

10th Transport Revenue & Data Management Forum

Reimagining Transport Payments, Ticketing & Information

Day One: Tuesday, 23 May 2017

7.30 **Registration**

INTRODUCTION	Welcome to the Forum
8.30	<p>Welcome and opening address from the forum host.</p> <p style="text-align: right;">Leong Kwok Weng, Group Director, Rail/Road Systems Engineering Land Transport Authority of Singapore</p>

Introduction to this year's forum, theme and objectives, business and technology areas to be discussed.

Greg Pote, Chairman, APSCA

SESSION 1	Transport Payments for Smart Cities
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<p>9.30</p> <p>Latest developments in transport ticketing</p>	<p>Enabling urban mobility with customer-centric services</p> <p>Smart cities use technology to increase operational efficiency, communicate information to the public and improve the quality of municipal services. So a successful integrated multimodal transport ticketing scheme that offers cashless payments and journey planning resources may be an indicator of a smart city. Today public transport is not only about getting from A to B but also about providing a complete travelling experience that creates customer satisfaction and a positive perception of transport services. This session explores latest developments in the services offered by transport ticketing schemes from markets around the world.</p>
	<ul style="list-style-type: none"> ▪ What role can smart integrated intermodal ticketing schemes play in increasing ridership levels on public transport and making services more attractive to customers? ▪ In addition to delivering seamless transport ticketing, payments and information, what is the key ingredient for transport ticketing schemes to create a memorable customer experience? ▪ Transport services in smart cities need to serve occasional and frequent visitors as well as residents. How does this impact development of transport payment and information services? ▪ How do the objectives of transport ticketing schemes in different markets differ? What determines these differing objectives and how can operators in different markets learn from each other? <p>Viewpoint 1: Nicholas Lee, CEO EZ-Link [-20min]</p> <p>Viewpoint 2: Reginald R. Reyes, CTO AF Payments [-20min]</p> <p>Viewpoint 3: Marcus Wright, Senior Program Director - APAC Cubic Transportation Systems [-20min]</p>

10.30 **Refreshments**

SESSION 2	Solving Challenges in Revenue Management
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<p>11.15</p> <p>Opportunities for improving fare collection</p>	<p>Outstanding problems and solutions that meet operator needs</p> <p>With the success achieved by smart integrated multimodal ticketing schemes across Asia, transport revenue management might be considered difficult to improve. Automated fare collection systems based on smart contactless media make a significant contribution to an efficient public transport experience and are popular with customers. This session explores the outstanding transport revenue management challenges that persist and which operators still need to solve to further enhance today's ticketing schemes based on contactless AFC systems.</p>
	<ul style="list-style-type: none"> ▪ Public transport ticketing systems often have complex fare structures that do not facilitate journey planning. How can these be more easily managed and communicated to customers? ▪ Serving itinerant customers and providing single journey tickets are a continuing challenge for transport ticketing schemes. Are there solutions to the "single journey problem"? ▪ Selling fare products, whether tickets or PAYG value, is both a cost and a burden for operators. Can the ticket sales experience be streamlined and what are the best solutions to the reloading problem? ▪ Reducing the costs of revenue collection is a constant challenge for operators. What solutions are available to reduce operating costs of AFC systems and thereby reduce other related opex costs? <p>Viewpoint 1: Zakaria Md Tap, Deputy General Manager, Head, Transit Acquirer Division Suruhanjaya Pengangkutan Awam Darat (SPAD) [-20min]</p> <p>Viewpoint 2: Christoph Zwahlen, Global Marketing Manager for Access, Micro-payment and Loyalty NXP Semiconductors [-20min]</p>

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- 12.00 **Discussions: The future of contactless closed-loop ticketing schemes** [~30min]
How are smart integrated ticketing schemes based on closed-loop contactless transport cards likely to evolve in the future? How well do they meet the needs of transport revenue collection today? What do operators see as the shortcomings of closed-loop payments for transport revenue management? Have these shortcomings been effectively addressed today? What is the outlook for closed-loop contactless media in transport revenue management? Or have we gone as far as we can go with card-centric AFC systems based on closed-loop contactless smart cards?

