Digital identity technology is now used in passports, national identification cards, healthcare cards, enterprise and government employee ID cards (such as the Federal PIV card), and electronic driver's licenses.

This convergence of digital identification and the technologies built into mobile devices offers an opportunity for individuals to rely on their mobile devices to authenticate their identity. The identification credentials that people currently carry can be securely inte-



grated into mobile devices in a variety of digital formats. Mobile devices can store simple software tokens, one-time passwords, personal identification numbers, public key infrastructure certificates, and biometric data, making them suitable platforms for the variety of applications that require identification. The stored credentials can be used to enable a wide range of functions and services that

are then available anywhere and at any time. Such functions and services can run the gamut, ranging from benefits and entitlements (such as healthcare services), to access to physical or logical resources (buildings and computers), to financial services (electronic banking), to loyalty applications.

Mobile devices are an ideal platform for carrying digital identity credentials and using them for authentication. People find that carrying a single mobile device is more convenient than carrying multiple plastic cards. Mobile devices are more flexible than plastic cards, typically including keypads and display screens. Finally, the processing and memory capabilities of a smartphone or other mobile device can extend the functionality of an identity credential. For example, codes delivered through simple text messages can be used for further authentication; location-based services can boost the security of a transaction by confirming the location of the person performing the transaction.

Use cases illustrate how mobile devices can support identity-related transactions. Many approaches can be taken to secure an identity transaction; the use cases presented in the white paper are illustrative examples only. One use case describes three different approaches for using mobile devices to authenticate an employee to a network: using the mobile device as an “out-of-band” solution to determine whether an employee is the “right” employee, leveraging the near-field communication (NFC) capabilities of a mobile device to read and transmit the details of a company ID, and using the mobile device as the ID credential itself, storing credential data in the secure element. Another use case explains how mobile devices can complement the PIV card, the PIV reader, or both. Two use cases suggest how any NFC-enabled device with contactless capabilities can allow first responders (such as police and EMTs) to authenticate the identity of people carrying contactless ID cards. And a final use case discusses NFC-enabled mobile access control. While identity authentication is a new use for mobile devices, identity applications can leverage smart card technology and the standards developed for mobile applications both to ensure security and to enable innovative approaches for identity authentication.

About the White Paper

The Smart Card Alliance Identity Council developed this white paper to present a vision of the secure use of mobile devices for identity applications and to describe different use cases for current and NFC-enabled mobile devices.

Participants involved in the development of this document included: Accenture LLP; Booz Allen Hamilton; Consult Hyperion; Deloitte & Touche LLP; Gemalto; HID Global; HP Enterprise Services; Identification Technology Partners; Identive Group; ID-machines; INSIDE Secure; Intellisoft; NXP Semiconductors; Secu-reKey Technologies; XTec, Incorporated.

PIV–Interoperable Credential Case Studies

Homeland Security Presidential Directive 12 mandates a standard for a secure and reliable form of identification to be used by all Federal employees and contractors. The Federal government has issued well over 5 million of these credentials, called Personal Identity Verification (PIV) cards, to both employees and contractors. Federal agencies use the PIV card to authorize employee access to both physical and logical resources and to assign access privileges. The success of the program is largely due to the development of goals, issuance policies, and technical specifications that all Federal agencies have agreed to follow. A cross-certification policy establishes trust between agencies; employees from one agency can use their PIV cards to access controlled resources while visiting other agencies. Multiple suppliers offer products and systems that conform to the governmental interoperability standards, and new standards-compliant products are introduced frequently.

As the benefits of a common identity credential become clearer, interest in such a credential is growing among non-Federal issuers. PIV-interoperable (PIV-I) cards are already being issued by Federal contractors to employees who need access to Federal buildings and IT networks. The PIV-I credential is technically interoperable with components of the Federal PIV systems such as readers. The PIV-I credentials comply with Federal Bridge guidance on identity-proofing, registration, and issuance, ensuring that Federal government agencies can trust the card. PIV-I credentials are also cross-certified with the Federal Public Key Infrastructure (PKI) Bridge to allow contractor personnel to access authorized resources.

Private enterprises can also take advantage of this technology. A commercial identity verification (CIV) credential leverages the PIV-I specifications, technology, and data model, without any requirement for identity proofing or PKI cross-certification. Any enterprise can create, issue, and use CIV credentials to achieve whatever level of assurance is required in that enterprise's environment.

This white paper documents four enterprise deployments of PIV-I credentials outside of first responder use cases. These case studies represent one of the first efforts to share information about the decision-making, implementation, and deployment processes involved. The four case studies examine how and why a particular enterprise chose to establish an identity program using the PIV-I credential. They identify achieved benefits and describe best practices.

A variety of organizations are represented by the case studies, including both a government organization and a range of private enterprises, and each organization has its own reasons for adopting the PIV-I card. In general, commercial off-the-shelf physical, logical, and mobile enterprise applications are supporting PIV (and

therefore PIV-I) authentication methods with increasing frequency. This support makes it easier for enterprise IT budgets to leverage their investment in identity, credentialing, access, and security services. In addition, certain common drivers for adoption emerge from the different case studies:

- Achievable economies of scale. As the PIV-I card gains traction, the cost of implementation decreases.
- The advantages of standards-based credentials. Credentials based on open, published standards allow software providers and developers to offer increasing numbers of applications more easily. In addition, standards-based credentials can be interoperable across a variety of applications and devices.
- The ability to decrease the number of credentials an individual must carry.
- Identity assurance. Adoption of the PIV-I credential guarantees a fundamental level of identity confirmation.
- Data privacy and the assurance that Web and messaging applications are secure. The credential can use encryption and digital signatures to ensure secure transfer and storage of data and messages.
- Less troublesome remote access. The credential can offer strong authentication for remote and wireless access to corporate networks.

Each case study describes the project, the implementation, and the lessons learned. The case studies suggest that PIV-I credentials can offer significant benefits, regardless of organization type. In many organizations, legacy “stovepipe” solutions currently govern the different functional areas that require credentials, such as physical access, computer login, and remote network access. Physical access typically requires a proximity card managed by a physical access control system. Computer login is managed by a centralized user management system. Network remote access may use a one-time password managed by yet another system. A PIV-I based solution can reduce the number of stovepipes in an organization, with security solutions consolidated onto a single PIV-I card. The PIV-I card can also reduce the number of support issues, since fewer credentials are required.

About the White Paper

The Smart Card Alliance Identity Council developed this white paper to document the benefits of using PIV-interoperable credentials for enterprises and to provide implementation case studies from enterprises that are issuing or planning to issue PIV-I credentials.

Participants involved in the development of this white paper included: Booz Allen Hamilton; Consult Hyperion; Datacard Group; Deloitte & Touche LLP; Diebold; GSA; HP Enterprise Services; IDenticard; Identification Technology Partners; Identive Group; IDmachines; Intellisoft; NagraID Security; NXP Semiconductors; Probaris; SAIC; Tyco Software House; Xtec, Incorporated.

mobile and NFC council



Mobile and NFC Council Mission

Raise awareness and accelerate the adoption of payments, loyalty, marketing, promotion/coupons/offers, peer-to-peer, identity, access control, transit and other applications using Near Field Communication (NFC).

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- Berend van Geffen, Collis / UL

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3M Cogent, Inc. • ABnote Group • Accenture LLP • Acumen Building Enterprise, Inc. • American Express • Bank of America • BetterBuyDesign • Booz Allen Hamilton • Capgemini USA Inc. • Capital One • Chase Card Services • Chase Paymentech • Clear2Pay • Collis / UL • Consult Hyperion • CorFire • CPI Card Group • C-SAM • Cubic Transportation Systems, Inc. • Czech Technical University in Prague • Datacard Group • Datawatch Systems • DeviceFidelity, Inc. • Discover Financial Services • E & M Technologies, Inc. • ENTRUST • Exponent, Inc. • FIME • First Data Corporation • FIS • Fiserv • Gemalto • Giesecke & Devrient • GlobalPlatform • Heartland Payment Systems • HID Global • HP Enterprise Services • IDenticard Systems, Inc. • Identification Technology Partners • Identive Group • Infineon Technologies • Ingenico, North America • Ingersoll Rand Security Technologies • INSIDE Secure • Interac Association / Acxsys Corporation • Intercede • IQ Devices • Isis • Lenel Systems International • MasterCard Worldwide • Morpho • MTA New York City Transit • NagraID Security • NFC Forum • NXP Semiconductors • Oberthur Technologies • OTI America • Probaris, Inc. • Quadagno & Associates, Inc. • Quantum Secure Inc. • SafeNet, Inc. • SecureKey Technologies • Smartrac N.V. • STMicroelectronics • Thales e-Security • Toni Merschen Consulting • TSYS • Unwire US, Inc. • U.S. Department of Homeland Security • VeriFone Systems • Visa Inc. • ViVOtech, Inc. • Watchdata Technologies Pte Ltd • Wells Fargo

2012 Activities

- NFC Base Camp: Fundamentals of NFC Mobile Technology and Business Applications Workshop, 2012 NFC Solutions Summit.
- Industry comments on the GlobalPlatform white paper, "A New Model: The Consumer-Centric Model and How It Applies to the Mobile Ecosystem."
- [NFC Application Ecosystems Webinar Series](#), including three webinars covering an introduction to NFC, the ecosystem that is common to NFC applications, and the ecosystems for peer-to-peer, NFC tag/poster, product label, marketing, gaming, access, identity, social media, payments ticketing, and transit applications.
- [Mobile/NFC Standards Landscape](#), including a standards reference guide and accompanying interactive PowerPoint presentation to educate industry stakeholders broadly on the standards, specifications and certification requirements for the NFC ecosystem.
- Relationships with the GlobalPlatform and the NFC Forum.

