

AEP
Ticketing solutions



pass



Pay bus
and metro
tickets with
your bank
card!



ET - P A S S

PAY BUS AND METRO TICKETS WITH YOUR BANK CARD!

The transport evolves

Nowadays all major Transport Companies have already adopted an electronic ticketing automation system and are looking for innovative solutions to improve the service to their customers, but with special attention also to cost reduction of physical supports and their distribution: direct agency operators, commissions for distributors, self-service machines etc. With the current traditional solutions, most customers have no other choice than going to the ticketing offices, queuing for attention i.e. wasting their time and occasionally getting frustrated.

Bank cards: the winning solution

The possibility to validate a ride by directly using an already owned bank card, as already implemented in the city of London, is therefore very attractive. The solution is simple and logical, it minimizes the Transport Company's costs, it is practical and convenient for the Users.

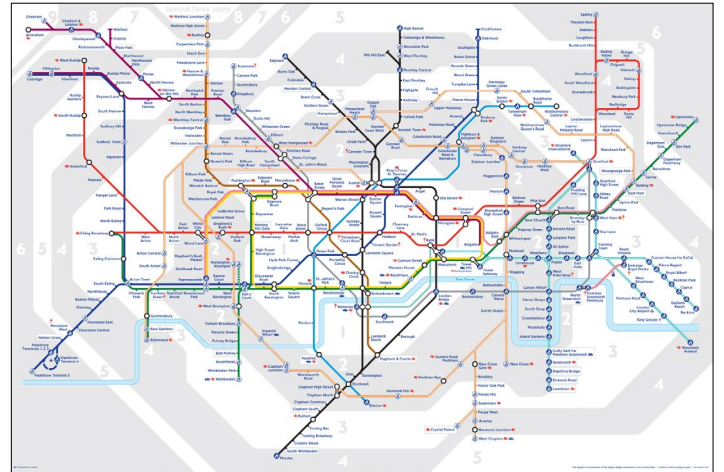
No registration or queuing are necessary. No expiration date to remember, nor complex rules to learn. It reduces to nearly zero all the "non-intentional evasion" of those who cannot easily buy a ticket but will be willing to pay the due amount if convenient.

Security and complexity

The implementation of a Ticketing Automation solution where the validators can seamlessly accept ordinary public transport cards and bank cards is very complex and normally approachable only by large companies who can afford large investments and the long wait time to develop and test applications that are subject to the most stringent security requirements for electronic payment.

ET-PASS, the AEP solution

AEP is happy to present ET-PASS, part of the ET - The Easy Ticketing suite, that offers the possibility of using bank cards for electronic ticketing. AEP has already made all necessary investments to solve complex problems, to get all certifications and authorizations, and therefore can grant the direct use of bank cards as an integral part of your system.



Transports in London (Transport For London) have been the first to propose a solution for bank card payments on buses and metro. AEP ET-PASS follows the same business model.

How do bank cards work?

In order to understand ET-PASS we have to recall the basics of the bank cards. They are generated by an Issuer, typically a bank or a financial institution, which signs a contract with a customer i.e. a Card Holder. The cards belong to a Circuit, e.g. VISA or MasterCard, which are the companies in charge of routing on their network the requests and authorizations for spending.

A commercial activity participating to a specific circuit, called a Merchant, accepts card payments from their customers in alternative to cash (see figure at the bottom). The participation to a Circuit is normally managed by an intermediary company called Acquirer, a company that under a Circuit's license, offer sales services, payments terminals on sale or loan, accounting and reporting services, complaint and data flow management to/from the Circuits themselves.

The contactless cards

The contactless cards have evolved from the magnetic stripe type to the more recent so called "chip & PIN". In recent years the usage of contactless cards for small payments has also dramatically increased in order to improve the User convenience (all you have to do is to near the card to the payment terminal and no PIN is necessary).





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Hence the idea of paying a transport ticket with a simple action by using the validators, which have been already installed in metros and buses for traditional contactless transport cards.

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How ET-PASS works

ET-PASS follows the model designed and implemented by Transport For London. The figure at the bottom depicts the base functions which are similar for many aspects to what seen already for the payment terminals.

Every time we board a bus or pass a metro gate we near the card to the validator. No amount is debited for the moment and a cryptogram is instead created as an incontestable proof of the access. This cryptogram is safely transported to the AEP Payment Gateway (APG), whereas its anonymized copy is sent to the validator for the usual process. The anonymization is a very important phase of the process that safeguards the Customer's data privacy and sets the fundamentals to get the certifications and authorizations.

The APG can now send the anonymized transactions to the Control and Supervision Center (CSC) of the Electronic Ticketing System, which can process them with no constraints,

compare them with the ones coming from the validators and eventually debit the Customer on the basis of the tariff and rule schemes. For example, it can limit the amount to total a daily pass regardless of the number of rides.

The CSC eventually returns all debit lists to the APG, which removes the anonymization and sends a request to the Acquirer to debit the actual totals to the User.

Black lists

The experience has shown that the commercial risk for this kind of systems is very low: it would be preferable to avoid the ticket payment rather than exposing an irregular bank card! Nevertheless, it is still necessary to establish a control against cards that may result as lost, stolen or simply lacking the available funds.