Nicholas Lee, EZ-Link
 Reginald R. Reyes, AF Payments
 Marcus Wright, Cubic Transportation Systems
 Zakaria Md Tap, Suruhanjaya Pengangkutan Awam Darat (SPAD)
 Christoph Zwahlen, NXP Semiconductors
 Moderated by Greg Pote, APSCA

12.30 **Lunch**

SESSION 3 Maximising Transport Revenue

13.30 **From non-farebox revenue to consumer payments**

Closed-loop retail
 payments business

Transport ticketing schemes in Asia have a unique focus on collecting both farebox and non-farebox revenue. This has created some of the world's most successful non-bank contactless e-payment schemes. This session looks at how these operators built their closed-loop transport card schemes into successful retail e-payments services that generate significant non-farebox revenue, and how they are now extending these in-store consumer payments services to online payments, mobile payments and alliances with third parties.

- For transport ticketing schemes planning to develop non-farebox revenue based on retail payments, what factors are involved in deciding which retail applications to target first?
- How should operators persuade customers to use their transport cards for retail payment applications and what is required for an effective merchant recruitment strategy the builds retail acceptance?
- What factors can deter or encourage customers to use their closed-loop PAYG contactless transport cards for retail purchases? Do mobile contactless transport payment applications have any impact?
- What strategies can defend against competing contactless payment card issuers? Do transport ticketing scheme operators consider contactless financial payment cards to be a threat to this business?

Viewpoint 1: Yuji Takaoka, Deputy General Manager, IT & Suica Business Development Headquarters
 East Japan Railway Company [~20min]
 Viewpoint 2: Ruri Izuhara, Manager, General Affairs Department, General Affairs Section
 PASMO [~20min]
 Viewpoint 3: Andy Yip, General Manager, International Operations
 Octopus Holdings Limited (OHL) [~20min]

- 14.30 **Discussions: Facing competition from new e-payment service providers** [~30min]
Up until recently transport ticketing operators in Asia that have used their transport card schemes to build successful retail e-payments businesses have dominated their markets for low value payments. Today they are facing increasing competition from new entrants in the market for low value payments. EMV contactless financial payment cards may be a significant competitor particularly when customers can also use their cards to make EMV open-loop transport payments. The introduction of QR code-based mobile payments by Internet companies could be a serious competitor for operators launching their mobile contactless transport payment applications at the point-of-sale. How will transport ticketing schemes continue to compete in the retail payments business?

Yuji Takaoka, East Japan Railway Company
 Ruri Izuhara, PASMO
 Andy Yip, Octopus
 Moderated by Greg Pote, APSCA

15.00 **Refreshments**

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SESSION 4	Mobile Transport Ticketing
15.45 Anytime, anywhere ticketing services	<p>Device-based transport payments and customer experience</p> <p>Mobile transport ticketing offers potential solutions to a range of challenges faced by transport payments schemes including ticket sales, reloading and top up; single journey tickets; visitors and itinerant customers; the overhead of fare media as well as delivering information, schedules and timetables to passengers. This session explores the implementation issues and the business potential for mobile connected devices to both facilitate new ways to pay in public transport as well as to deliver a significantly improved public transport experience for customers.</p> <ul style="list-style-type: none"> What is the business case for transport operators to launch mobile transport ticketing? What level of customer adoption is required before a mobile transport ticketing ROI can be realised? How can mobile ticketing improve customer experience of public transport and are these improvements likely to be considered worthwhile by enough customers to drive adoption? What are the business benefits and technology challenges for operators for enabling mobile payments in public transport ticketing schemes, including Host Card Emulation (HCE), OEM-Pay or others? Does the business case for mobile proximity ticketing make more sense in an account-based ticketing scheme rather than in legacy card-centric PAYG schemes? <p>Viewpoint 1: Alvin Wong, Senior Manager, Regional Products Samsung Pay [~20min]</p> <p>Viewpoint 2: Giacomo Biggiero, Head of Business Development, UK & Asia Masabi [~20min]</p> <p>Viewpoint 3: Miki Szikszai, Chief Executive Officer Snapper Services [~20min]</p> <p>Viewpoint 4: Dr. Joerg Schmidt, Co-Chair - Marketing Working Group OSPT Alliance [~20min]</p> <p>17.15 Discussions: Determining the role of mobile in transport ticketing [~30min]</p> <p><i>In what ways can mobile ticketing offer an improved customer experience over the already frictionless simplicity of a contactless transport card in AFC systems? Using NFC smart phones to top up the balance of contactless transport cards is becoming more popular. As is the use of mobile devices to purchase single journey tickets. But despite the launch of numerous mobile OEM-pay products the use of smartphones to pay at gate/validator is less common. Is HCE-based mobile ticketing likely to be more popular with transport operators? Does mobile ticketing offer efficient value and convenience to be widely adopted for transport revenue collection?</i></p> <p style="text-align: right;"> Alvin Wong, Samsung Pay Giacomo Biggiero, Masabi Miki Szikszai, Snapper Services Dr. Joerg Schmidt, OSPT Alliance Moderated by Greg Pote, APSCA </p> <p>17.45 Close of day one</p>

10th Transport Revenue & Data Management Forum

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Day Two: Wednesday, 24 May 2017

9.00

Introduction to day two

Introduction to agenda for day 2, speakers and session objectives.