Year in Review – Mobile & NFC Council

New Council Enjoys Great Momentum

2012 was a dynamic year for mobile and NFC. The Smart Card Alliance created the Mobile & NFC Council in February 2012 and held its inaugural elections in May 2012. The goal of this Council is to look at the broad spectrum of needs, use cases, technologies and hurdles, and deliver projects that will benefit widespread adoption, Alliance member knowledge and industry player education surrounding the technology (for example, providing information for the application developer community as a way to help foster adoption).

After just a half year of being established, the momentum within the Council is amazing. One major accomplishment of the council was its fall 2012 webinar series on the NFC application ecosystem. This well received, three-part presentation covered the NFC ecosystem from technology introduction to specific applications and use cases including gaming, social media, access/identity, payment and ticketing. For 2013, we plan to involve cross-council participation.

As the webinar topics indicated, the Mobile & NFC Council is not entirely focused on payment. The Council is looking at all aspects of technologies, such as peer-to-peer, card emulation and reader modes, as well as the application solutions using these technologies.

The mobile and NFC space is extremely active. Not a day goes by without news -- most of it significant -- being reported on this interesting and dynamic space. New handset designs continue to enter the global market. We actually see manufacturers using NFC technology to differentiate their products in national advertising. The application development community, peripheral manufacturers and ecosystem suppliers are all helping to bring the market to maturity.

As the number of NFC-capable devices deployed continues to grow, the applications and use cases also continue to increase.

NFC and mobile today are very much like the “Wild, Wild West.” Many different industries, partners and solutions are trying to gain market penetration to ensure success.

There are currently more than 200 NFC implementations in over 50 countries around the globe. The number of commercially available NFC-enabled devices is well over 75. The momentum behind the technology requires active council member participation to help ensure success and to deliver the much-needed education and resources.

The Mobile & NFC Council is ready to deliver on some exciting activities in 2013. Your participation and ideas for projects are needed to ensure success. We are all watching this market with anticipation; however, the ingredients for mass adoption and use cases we probably haven't even thought of are sure to continue making news for years to come.

The involvement and energy of the active Council members engaging in activities is sure to make this Council a success for many years to come. Thank you to all who have participated thus far!

Brent Bowen

Vice President, Sales and Business Development,
INSIDE Secure



NFC Application Ecosystems

The Smart Card Alliance Mobile and NFC Council hosted a series of webinars for Smart Card Alliance members to describe the wide variety of NFC applications and the ecosystem participants that are involved in delivering those applications. The webinar series provided a broad overview of the different applications NFC is used for, discussed the ecosystems that support the applications, and provided examples of ecosystem stakeholders. The webinar is the result of a Council project launched early in 2012 to review the overlap and unique characteristics of the different application ecosystems.

The first webinar, held on September 27, provided the foundation for presentations covering the different NFC applications. Doug Morgan, C-SAM, described what NFC is, how it is used and what types of applications it supports, defined the common ecosystem players that are required across virtually all mobile NFC application areas, and described secure element functions and effect on the ecosystem. Bart van Hoek, Collis/UL, provided an overview of NFC peer-to-peer technology, with examples of gaming, pairing, data exchange and payment applications. Rob Zivney, Identification Technology Partners, covered NFC tags and posters and provided a detailed review of the NFC tag value chain. Brent Bowen, INSIDE Secure, described product label applications that are used with proximity marketing.

NFC Gaming Ecosystem Player Examples

Gaming Category	Examples
Console/handset/tag manufactures 	<ul style="list-style-type: none"> • Nintendo • Nokia • Samsung • NXP
Game publishers 	<ul style="list-style-type: none"> • Nintendo (Wii, Pokemon) • Rovio (Angry Birds "Magic") • Sifteo (Cubes) • Activision (Skylanders) • Vectorform (Pandemic 1.0) • Nukotoys
Gambling Casinos 	<ul style="list-style-type: none"> • TBD
Gaming Platform 	<ul style="list-style-type: none"> • SCVNGR
Micropayments 	<ul style="list-style-type: none"> • Sometrics • Zong • Mopay
Target Offers 	<ul style="list-style-type: none"> • Sometrics

The Council expanded coverage of NFC applications in the second webinar on October 11. Chandra Srivastava, Visa, discussed NFC marketing applications – offers/coupons, ads/promotions, and product information – and the value to retailers. Deborah Baxley, Capgemini, discussed how “gamification unlocks the magic of NFC” with examples of current game publishers that are leveraging NFC to add features to their games. Tom Zalewski, CorFire, described the use of NFC for different access control use cases for consumers and enterprises and highlighted a field work force example. Steve Rogers, Intellisoft, described a vision for how NFC-enabled mobile devices could be used for a wide variety of identity applications.

Mobile Transit Applications



The final webinar on October 25 wrapped up the series. Brent Bowen, INSIDE Secure, discussed the impact of NFC on social networking applications. Josh Kessler, MasterCard Worldwide, described the most well-known NFC application – NFC-enabled contactless bank card payment – and then presented NFC cloud-based wallet considerations. Tom Zalewski, CorFire, presented ticketing applications that can leverage NFC including hospitality, travel and entertainment. David deKozan, Cubic, completed the series with an in-depth description of mobile applications for transit, showing how mobile devices enable mobile service, mobile ticketing, mobile payment and mobile marketing for transit agencies.

The [NFC Application Ecosystem Webinar Series](#) recordings and presentations are available for Smart Card Alliance members on the Smart Card Alliance web site.

Mobile/NFC Standards Landscape

Mobile NFC applications follow a wide variety of standards and specifications, some that govern the core technology and functionality of mobile NFC devices and some that are specific to applications. The Smart Card Alliance Mobile and NFC Council developed the standards reference guide and accompanying interactive PowerPoint presentation to educate industry stakeholders broadly on the standards, specifications and certification requirements for the NFC ecosystem.

The reference guide and PowerPoint presentation include relevant standards and specifications for core mobile/NFC functionality and services, and outline specifications and standards covering payment, loyalty, access and transit applications.

Reference Guide

The [Mobile/NFC Standards Landscape Reference Guide](#) lists standards and specifications covering core functions and those applicable to payment, loyalty, access and transit applications. Standards and specifications managed by American Express, Discover, EMVCo, ETSI, GlobalPlatform, GSMA, ISO/IEC, MasterCard, NFC Forum, PCI, SIM Alliance, and Visa are included, as well as specific standards covering transit and access control. Over 170 standards and specifications are included in the comprehensive reference guide.

Interactive PowerPoint Presentation Topics

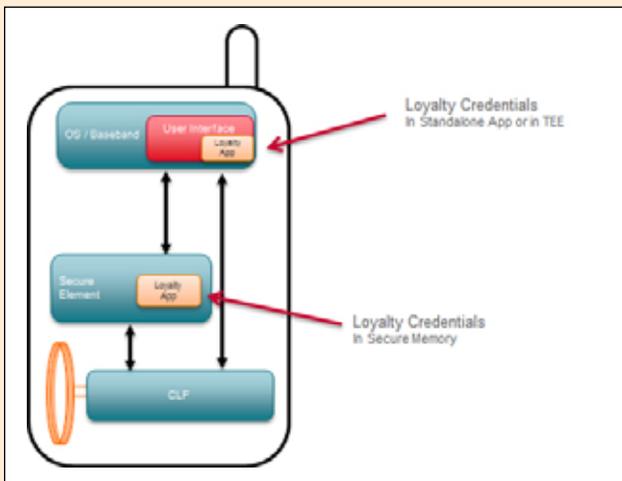


PowerPoint Presentation

The [PowerPoint Standards for the NFC Ecosystem](#) presentation presents the mobile/NFC standards, specifications and architectures in an interactive slideshow. The presentation provides an overview of how the different standards and specifications fit together for implementing core functionality and for provisioning applications and data to mobile devices. For each application,

the presentation displays the specifications/standards that enable functionality and support security. NFC-enabled applications included in the presentation are payments, tags and accessories, identity, loyalty, transit and access.