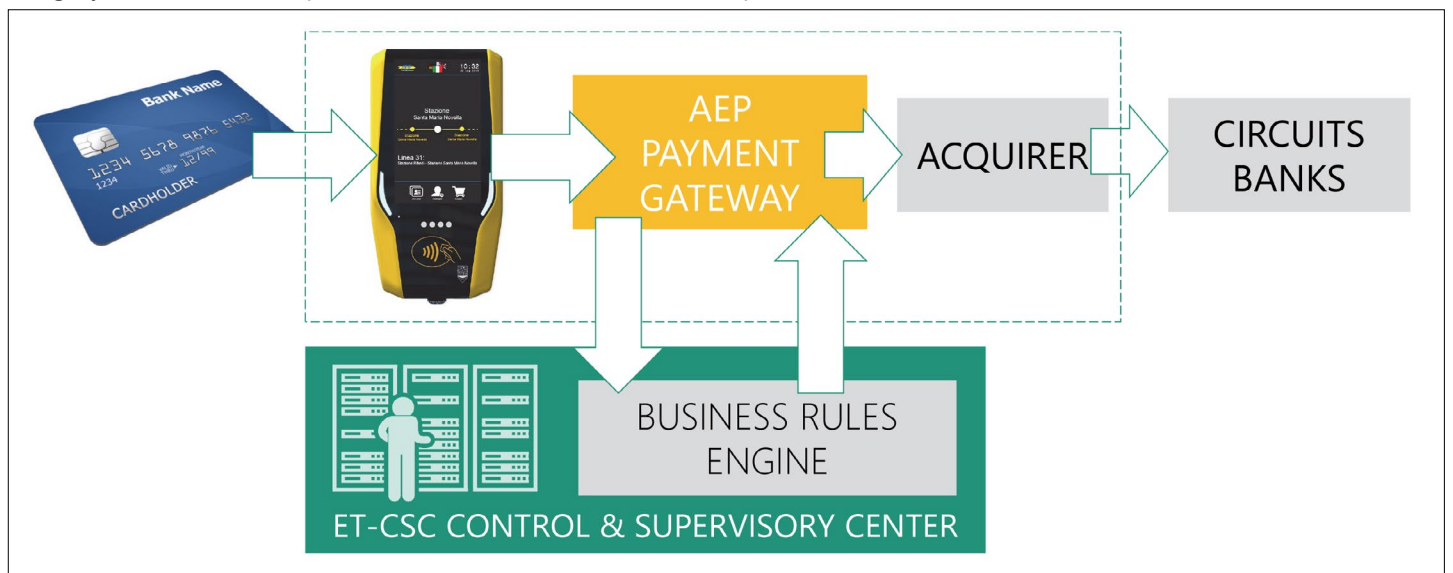
Unfortunately, even with state-of-the-art techniques it is not possible to carry out transactions with a direct connection with the APG, mostly due to the limited coverage of the phone network. To overcome this, ET-PASS has been designed to count on periodical communication with the centre. During these sessions, the validators send to the APG the available transactions and receive the so called black list i.e. the list of those cards that the Acquirer for some reason has rated as irregular.

The first time that a card is ever presented always results in a "green light" feedback, implicitly accepting some risk. Next transactions however will be subject to a check against the "black list".

There is a chance that a card gets into the black list although not necessarily for fraud related reasons, e.g. a prepaid card has not been topped up. Therefore, the system offers a number of accessory functions for the automatic review of black lists.

The control

ET-PASS offers the possibility for the inspectors to carry out on-board controls by using a portable terminal. According to the proposed scheme, the User has the only obligation to validate (green light) every time he/she enters the transport network. Therefore, the control is only finalized to this verification. The applicable tariffs will always be calculated a posteriori.





Even the Futura 3A, the most popular AEP's contactless validator, is available in a version with a certified contactless reader for bank cards.

Control by the User

A system like ET-PASS has to offer to its Users all the necessary tools to verify the correct process management. Therefore, ET-PASS provides a protected and secure access to a web portal where the User can verify each individual transaction, the debited amounts, enter a claim etc.

PCI Security Standard Council

The Payment Card Industry Security Standards Council, established to increase the control over the Card Holder data and to reduce frauds, is an institution for the development, valorization, conservation and enforcement of the security standards for the bank card data protection.

The PCI Data Security Standard (PCI-DSS) is a proprietary security standard, created and maintained by PCI, for the organizations that manage the bank cards of the most popular Circuits.

The implementation

As already mentioned, the implementation of ET-PASS conforms with all applicable standards and it is PCI-DSS certified for the Service Provider functions, i.e. service provider for Transport Companies which can use the APG's services in a guaranteed safe environment on the basis of a simple and crystal clear contract. The APG delivers to the Company the anonymized transactions, leaving to the Company the only task to calculate the tariff for the compilation of the debit lists (ET-CSC can carry out this function).

To summarize, for the implementation of ET-PASS it is necessary:

- acquire the ET-PASS module to be added to the ET - The

Easy Ticketing suite. ET-PASS includes the software for the validators, the User web site and the module to process the tariff rules and produce the debit lists;

- acquire the AEP validators equipped with a PCI-PTS, EMVco Level 1 e Level 2 certified reader. Currently the reader is available on the Futura 3A, Futura 3B and CDB-6 PLUS;
- subscribe a service contract with one of the AEP proposed Acquirers. Other Acquirers are also possible but are subject to a special agreement. However ET-PASS can in general be connected to just any Acquirer.

Additional information?

Please call us, we are at your disposal!



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