Greg Pote, Chairman, APSCA

SESSION 5

Account-based Ticketing (ABT)

9.15

Understanding new
ticketing approaches

Moving data and decision-making to the transport operator back-office

ABT uses information that is centralised on a remote back-office database and accessed online. Passenger ticketing data and rights to travel are not stored on customer tokens or processed by customising-facing gate/validators. The back office system applies relevant business rules, determines the fare, and settles the transaction. "Pure" account-based ticketing is an approach devised by transport ticketing experts for transport operators and is not the same as EMV open-loop payments - although the two concepts may be a good fit. The session explores how "pure" account-based ticketing can be implemented by transport ticketing operators.

- ABT removes the need to carry a transport-specific card (or any form of payment card) so what types of "tokens" could customers use to identify with their "travel account" in the operator's system?
- If ABT systems accept a wide variety of customer tokens as account identifiers then will this make it easier for operators to exit all fare media costs? But will it complicate the ABT back-end system?
- The ABT approach to moving fare calculation and payment to the back office can significantly simplify hardware and software infrastructure. What impact would this have on transport ticketing systems?
- How does account-based ticketing offer solutions to the operator challenge of handling itinerant riders, business travellers and tourists (including those who do not have bank payment cards)?

Viewpoint 1: [Suvi Schwab, Regional Manager](#)
[INIT Asia Pacific](#) [~20min]

Viewpoint 2: [David Jacobs, Global Head of Solutions](#)
[Vix Technology](#) [~20min]

Viewpoint 3: [Chris Queree, Partner](#)
[Queree Consulting](#) [~20min]

10.15

Discussions: From card-centric ticketing to server-centric systems [~30min]

There is a growing operator interest in the potential benefits of generic account-based transport ticketing systems versus the distributed card-centric (often termed PAYG) systems that have driven contactless AFC to date. Is this driven by desire to simplify cost and complexity of maintaining front-end devices by moving gate intelligence back into the network? Or is it that locating business rules in flexible and scalable back-office systems provides easier management of a range of innovative fare media? Centrally stored customer fare products in cloud-based "transit accounts" would enable pricing and fare structures to be modified in response to network load. But will cloud-based transactions with network latency match the speed of transactions at the gate? Will a shift from front-end to back-end solve all the complexities of the card-centric ticketing model?

[Suvi Schwab, INIT Asia Pacific](#)
[David Jacobs, Vix Technology](#)
[Chris Queree, Queree Consulting](#)
Moderated by Greg Pote, APSCA

10.45

Refreshments

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SESSION 6	Open-Loop Payments in Transit
11.30 BYOD - accepting third party issued media	<p>Integrating EMV contactless payments and closed-loop ticketing systems</p> <p>EMV contactless payment cards are being introduced as a new approach to transit revenue collection, fare payment products and the way that ticketing transactions are processed. Open-loop transport payments are often confused with account-based ticketing (which would also be possible with closed-loop contactless cards). EMV contactless payment cards enable ticketing scheme operators to outsource fare media to third parties. They also provide a viable solution to long-distance interoperable transport ticketing. This session will explain the benefits of EMV open-loop payments as well as the practical implementation issues for transport revenue management in Asia.</p> <ul style="list-style-type: none"> ▪ What is the business case for transport ticketing schemes in Asia to introduce EMV open-loop payments? How will this business case vary for transport operators in different Asian markets? ▪ For green field implementations is there a business case for launching transport ticketing systems based completely on EMV open-loop payments accepting only bank-issued payment cards? ▪ In the typical Asian transport ticketing model, with non-farebox revenue from contactless transport cards that benefits transport operators, will EMV contactless payment cards be seen as competition? ▪ Data from transport ticketing transactions can provide valuable information to operators, partners and customers - will this be available in open-loop ticketing schemes based on bank payment cards? <p>Viewpoint 1: Manoj Sugathan, Senior Director, Chip, Contactless & Transit Solutions Visa [-20min]</p> <p>Viewpoint 2: Dr. Joerg Schmidt, Business Development Manager, Transport, NFC & Standardization Chip Card & Security, Smart Card Solutions, Infineon Technologies [-20min]</p> <p>Viewpoint 3: Mick Spiers, Vice President, Revenue Collection Systems, Asia Pacific Thales [-20min]</p>
12.30	<p>Discussions: Migrating to EMV open-loop transit payments [-30min]</p> <p><i>How far will transport ticketing scheme operators in Asia migrate towards EMV open-loop payments? Global contactless payments adoption is driving the business case for transport ticketing schemes to accept EMV contactless cards. Operators should be keen to solve the single journey ticket problem for itinerant customers and visitors (those that have EMV contactless payment cards). They may also welcome transferring the fare media burden to third parties. But will they want their own established brand, and perhaps a retail payments business, diluted by bank-branded EMV payment cards? There are no large-scale entirely open-loop transport ticketing schemes today - will they exist in future?</i></p> <p style="text-align: right;"> Manoj Sugathan, Visa Dr. Joerg Schmidt, Infineon Technologies Mick Spiers, Thales Moderated by Greg Pote, APSCA </p>
13.00	Lunch