Example: Loyalty Credentials in Mobile Device



About the Resources

The Mobile and NFC Council developed the standards landscape resources to document the existing standards and specifications that are used for both the mobile infrastructure and for a variety of NFC-enabled applications. The Council will be continuing work on the landscape documents to identify areas that need industry specifications and standards, and to update the documents as new standards or new applications become prominent.

The NFC standards landscape project included broad cross-industry Mobile and NFC Council member participation. Participants involved in the development of this white paper included: Accenture LLP; American Express; Chase Card Services; Collis/UL; CorFire; CPI Card Group; Cubic Transportation Systems, Inc.; Datawatch Systems, Inc.; Discover Financial Services; First Data Corporation; Giesecke & Devrient; Heartland Payment Systems; HID Global; Identification Technology Partners; Identive Group; Infineon Technologies; Ingenico; Ingersoll Rand Security Technologies; INSIDE Secure; Interac Association/Acxsys Corporation; Intercede Ltd.; IQ Devices; Isis; MasterCard Worldwide; NFC Forum; NXP Semiconductors; Quadagno & Associates; SafeNet, Inc.; SecureKey Technologies; TSYS; VeriFone Systems; Visa Inc.; ViVotech, Wells Fargo.

payments council



Payments Council Mission

Facilitate the adoption of chip-enabled payments and payment applications in the U.S. through education programs for consumers, merchants, issuers, acquirers/processors, government regulators, mobile telecommunications providers and payments service providers.

2012 Council Officers

Co-chairs: Oliver Manahan, MasterCard

Vice chair: Troy Bernard, Discover Financial Services

Secretary: Deborah Baxley, Capgemini

2012 Council Steering Committee

- Deborah Baxley, Capgemini
- Troy Bernard, Discover Financial Services
- Michael English, Heartland Payment Systems
- Pamela Flakowitz, American Express
- Simon Hurry, Visa, Inc.
- Jack Jania, Gemalto
- Mohammad Khan, ViVOTech
- Paul Legacki, Infineon Technologies
- Michelle Lehouch, CPI Card Group
- Dan Loomis, VeriFone
- Oliver Manahan, MasterCard Worldwide
- Nick Pisarev, G&D
- Dori Skelding, Chase Card Services
- Didier Serra, INSIDE Secure
- Garfield Smith, Oberthur Technologies

2013/2014 Council Officers

- **Co-chairs:** Jack Jania, Gemalto, and Oliver Manahan, MasterCard
- **Vice chair:** Troy Bernard, Discover Financial Services
- **Secretary:** Deborah Baxley, Capgemini

2013/2014 Council Steering Committee

- Philip Andreae, Accenture LLP
- Deborah Baxley, Capgemini
- Deana Cook, Chase Card Services
- Jose Correa, NXP Semiconductors
- Troy Bernard, Discover Financial Services
- Terry Dooley, SHAZAM
- Michael English, Heartland Payment Systems
- Pamela Flakowitz, American Express
- Greg Garback, WMATA
- Simon Hurry, Visa, Inc.
- Jack Jania, Gemalto
- Bastian Knoppers, FIS
- Paul Legacki, Infineon Technologies
- Oliver Manahan, MasterCard Worldwide
- Nick Pisarev, G&D
- JC Raynon, VeriFone Systems
- Garfield Smith, Oberthur Technologies
- John Smith, First Data Corporation

2012 Payments Council Honor Roll

Top 3 Contributors

- Deborah Baxley, Capgemini
- Guy Berg, MasterCard Worldwide
- Simon Hurry, Visa Inc.

Honor Roll

- Nancy Baunis, Connexem Consulting
- Deborah Baxley, Capgemini
- Guy Berg, MasterCard Worldwide
- Louis Bianchin, Watchdata
- Greg Boardman, Ingenico
- Jason Dell, Gemalto
- Mike English, Heartland Payment Systems
- Reid Holmes, INSIDE Secure
- Bengt Horsma, First Data Corporation
- Simon Hurry, Visa Inc.
- Ryan Julian, Discover
- Mike Kutsch, MasterCard Worldwide
- Oliver Manahan, MasterCard Worldwide
- Ryan Reid, First Data Corporation
- Dori Skelding, Chase
- Garfield Smith, Oberthur Technologies
- Chandra Srivastava, Visa Inc.
- Brian Stein, Accenture
- Jeff Stroud, MasterCard Worldwide
- Tom Zalewski, CorFire

Council Members

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2012 Activities

- Contactless Payments: Fundamentals of Bank Card, Mobile, and Transportation Payments Workshop, 2012 Payments Summit, in collaboration with the Transportation Council
- [EMV FAQ](#) update to include payment brand announcements about EMV milestones and guidance.
- [EMV Connection](#) web site, providing up-to-date information on the status of EMV migration, along with tutorials and educational material.
- [Card Payments Roadmap in the U.S.: How Will EMV Impact the Future Payments Infrastructure?](#) white paper, providing updated information on payment brand milestones and guidance and educational resources for stakeholders across the payments value chain about the critical aspects of deploying an EMV solution in the U.S.
- [EMV and NFC: Complementary Technologies that Deliver Secure Payments and Value-Added Functionality](#) white paper, describing how EMV and NFC complement each other and work together.
- [EMV Ecosystem Resource](#), providing an educational resource on the full EMV ecosystem.
- [Smart.Payments](#) LinkedIn Group, encouraging industry-wide discussion of chip-enabled payments.

Year in Review: Payments Council Chair

Largest Council Undertakes Significant Activities

As I reflect back on 2012, I am amazed at how quickly the time has gone and how much has been accomplished in the payments industry. I'm most impressed with how far the U.S. market has progressed in its move towards adopting EMV technology as our future for payments. Not only will this migration serve to provide an even more secure form of payment, it will set the foundation for a platform on which to innovate for the future. Almost every major payment brand has made EMV "roadmap" announcements related to the U.S. market, solidifying the timelines in which we expect to see the market migrate. And we have gone from a few small trials, to multiple issuers deploying meaningful numbers of chip cards, and some merchants deploying – or planning to deploy – chip devices.

None of this would have happened without the support and dedication of the Smart Card Alliance Payments Council, which focuses on facilitating the adoption of chip-enabled payments in the U.S. The group brought together payments industry stakeholders, including payments industry leaders, merchants and suppliers, and dedicated much of this year to informing and educating the market about EMV and options for deployment in the U.S. market.

Of significant note this year was the creation of the EMV Migration Forum under the guidance of the Alliance. The work being done within the Forum will encourage broad cooperation and coordination to facilitate an efficient, timely and effective migration to EMV.

The activities of the Payments Council for 2012 were many:

- Contactless Payments: Fundamentals of Bank Card, Mobile, and Transportation Payments Workshop, at the 2012 Payments Summit, in collaboration with the Transportation Council
- EMV FAQ update to include payment brand announcements about EMV milestones and guidance.
- EMV Connection web site, providing up-to-date information on the status of EMV migration, along with tutorials and educational material.
- "Card Payments Roadmap in the U.S.: How Will EMV Impact the Future Payments Infrastructure?" white paper, providing updated information on payment brand milestones and guidance and educational resources for stakeholders across the payments value chain about the critical aspects of deploying an EMV solution in the U.S.
- "EMV and NFC: Complementary Technologies that Deliver Secure Payments and Value-Added Functionality" white paper, describing how EMV and NFC complement each other and work together.
- EMV Ecosystem Resource, providing an educational resource on the full EMV ecosystem.

All this was made possible through the efforts of the men and women in the Payments Council, who selflessly give of their time – and the commitment of the companies they work for. With 206 individuals from 67 organizations, the Payments Council is the largest council within the Smart Card Alliance, and it's been my absolute honor and privilege to serve as its Chair. I greatly appreciate your participation and look forward to another year of continued growth in chip and contactless technologies.

Oliver Manahan

Vice President, Emerging Payments
MasterCard Worldwide



Card Payments Roadmap in the United States: How Will EMV Impact the Future Payments Infrastructure?

EMV is a standard for smart card payments and the devices that accept smart cards for payment, such as point-of-sale (POS) terminals and ATMs. The specifications, which were first developed in the 1990s to combat counterfeit card fraud, have been evolving ever since to implement global interoperability of chip-based payment cards and acceptance devices.