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SESSION 7	Next-Generation AFC Systems
14.00 Taking fare collection to the next level	<p>Customer-centric transport payments that simplify transport ticketing</p> <p>This session explores what might follow smart contactless ticketing, in the next generation of automated fare collection systems. Demand for sustainable urban development in smart cities will mean increasing public transport usage. Enhancing customer experience and improving the convenience of the customer interaction with public transport will be important. Barriers to using public transport will need to be reduced (perhaps literally) and the processes of paying fares will need to become more frictionless and less intrusive.</p> <ul style="list-style-type: none"> What are the latest developments in Check-In Be-Out (CIBO) and Be-In Be-Out (BIBO) payment systems that can improve customer experience and convenience through reduced user actions in ticketing? How can the connectivity options and the account verification mechanisms available through smartphones enable new fare payment options for customers and revenue management for operators? If ABT shifts fare processing intelligence from the network edge back into the central system then will gates, validators and infrastructure become less obvious with less intrusive ticketing transactions? How might the reduced, "lighter" and less intrusive ticketing infrastructures of next-generation AFC systems benefit maintenance costs, operating costs and other ticketing scheme costs? <p>Viewpoint 1: Paradon Nitaya, Business Development Director Bangkok Payment Solutions [~20min]</p> <p>Viewpoint 2: Daniel Lim, Global Head, Transport Business Line Linxens [~20min]</p> <p>Viewpoint 3: Leonard Tan, Deputy Director, Road Pricing Systems Land Transport Authority of Singapore [~20min]</p>
15.00	<p>Discussions: Less intrusive and barrier-free fare collection [~30min]</p> <p><i>What is likely to be the next big thing in transit AFC? Does the transport payments industry need to look beyond smart contactless media for next-generation ticketing? Or will physical fare media always exist even with a shift to server-centric ABT systems? Either way the ability to reduce the friction and the intrusiveness of traditional fare payment actions could provide an improved customer experience that increases public transport usage. "Lighter" and "thinner" ticketing gates, validators, TVMs and other infrastructure not only improve the experience of public transport but also free up valuable space in concourses for retail and F&B. With the proliferation of smart phones, how can transaction and journey data enable operators to simplify and improve the public transport experience for customers?</i></p> <p>Paradon Nitaya, Bangkok Payment Solutions Daniel Lim, Linxens Moderated by Greg Pote, APSCA</p>
SITE VISIT INTRO	EMV Open-Loop Payments in Mass Transit
15.30	<p>Introduction to the site visit</p> <ul style="list-style-type: none"> Overview of Asia's first Implementation of EMV Open-Loop Payments in Mass Transit Explanation of site visit program and itinerary <p>David Chan, Senior Vice President, Market Development, South East Asia, Mastercard</p>
CLOSE	Forum Wrap-up
15.45	<ul style="list-style-type: none"> Conclusions, thanks and next APSCA events Closing remarks and thanks <p>Greg Pote, Chairman, APSCA Silvester Prakasam, Director - Fare Systems, Land Transport Authority of Singapore</p>
SITE VISIT	EMV Open-Loop Payments in Mass Transit
16.00	<p>Site Visit Start</p> <ul style="list-style-type: none"> Mastercard and LTA representatives will lead participants to nearby MRT station. Participants will pass through the gate and travel to the destination MRT station. After arriving participants can use their EMV contactless card to purchase refreshments at station F&B outlet.
17.30	Site Visit End