Countries all over the world have adopted EMV. EMV deployment in the U.S. is imminent; the major payment brands have announced that by 2015, liability for fraudulent payment transactions will shift to the non-EMV compliant party to a transaction. Stakeholders across the payments value chain must decide how to deploy an EMV solution that meets the announced milestones. The primary stakeholders are card issuers, merchants, acquirers, processors, regional debit networks, payment brands, and suppliers of hardware, software, and support services.

One key consideration for stakeholders is transaction security. Smart cards store payment information in a secure chip rather than on a magnetic stripe; EMV adds functionality in three key areas: card authentication, cardholder verification, and transaction authorization. Card authentication can take place online, offline, or both. Four types of cardholder verification methods are possible; EMV also supports the use of multiple methods and can define the conditions under which each is permitted. Transactions can be authorized online or offline; specific risk-management features can regulate the use of offline transactions. In addition, EMV transactions provide transaction non-repudiation by digitally signing transaction actions and conditions.

Because smart cards can support multiple payment applications, EMV includes functionality to select the appropriate payment application. The EMV-compliant POS terminal builds a list of candidate payment applications when the dialog between the smart card and the terminal is initiated. Issuers can determine which applications can be loaded onto the card. Other considerations for stakeholders include changes to the messaging infrastructure that are necessary to support EMV, whether and how to implement EMV contactless transaction support, strategies for supporting contactless NFC-enabled EMV transactions, and EMVCo or payment brand type approval for appropriate payment system components.



Constructing an EMV migration roadmap for the U.S. requires stakeholders to consider their current contactless implementations, evaluate contact versus contactless EMV, select options from the EMV standard that suit the U.S. environment, and plan for convergence with NFC mobile contactless payments. Choices must be made in four key areas: card interface, card authentication method, transaction authorization, and cardholder verification method. Issuers may need to address four additional areas: key management, PIN management, script processing, and fraud risk management parameters. Payment acquirers must decide which readers, devices, and software applications to certify and deploy. Processors must consider operating system support and certification requirements. Because the capabilities of the POS terminal play a pivotal role in the success of any payment innovation, additional EMV migration considerations include hardware support, software changes and support, EMV and brand type approval, and new transaction messaging support.

As the U.S. plans for EMV migration, industry stakeholders are exploring the implementation options in the EMV specifications that will be required to meet U.S. market needs in the most cost-effective manner. With the announcements from the major payment brands, fairly rapid deployment of EMV in the U.S. is expected, harmonized with contactless and NFC payments acceptance. This will position the U.S. payments industry well to deflect fraud.

About the White Paper

The Smart Card Alliance Payments Council developed this white paper to educate stakeholders across the payments value chain about the critical aspects of deploying an EMV solution in their business environments in the U.S. The document is an update to a 2011 white paper, with new content on payment brand guidance and milestones and new and revised content on EMV implementation considerations.

Participants involved in the development of this white paper included: Accenture LLP; American Express; Apriva; Bank of America; Bell Identification B.V.; Booz Allen Hamilton; Capgemini; Chase Card Services; Connexem Consulting; CorFire; Discover Financial Services; First Data Corporation; FIS; Fiserv; Gemalto; Giesecke & Devrient; Heartland Payment Systems; Infineon Technologies; Ingenico, North America; INSIDE Secure; Interac Association/Acxsys Corporation; JPMorgan Chase; MasterCard Worldwide; Morpho; NACHA – The Electronics Payments Association; NagraID Security; NXP Semiconductors; Oberthur Technologies; Quadagno & Associates; Thales e-Security; Toni Mer-schen Consulting; TSYS; VeriFone Systems; Visa Inc.; Watchdata; Wells Fargo.

EMV and NFC: Complementary Technologies that Deliver Secure Payments and Value-Added Functionality

Two technologies, EMV and NFC, are catching the eye of the payments industry in the United States. EMV, a global standard for payment transactions made using smart credit and debit cards, protects against counterfeit card use and skimming. NFC, a group of short-range wireless technologies, enables proximity-based communication between applications on two compliant devices, such as a smartphone and a tablet or similar electronic device.

Used in Europe since 1966, EMV is currently being adopted in the United States. The four major U.S. payment brands are committed to near-term implementation of EMV-compliant cards and payments infrastructure. Moreover, beginning in 2015, liability for fraudulent payment transactions will shift to the non-EMV compliant party to a transaction. Any EMV-compliant card can be accepted by any EMV-compliant POS terminal or ATM that accepts the brand on the card.

NFC-enabled devices can operate in three different modes, including card emulation. An extremely simple man-machine interface facilitates the use of NFC for functions including smart posters, mobile coupons, mobile advertising, and mobile payments. NFC applications hosted on a smartphone use the secure element in the phone as a tamper-proof environment to store data, perform cryptographic functions, and protect transactions. As smartphones become more ubiquitous, consumers are increasingly using them to complete financial transactions, evaluate products and services while actually in a store shopping, make purchases in a store, and participate in merchant loyalty programs. NFC represents a unique opportunity for retailers to build loyalty with current customers while attracting new customers.

NFC mobile payment applications are already surfacing, with prominent deployments in the U.S. Banks are likely to issue EMV cards widely by 2015 in preparation for the fraud liability shift. These events suggest that implementing EMV coincident with the spread of NFC makes sense. The resulting three candidate payment technologies—contact EMV, contactless EMV, and NFC operating in contactless card emulation mode—are interoperable within a payment brand. EMV-compliant mobile payment applications on NFC-compliant mobile handsets are compatible with the EMV contactless acceptance infrastructure that supports cards. Payment applications offered with companion plastic cards can ensure acceptance by merchants without contactless readers. Although chip cards and mobile devices both require more complex certification and personalization than magnetic stripe cards, payment applications can be installed on a mobile device and personalized over-the-air. In the longer term, overall issuing costs should decrease, as mass compromise and reissuance scenarios become unnecessary and the number of plastic cards decreases.

Consumers should find the safety and security of compromise-free cards appealing. NFC mobile contactless payments also offer the potential for additional functionality. Payment applications can reside in a mobile wallet that houses other payment-related functions, such as coupons, transit tickets, and loyalty applications. Such applications are also technically feasible on multi-application chip cards or in the cloud, but the user interface built into a mobile device makes using these applications on such a device easier and more appealing.

Merchants should consider implementing EMV on the same schedule as acquirers and processors and prepare for both contact and contactless EMV payments. Doing so minimizes their fraud exposure after the liability shift, ensures that all of a merchant's customers, both U.S. and foreign, can use their cards and mobile devices to perform transactions, reaps the benefits of the PCI audit and account data compromise relief offered by the payment brands, and positions merchants to accept NFC EMV mobile contactless payments as well as other NFC retail applications (e.g., loyalty programs, coupons, and special offers).

By adopting EMV, the U.S. payments industry could move to the head of the pack, deploying EMV contactless and NFC-enabled EMV mobile contactless payments. Fraud can be reduced, and the next generation of payments innovation can flourish.

About the White Paper

The Smart Card Alliance Payments Council developed this white paper to answer questions about EMV and NFC for merchants, issuers, acquirers/processors, and the mobile and NFC communities. It provides an overview of EMV and NFC technology, delineates their relationship to each other, and describes the ecosystem that supports NFC mobile EMV contactless payment provisioning and transaction processing. It explains how contactless EMV works with an NFC mobile device and how the two technologies complement each other.

Participants involved in the development of this white paper included: Accenture LLP; Acumen Building Enterprise, Inc.; Apriva; Capgemini USA Inc.; Chase Card Services; Clear2Pay; Connexem Consulting; Consult Hyperion; Datacard Group; Exponent; First Data Corporation; FIS; Gemalto; Giesecke & Devrient; Heartland Payment Systems; Identification Technology Partners; Infineon Technologies; INSIDE Secure; Interac Association/Acxsys Corporation; NACHA – The Electronic Payment Association; NagraID Security; NXP Semiconductors; Quadagno & Associates; TSYS; Visa Inc.; Watchdata Technologies Pte Ltd.

transportation council



Transportation Council Mission

Promote the adoption of interoperable contactless smart card payment systems for transit and other transportation services and accelerate the deployment of standards-based smart card payment programs within the transportation industry.

2012 Council Officers

Chair: Craig Roberts, Utah Transit Authority (UTA)

Vice Chair: Transit: Gerald Kane, Southeastern Pennsylvania Transportation Authority (SEPTA)

Vice Chair: Tolling: Mike Nash, Xerox

2012 Council Steering Committee

- Dave Blue, Cubic
- Michael DeVitto, MTA NYC Transit
- Mike Dinning, U.S. Dept. of Transportation/Volpe Center
- Margaret Free, Giesecke & Devrient
- Greg Garback, WMATA
- Linh Huynh, INSIDE Secure
- Mike Meringer, VeriFone Systems
- Eric Reese, Chicago Transit Authority
- Brian Stein, Accenture
- Faye Surrette, MasterCard Worldwide
- Sandy Thaw, Visa Inc.

2013/2014 Council Officers

• **Chair:** Craig Roberts, Utah Transit Authority (UTA)

• **Vice Chair:** Transit: Gerald Kane, Southeastern Pennsylvania Transportation Authority (SEPTA)

• **Vice Chair:** Tolling: Mike Nash, Xerox

Council Members

ABnote Group • Accenture LLP • Acumen Building Enterprise, Inc. • American Express • Ashok Joshi • Bank of America • Bell Identification B.V. • Blackboard Inc. • Booz Allen Hamilton • Capgemini USA Inc. • Chase Card Services • Chicago Transit Authority • Clear2Pay • Collis / UL • Consult Hyperion • CSC • Cubic Transportation Systems • Dallas Area Rapid Transit (DART) • Dale Laszig • Deloitte & Touche LLP • DeviceFidelity, Inc. • Discover Financial Services • Double Diamond Group • FIME • First Data Corporation • Gemalto • Giesecke & Devrient • Heartland Payment Systems • Identive Group • IDmachines • InComm • Infineon Technologies • INSIDE Secure • JC Simonetti Assoc., Inc. • Lenel Systems International • LTK Engineering Services • MasterCard Worldwide • Metropolitan Transportation Commission • Morpho • MTA New York City Transit • NXP Semiconductors • Oberthur Technologies • OTI America • Port Authority Transit Corporation (PATCO) • Port Authority of NY/NJ • Quadagno & Associates, Inc. • Ready Credit Corporation • Regional Transportation Authority • Scheidt & Bachmann USA • Southeastern Pennsylvania Transportation Authority (SEPTA) • STMicroelectronics • Thales • TransitCenter, Inc. • U.S. Department of Transportation/Volpe Center • Unwire US, Inc. • Utah Transit Authority • VeriFone Systems • Visa Inc. • ViVOTech • Washington Metropolitan Area Transit Authority (WMATA) • Xerox • XTec, Inc.

2013/2014 Council Steering Committee

- Linh Huynh, INSIDE Secure
- Kathy Imperatore, PATCO
- Mark Lulic, MasterCard Worldwide
- Celine Mantoux, Giesecke & Devrient
- Josh Martiesian, LTK Engineering Services
- Kenneth Mealey, American Express
- Mike Meringer, VeriFone Systems
- Pradap Mistry, Cubic Transportation Systems
- Eric Reese, Chicago Transit Authority
- John Vasilj, Accenture

2012 Activities

- [Near Field Communication \(NFC\) and Transit: Applications, Technology and Implementation Considerations](#) white paper, discussing mobile applications that are relevant to the transit industry and providing an overview of the benefits and implementation considerations for NFC applications.
- Contactless Payments: Fundamentals of Bank Card, Mobile, and Transportation Payments Workshop, 2012 Payments Summit, in collaboration with the Payments Council
- 2012 Transportation Council Meeting, hosted by SEPTA, September 18-19, 2012, Philadelphia PA
- [Smart.Transit](#) LinkedIn Group, facilitating open discussion of transit industry trends and challenges.

2012 Transportation Council Honor Roll

Top Contributors

- Michael DeVitto, MTA NYC Transit
- Jerry Kane, SEPTA
- Mike Nash, Xerox
- Brian Stein, Accenture

Honor Roll

- Nancy Baunis, Connexem Consulting
- Peter Burrows, Xerox
- Doug Deckert, CH2M Hill
- David deKozan, Cubic
- Michael DeVitto, MTA NYC Transit
- Mike Dinning, U.S. Department of Transportation / Volpe Center
- Steve Frazzini, Xerox
- Margaret Free, Giesecke & Devrient
- Linh Huynh, INSIDE Secure
- Ashok Joshi, Independent
- Jerry Kane, SEPTA
- Sharon Leary, DART
- Josh Martiesian, LTK Engineering Services
- Bob Merkert, Identive Group
- Mike Nash, Xerox
- Peter Quadagno, Quadagno & Associates
- Matt Radcliffe, NXP Semiconductors
- Eric Reese, CTA
- Craig Roberts, UTA
- Brian Stein, Accenture
- Sandy Thaw, Visa Inc.

Year in Review: Transportation Council Vice Chair

In-Person Meeting High Point of Year

During 2012, the Transportation Council focused attention on a variety of issues and topics that influenced decisions on technology choices and payment direction. Of particular interest were the topics of Near Field Communication (NFC) technology, the Europay MasterCard Visa (EMV) specifications, and prepaid cards, all of which occupied a commanding presence in the Council activities in the form of a white paper and a successful Council Meeting in Philadelphia. In addition, this past year witnessed the award of much anticipated contracts to deploy open payment fare collection systems for transit systems in Chicago and Philadelphia.

In February, 2012 the Council published *Near Field Communication and Transit: Applications, Technology and Implementation Considerations*. The paper's publication was especially noteworthy in view of movement by Google and Isis to advance digital wallets and contactless payment at the transit point of entry or a merchant's point-of-sale by waving or tapping an NFC-equipped phone. The paper was the result of a collaborative effort put forth by a wide participation of Council members produced a well-rounded treatment of the topic. The white paper first described the NFC role in the context of mobile technologies and then examined the variety of applications available in the public transit marketplace. The paper goes on to describe the NFC ecosystem including the requirement for cooperation from more than a dozen stakeholders and the options available for the secure element, where sensitive payment application and account information is stored. It is interesting to note that while the paper described a concept fundamental to the understanding of NFC – consumer payment credentials digitally residing on a secure chip in the phone – by August, Google had modified this assumption and moved to store consumer account information on its servers, thereby allowing access to any card and bypassing the need for separate agreements with individual card issuers.

The Transportation Council Meeting in September continued the tradition of holding an annual in-person conference to exchange information and learn about latest transportation payment trends. More than 150 payment and transportation industry representatives attended the event to participate and discuss a wide range of topics, including the commuter rail payment challenges, small agencies and open payments, and prepaid cards. The event included an informational session and tour of the prepaid pilot project implemented at the Port Authority Transit Company (PATCO), which feature the acceptance first of the Visa payWave card followed by other contactless cards. This event, which began as an informal meeting among transit agencies only, continues to grow in popularity and attendance.

Looking forward, the transportation and payment industries will undoubtedly stay focused on the task of adopting the EMV specifications in the United States. Where previously many in the industry predicted eventual EMV adoption over the long term, that timeline has decreased considerably to perhaps three to five years. Unquestionably, the accelerated pace stems from the release of EMV policies by the global payment brands this year, and the accompanying deadlines for chip card acceptance by processors (April, 2013) and the liability shift for issuers, acquirers and merchants (October, 2015).

Gerald J. Kane
Senior Project Planner, New Payment Technologies
SEPTA



Near Field Communication (NFC) and Transit: Applications, Technology and Implementation Considerations

Although mobile devices and phones have been in use since the early 1990s, with the proliferation of new handsets and applications they are rapidly becoming a necessity for conducting business. In the public transit arena, mobile requirements include passenger information, front-line employee communication, vehicle fleet monitoring, and facilities management. Most transit agencies have supplemented conventional radio systems with a range of new applications that address these needs.

A recent innovation can significantly influence the direction and growth of mobile commerce: Near Field Communication (NFC), a wireless communication technology that uses radio frequencies to exchange data between compliant devices located a



few centimeters apart. Mobile payments can be made using an NFC-enabled handset provisioned with a payment application provided by one of the major card brands and personalized with a payment account from the consumer's financial institution. Mobile NFC payment and settlement processes are identical to the processes execut-

ed when a contactless or magnetic-stripe credit or debit card is used for payment. However, NFC-enabled devices offer two-way functionality; that is, an NFC-enabled device can act as both a payment card and a reader, offering options for accessing information as well as a convenient way to complete purchases.

A variety of NFC applications are candidates for use in the public transit industry. Transit riders can use an NFC-enabled handset to select the correct route, obtain real-time schedule information, acquire fare media, purchase fare products, top up transit fare accounts, pay the best fare, and view the status of fare products. Various field trials, full system implementations in Asia, and a variety of market and focus group studies have demonstrated that transit patrons embrace mobile fare payment and associated real-time information services. User acceptance rates are very high; users value the convenience and the access to account information and transit service data. These benefits can be offered in both closed- and open-loop systems.

NFC technology is governed by multiple standards and by the specifications published by the industry association, the NFC Forum. An NFC-enabled device can operate in reader/writer, peer-to-peer, and card emulation mode. For mobile contactless payments and mobile ticketing, the device operates in card emulation mode. NFC phones can therefore be used with current contactless payment and ticketing services without requiring additional investment in the terminal infrastructure.

Deploying a secure NFC mobile application involves multiple stakeholders, including secure element providers and issuers, mobile network operators, handset manufacturers, application developers and service providers, transaction processors, and trusted service managers. Precise roles and relationships can vary, depending on the NFC application being implemented and the secure element form factor. Develop-

ing a mobile strategy is critical for agencies exploring the use of new fare payment and collection systems and may have benefits in addition to those directly related to fare collection. The strategy developed must consider how mobile capabilities fit within the agency's current business model and vendor relationships for fare payment, what changes might be required, whether mobile devices are to be an extension of a current contactless-enabled system or the system itself, and when to introduce NFC into the local market. The use of NFC-enabled mobile devices for fare payment can be part of a strategic approach that addresses differences between transit services (for example, ungated rail and gated rail; visual inspections or tap in-tap out) while providing non-fare-payment related benefits to a transit agency.

About the White Paper

The Smart Card Alliance Transportation Council developed this white paper to discuss mobile applications that are relevant to the transit industry and provide an overview of the benefits and implementation considerations for NFC applications.

Participants involved in the development of this white paper include: Accenture; ACS, A Xerox Company; American Express; Ashok Joshi; Collis; Connexem Consulting; Cubic Transportation Systems; Dallas Area Rapid Transit (DART); Giesecke & Devrient; HP Enterprise Services; Identive Group; Infineon Technologies; INSIDE Secure; JPMorgan Chase; LTK Engineering Services; MasterCard Worldwide; MTA New York City Transit; NJ TRANSIT; NXP Semiconductors; OTI America; Quadagno & Associates; Scheidt & Bachmann; Southeastern Pennsylvania Transportation Authority (SEPTA); U.S. Department of Transportation/Volpe Center; VeriFone; Visa Inc.; Washington Metropolitan Area Transit Authority (WMATA).

Transportation Council Meeting: U.S. Transit Industry Forum on Fare Collection Technology

The Transportation Council held a successful in-person meeting in late September at the Loews Philadelphia. The Alliance Transportation Council promotes the adoption of interoperable contactless smart card payment systems for transit and other transportation services, and helps accelerate the deployment of standards-based smart card payment programs within the industry. This year's two-day meeting brought together more than 170 delegates from member organizations including transit agencies, fare payments technologies, fare collection system integrators and financial organizations.

Cross-Country Representation

During the two-day meeting, small, medium and large transportation agencies discussed strategies for accepting open bank card payments for public transportation, challenges and opportunities for commuter rail, best practices for transit business and technical architectures, financial industry technologies and directions that affect fare collection, and the impact of new fare collection systems on fare policy. Transit agencies from all over the United States were represented, including from Atlanta, New Jersey, New York, Philadelphia, Phoenix, San Francisco, and Washington DC, and from the states of Florida, Hawaii, Maryland, Minnesota, Nevada, Pennsylvania, Rhode Island, and Utah.

New Fare Collection Technology

Transit agencies of all sizes reported that new collection systems that accept open bank card payments are successfully moving forward. While some agencies are in the planning stages and others in the midst of implementation, the members were an engaged group, discussing strategies and best practices for deploying new smart card-based fare collection systems. Attendees agreed that both new initiatives and established processes are all aimed at providing a better experience for customers through faster and more convenient open payments, better customer service, and enhanced information for riders.



Tours: A Highlight of Event

At the close of the first day, attendees had the opportunity to see open fare payment in action during a tour of the Port Authority Transit Corporation's (PATCO's) Wave-and-Pay ANYWHERE Visa Prepaid Card trial location, as well as the Southeastern Pennsylvania Transportation Authority (SEPTA) Operations Center. SEPTA is one of the first transit agencies deploying an open fare payment system. Originally scheduled concurrently, so many attendees were interested in both tours that the session timeframes were expanded to allow for groups to take both tours.

Top Contributor Recognition

Each year, the Smart Card Alliance recognizes the top individual contributors in each of the industry councils and the council "honor roll"—the individuals who were leading contributors and participants in the council projects and activities. The meeting was an opportune time to acknowledge the Transportation Council's three top contributors for 2011/2012 by scheduling a special recognition breakfast the morning of the second day. Along with top contributors Michael DeVitto of MTA NYC Transit, Jerry Kane of SEPTA, and Michael Nash of Xerox, more than a dozen honor roll recipients attended the breakfast.

Attendees commented that they came away with a deeper understanding of the implementation steps required to take advantage of new technologies like open payment and mobile ticketing, as well as the benefits these new systems can provide for both the agency and the customer.

The Smart Card Alliance Transit [Open Payment Resources](#) web page contains up-to-date information on North American transit programs implementing open contactless payments. The page includes descriptions of transit programs and reference documents, the library of Smart Card Alliance transit resources, and a slideshow that explains the basics of open transit payment technology.

EMV Migration Forum

EMV MIGRATION FORUM

A Smart Card Alliance Affiliated Chapter Organization

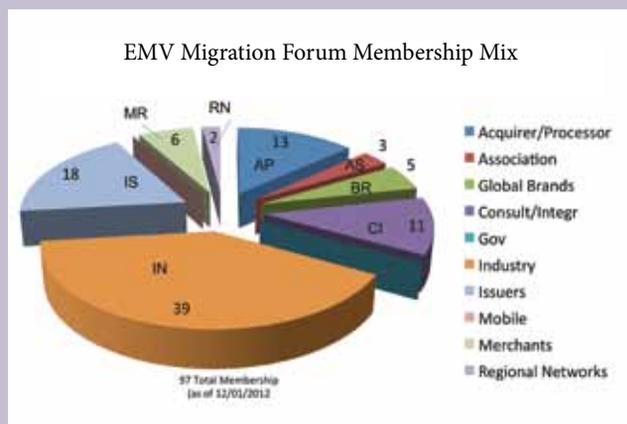
EMV Migration Overview

The Smart Card Alliance formally announced the creation of the EMV Migration Forum (the Forum) on July 31, 2012, and reaction throughout the industry was immediate, positive and overwhelming supportive. In less than 6 months the Forum has attracted 99 member companies, providing them with a supportive and neutral venue in which all payments stakeholders can seamlessly and successfully transition from magnetic stripe technology to secure EMV contact and contactless technology in the United States.

While part of the Smart Card Alliance corporate organization, the EMV Migration Forum has a separate membership and includes organizations with no previous involvement with or usage of smart cards or chip technology other than how this technology integrates into the EMV payments infrastructure.

The Forum has already met twice, beginning with a kick-off meeting at MasterCard's headquarters in Purchase, NY, which saw representatives from global payment networks, regional payment networks, issuers, processors and merchants coming together and forming four working committees who are now exploring the key challenges the payment industry faces in moving to EMV. Most recently, a capacity group of 200 met at Visa's corporate offices in Foster City, CA in December 2012 to report on progress made since the fall.

With its goal to align actions and timelines for everyone in order to achieve an efficient, coordinated, and timely migration to EMV, the Forum is successful due to its members and their collaborative work mindset.



Acquirer/Processor (13)

Acquirer Systems
Columbus Data Services
CreditCall Corporation
Elan Financial Services
Elavon
First Data Corporation
FIS
Fiserv
Heartland Payments Systems
TSYS
The Members Group
Vantiv
Worldpay US

Associations (3)

ATMIA
Electronic Transactions Association
National ATM Council

Consultant/Integrator (12)

BetterBuyDesign
Capgemini
Consult Hyperion
Deloitte
E&S Consulting LLC
Edgar Dunn
Euro Tech Sales
First Annapolis
Intelligent Parking Concepts
Magellan Consulting
Quadagno & Associates
Savage Consulting

Global Brands (5)

American Express
Discover Financial Services
JCB International
MasterCard Worldwide
Visa

Industry Supplier (39)

ABnote
ACI Worldwide
Aconite
Ascort
Barnes International
Bell ID
Cardtronics
Clear2Pay
CPI Card Group
Collis
Cryptomathic
Cubic
Datacard Group
Dynamics, Inc.
EFT Source
Equinox Payments

FIME
Galitt US
Gemalto
Giesecke & Devrient
ICC Solutions Limited
Infineon Technologies
Ingenico
Inside Secure
IntelCav
Kona
Morpho
NXP Semiconductors
NagraID Security
Oberthur Technologies
Paragon Application Systems
Q-Card Company/Brush Industries
ST Microelectronics
TAS
Thales e-Security
Triton Systems of Delaware, LLC
VeriFone, Inc.
Versatile Card Technology
Wayne - a GE Company

Issuer (18)

Bank of America
Bank of the West
Branch Banking & Trust (BB&T)
Capital One
Citibank
Commerce Bank
City National Bank
First National Bank of Omaha
JPMorgan Chase
Navy Federal Credit Union
PNC Bank
PSCU
Sun Trust
Union Bank
USAA
Wells Fargo
Woodforest National Bank
Zions Bancorp

Merchant/Retailer (7)

Publix Super Markets Inc
MTA New York City Transit
BP North America
Walgreens
Target
Safeway
Macy's

Regional Debit Network (2)

Credit Union 24 Network
SHAZAM

As of 12/03/2012

Year in Review: EMV Migration Forum

Inspired to Unite and Inform



The [EMV Migration Forum](#) was formed as a result of a “call to action” by payments industry leaders who, having previously set in motion the timeline and parameters for the U.S. payments market to migrate to the EMV chip-based payments standard, were faced with the challenge of encouraging

the alignment of all the important industry stakeholders impacted by this change to adapt their payments issuance, payments acceptance, and payments processing systems to the new EMV standard within the planned timelines. The Smart Card Alliance accepted this challenge and is well underway in launching this separate, neutral forum where stakeholders are empowered to work together to educate each other and address issues that will arise over the coming months and years.

Rather than extend and expand the Smart Card Alliance organization and the mission of the Payments Council to address EMV migration challenges, it was decided that a separate organization with no expectation of any previous involvement with smart card technology would serve the



complex, diversified U.S. payments market best. In August, the separate and independent EMV Migration Forum was announced, and the first meeting was held on September

12-13 at the MasterCard Worldwide Purchase, NY, headquarters. This initial meeting of the Forum was an immediate success, and the Forum had to cut off registration early due to a limit on meeting room capacity. This gathering had 130 payments industry professionals representing more than 75 organizations. Attendees included the four major payment brands, financial institutions, payments processors, merchant acquirers, retailers, payments industry associations, regional debit networks, consultants, integrators, testing services, and EMV chip cards and terminal

suppliers all gathered in one place to talk about the upcoming migration to EMV for the United States.

The meeting included two days of educational panel sessions and informal break-out discussion groups where industry leaders from the U.S., Canada, U.K., and Europe shared their experience and raised their concerns about the migration to EMV by the US payments industry. As a result of the meeting, participants



were energized to form four EMV working committees that they themselves selected – Debit & EMV Committee, Communications and Education Committee, Testing and Certification Committee, and U.S. Coordination Committee. These working committees have been meeting virtually and in-person since that first in-person meeting to define charters and begin working on some of the big issues that the industry is eager to solve together. The Forum has a dedicated section of the www.emv-connection.com website with information about the Forum, membership, member lists, and next meetings.

In the few months since it was created, the EMV Migration Forum has quickly grown to 99 member [organizations](#). A mix of payments stakeholders that include the payments brands, issuers, merchants, processors, debit networks, and EMV technology and services providers ensures that the Forum remains a balanced, diverse organization where every stakeholder can feel important and valued for the role they play in the success of the movement by the entire payments market to more secure, efficient, and convenient payments future involving chip cards and mobile devices.

Randy Vanderhoof

Acting Director, EMV Migration Forum
Executive Director, Smart Card Alliance

latin america chapter



SCALA Overview

The main mission of the Smart Card Alliance Latin America & the Caribbean chapter is in line with the overall goal of the Alliance: to stimulate the understanding, adoption, use and widespread application of smart cards in the Americas.

Trilingual education programs, market research, advocacy, industry relations and open forums keep SCALA members connected to the industry leaders and the innovative thought process. SCALA brings together smart card suppliers, partners and customers to address the challenges facing smart card deployment in the region.

The smart card market is growing, due to many market factors including the migration to EMV, open payments fare collection in transit and government and commercial identity programs.



SCALA Members

- American Express
- AMF Medios Transaccionales S.A.
- Autoridad Nacional Para La Innovacion Gubernamental (AIG)
- Bank Association of Panama
- Banred S.A.
- Banrisul S.A.
- Core Quality Service, S.A.
- Datacard Group
- Evertec Latino America S.A
- First Data
- Fundacton Instituto De Ingenieria
- Gemalto
- Giesecke & Devrient America Do Sul
- Global Enterprise Technologies Corp (GET Group)
- HID Global
- ICards Solutions Latinoamerica S.A De C.V.
- Instituto Nacional De Tecnologia Da Informacao – ITI
- IntelCav
- Inteligensa
- Inter American Development Bank
- Latin American Security Association
- Latinus E-Professional Business S.A.
- MAGICARD-Ultra Electronics Card Systems
- MasterCard WorldWide
- Nagra ID
- Oberthur Technologies
- Oficina Nacional De Tecnologias De Informacion (ONTI)
- Panama Canal Authority
- Pandaaid Soluciones C.A.
- Redeban Multicolor S.A.
- Safran Morpho
- Sertracen
- Smartrac Technology Group
- Superintendencia De Bancos De Panama
- Telered, S.A.
- The State Government of Chihuahua Mexico
- The World Bank
- VeriFone Inc.
- Visa International



SCALA Advisory Board

SCALA Chairman

Fernando Mendez
Head of Emerging Products
Visa Inc. LAC

SCALA Vice Chair

Kim Hangoc
Senior Business Leader Emerg-
ing Payments
MasterCard Worldwide

SCALA Observing General Member

Luis de la Cruz
Americas Sales Manager
Magicard-Ultra Electronics

SCALA Observing Financial Institution Advisor

Jorge Krug
Superintendent IT Security
Unit
Banco do Estado do Rio
Grande do Sul-Banrisul

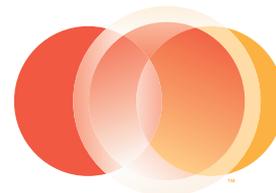
SCALA Secretary

Ismael Dykman
Senior Sales Director, Latin
America
Government ID Solutions
HID Global

Other Advisory Board Members

- Pablo Juan - Giesecke & Devrient
- Dimas Gómez-Gemalto
- Ian Walmsley – Oberthur Technologies
- Antonio Muñoz – Safran Morpho

Leadership Council



MasterCard
Worldwide



Associate Director's Letter

More Events and CSCIP Training Round Out Full Year



As I finish my seventh year as the Associate Director for Latin America, I am pleased with the achievements that have been accomplished by SCALA through our member collaboration. I have had the benefit of working with industry leaders who have helped me along the way to develop both the management style and capabilities of our organization that are appropriate for our region. I am grateful for our elected Executive Committee members of 2012 – Fernando Mendez, Kim Hangoc, Ismael Dykman, Luis de la Cruz, and Vincent Tenaglia – individuals who have enhanced our Alliance team by rolling up their sleeves to ensure the job gets done. I'd also like to give credit for the extraordinary efforts by our support staff and many other industry leaders who have played key roles in expanding our organization.

I want to thank all of you for your continued dedication to SCALA and the support you have shown me in the past year. Your member participation, contributions, guidance, and constructive criticism have helped us to increase the effectiveness of our organization. This support has established SCALA's foothold in the market, creating opportunities to develop additional ventures beyond membership development for the market.

As I reflect over the year, I feel a great deal of satisfaction because I'm able to review just what we've accomplished. In particular, I'd like to recognize our SCALA member organizations that have proved so pivotal to our success. Your efforts have helped us to build a more robust chapter and the influence we have to expand our markets. The Smart Card Alliance is a member-driven organization; this means that our members determine our councils, deliverables, activities, and resources. Thus, it is important to acknowledge that all our achievements and successes for the year are due in no small part to our member organizations.

2012 saw many accomplishments, including:

- SCALA entry into the Technology Park of The City of Knowledge
- Three educational training workshops, including two CSCIP exams
- Exposure to key industries and their conference events
- The EMV Tours conferences to Ecuador and Chile
- Alliances with International World organizations
- The building of bridges with universities

In addition to being grateful and feeling productive for all that we have accomplished, it is also traditional at this time of year to unite with those closest to us and say thank you for understanding the time we spend on our work responsibilities. These individuals support us unconditionally behind the scenes, cheering for our successes and supporting us during when we need a pick-me-up. They make sure that we maintain a balanced approach in our life.

I invite all of you to review the Alliance Yearbook where you can learn more about our accomplishments. On a personal note, I ask that as you spend time with family, friends and loved ones during the holiday season. Please remember those less fortunate and do whatever you can to give back. It will be appreciated more than you'll ever know.

Edgar Betts

Associate Director

Smart Card Alliance Latin America & the Caribbean

A Message from the SCALA Advisory Board

Reflecting on our accomplishments in 2012, we can say that it has been a very rewarding year for SCALA, a year where we have kept our progress in line with our objective of developing and multiplying a thorough understanding of the uses and applications of smart cards in Latin America and the Caribbean.

Through our trilingual educational programs, extensive market research, advocacy, industry relations and open forums, SCALA has kept members up-to-date with the most innovative ideas and trends around the world. As a result, smart cards are steadily earning acceptance in the region, helping to shape its ever-changing economy and extending its benefits to more people.

During 2012, we also expanded our boundaries. We grew significantly in the influence of EMV migration through collaboration between the financial sector, mobile telecommunications operators, governments, and media outlets in programs that take smart cards to mass transit, personal identification, and several other initiatives that reaffirm our commitment to bringing together vendors, partners and customers in order to address the challenges facing smart card deployment in the region.

In order to introduce these initiatives in the region, SCALA organized workshops, training sessions, and industry conference events, providing vital information. The SCALA EMV Migration Roadmap for Latin America and the Caribbean white paper enjoyed even more exposure, with two EMV Tours based on the document held in Quito, Ecuador, in June and in Santiago, Chile, in October. The white paper has helped define the boundaries and reduce the challenges of EMV migration in Latin America and the Caribbean.

Now that 2012 is almost behind us, we are compelled to look forward. As our region grows, so does the need to provide tools to maintain momentum and fuel our progress. At SCALA, we will continue to expand the role our organization plays in education, advocacy, and smart card related implementations. We will focus on the development and participation of our member organizations in our markets that we represent collectively.

We also would like to extend an invitation to all organizations influenced by smart card technology to join the Smart Card Alliance Latin America and the Caribbean chapter and work to help lead our industry. We are looking forward to another great year.



From left to right:

Randy Vanderhoof, Smart Card Alliance; Dimas Gomez, Gemalto, Pablo Juan, G&D; Eric Megret-Dorne, Gemalto; Antonio Muñoz, Morpho; Ian Walmsley, Oberthur Technologies; Kim Hangoc, MasterCard; Luis de la Cruz, Ultra Electronics - Magicard; Cathy Medich, Smart Card Alliance; Fernando Mendez, Visa; Edgar Betts, SCALA

SCALA Committees

Financial Payments Council

The Financial Payments Council promotes the understanding of the benefits of using smart cards in the financial sector.

This council played a key role in the development of the “Card Payments Roadmap in Latin America & the Caribbean: How Does EMV Impact the Payments Infrastructure?” white paper, that was the basis for the recent SCALA - PaymentMedia EMV Tour conference. This document was distributed to all conference attendees, gathering market attention and providing educational content on the process of implementing EMV smart card technology in Latin America & the Caribbean.

In a 2012 strategic alliance with Payment Media, SCALA created the EMV Tour, a series of conference events to be held throughout the Latin America & the Caribbean region. The goal of this event is to provide information regarding the EMV migration to the professionals that are directly involved in this process. The Financial Payment Council has been participating actively as part of the EMV Tour organization committee in order to create an agenda personalized to the needs of each market and the level of migration of EMV in each country where this event is held.

Council Officers

- Chairman Marcelo de Oliveira, Visa Inc.
- Industry Representative: Jorge Krug, Banco do Rio Grande do Sul
- Pablo Narváez, Banred, S.A.
- Ricardo Chu, First Data
- Vielka de Licona, Superintendencia de Bancos de Panamá

Steering Committee

- Abdy Sanjur, Telered S.A.
- Alejandro Di Liscia, Nagra ID
- Dimas Gomez, Gemalto
- Gerardo Tejeira, Asociación Bancaria de Panamá
- Gina Navarro, Evertec LA
- Gustavo Correa, Oberthur Technologies
- Hugo Rivera, Verifone
- Karina Prado, Datacard
- Kim Hangoc, MasterCard Worldwide
- Lina Barrera, Redeban Multicolor
- Marcelo Barrios, Clear2Pay
- Orlando García, Core Quality Service

Top Contributors

- Carmen Gonzalez, Visa Inc.
- Dimas Gomez, Gemalto
- Kim Hangoc, MasterCard Worldwide
- Marcelo de Oliveira, Visa Inc.
- Pablo Narváez, Banred
- William Lemes, Safran Morpho

Government Information Exchange Committee

The Government Information Exchange Committee focuses on the exchange of information among different government institutions and industry leaders in the region on the use of smart cards to help to improve government services.

Through this committee, SCALA provides a program that guides governments and related institutions on the application of smart card technology in identity credential projects. The program is designed so that leading companies in the industry share their experiences with the countries' authorities in order to find solutions to the problems faced.

This program can provide support for different projects such as:

- E-Passports
- E-Visas
- Driver's Licenses
- Social Security Systems
- Access Control
- National ID
- Fare Collection and Transportation
- Healthcare
- Access Control

Council Officers

- Chairman: Luis de la Cruz, Magicard-UltraElectronics

Steering Committee

- Alberto González, PandaID
- Alex Kambanis, GET Group
- Hans Schut, Smartrac N.V.
- Ismael Dykman, HID
- Jaime Owens-Panama Canal Authority
- José Lisac, Sertracem
- Marcelo Bellini, Safran Morpho
- Maurício Coelho-ITI
- Mia Harbitz- Interamerican Development Bank
- Nicanor Isaza, Oberthur Technologies
- Temístocles Arjona, Autoridad de Innovación Gubernamental-Panamá
- William Jara, Latinus, S.A

Top Contributors

- Diego Noreña, Visa, Inc.
- Hans Schut, Smartrac N.V.
- José Lisac, Sertracem
- Luis de la Cruz, Magicard-UltraElectronics
- Marcelo Bellini, Safran Morpho
- Mia Harbitz- Interamerican Development Bank
- Vincent Tenaglia

SCALA Events

Smart Card Summit March 14th – 15th, 2012 Mexico City, Mexico

In partnership with Reed Exhibition, SCALA worked to create a smart card footprint in one of the biggest security conference events in Latin America, which featured presentations from key industry leaders.

EMV Tour

SCALA partnered with PaymentMedia to create two separate industry conferences and exhibitions to help promote EMV technology in Latin America.

Quito 2012 June 6th, 2012 Quito, Ecuador

More than 130 participants, mostly from the financial sectors, participated in the first EMV event.

Chile 2012 October 9th, 2012 Santiago, Chile

The second installment of the EMV Tour was held in Santiago, Chile, with participation from more than 140 attendees who came from the financial industry in Chile and neighboring countries



SCALA CSCIP

Smart Card Fundamentals – Training February 27th, 2012 Banking Association, Panama City, Panama

SCALA conducted a smart card fundamentals training course at the Banking Association in Panama for 14 professionals in the financial industry

First CSCIP Training

March 21st, 2012
Panama City, Panama



First Corporate CSCIP Training and Exam

September 13th and 14, 2012
Mexico City, Mexico

CSCIP Trainer

Carmen Gonzalez, Visa Inc., served as SCALA's volunteer instructor for the training and exam.

member directory

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3300 Acorn Street
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www.cogentsystems.com

ABnote North America
225 Rivermoor Street
Boston, MA 02132
www.abnotena.com

LEADERSHIP COUNCIL



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312-693-0161
www.accenture.com

Accenture is a global management consulting, technology services and outsourcing company that collaborates with clients to help them become high-performance businesses and governments.

ACI Worldwide, Inc
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Elkhorn, NE 68022
www.aciworldwide.com

ACT Canada
85 Mullen Drive
Ajax, ON L1T 2B3
CANADA
www.actcda.com

Acumen Building Enterprise, Inc
1853 MacArthur Boulevard
Oakland, CA 94602
www.acumentransit.com

Advanced Card Systems, Ltd.
Units 2010-2013, 20/F, Chevalier Commercialia
Center, 8 Wang Hoi Road
Kowloon Bay
HONG KONG
www.asc.com.hk

AMAG Technology, Inc.
20701 Manhattan Place
Torrance, CA 90501
www.amag.com

SCALA Leadership Council



American Express
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Phoenix, AZ 85054 USA
602-537-7836
www.americanexpress.com

An engine of commerce, American Express provides innovative payment, travel and expense management solutions for individuals and businesses of all sizes.

Leadership Council



American Express
200 Vesey Street
New York City, NY 10080
212-640-9982
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AMF Medios Transaccionales S.A.
Av Quilin 3700
Macul, Santiago 7810895
CHILE
www.amf-mt.cl

Angelo Buscemi - Independent Management Consultant
2900 Q Street, NW, Suite 100
Washington, DC 20007

Apriva
8501 N. Scottsdale Road, Suite 110
Scottsdale, AZ 85251
www.apriva.com

Athena Smartcard Solutions Inc.
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6-9 Yokoyama-cho
Hachioji, Tokyo 192-0081
JAPAN
www.athena-scs.com

Autoridad Nacional Para La Innovacion Gubernamental (AIG)
Av. Romulo Escobar Bethancourt, Edificio Balboa, Corregimiento World Trade Center
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www.innovacion.gob.pa

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Avenida Samuel Lewis
Torre HSBC, 15th Floor
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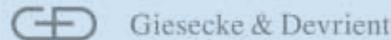
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