ACTIVITY REPORT

Calypso
Networks Association

CONTENT

MESSAGE OF THE CHAIRMAN

Last year, I was speaking of 2016 as a decisive year to prepare for the future of Calypso; we decided to adopt a new technical and business model based on Open Source and brand valorization, which implied to undertake a thorough transformation program and to set-up a dedicated team, both to achieve such an ambition and to manage daily technical and promotional activities.

We allowed ourselves three years to succeed and 2017 was a first milestone to measure the progress we made, to know how these orientations are perceived by all actors, authorities, operators and manufacturers. Indeed, our very good results in terms of membership give us a relevant indicator: in 2017, we were delighted to welcome twenty five new members, reaching a total of eighty members, an increase of more than 40%. And this is not the only indicator that makes us confident in the success of our approach. Many others, such as the 18 certificates delivered to portable objects, the 42 signatories of the Hoplink convention, the 15 companies that have chosen our generic applet, the success of our white paper about ABT (Account-Based Ticketing), all this is testimony to the relevance of our undertakings.

It shows the extent to which our vision is shared by a wide community and that there is a real expectation towards open ticketing; moreover, it is now a requisite to migrate from ticketing for public transport to ticketing for mobility which integrates many new forms and welcomes many new actors. Ticketing definitively can no longer remain the closed world it used to be.

Openness has always been, is, and will increasingly be the keyword for Calypso, its DNA, the guideline for all our actions. It is the main theme of this Activity Report, which links all the topics: openness of our solutions for manufacturers and operators, open source model, openness to interoperability, opening to new mobility modes, new markets, new partners, openness of our exchange of views...

TWO PILLARS FOR CNA

In this Activity Report you will find all our achievements and ongoing work that shaped 2017. Here I will only highlight two key topics that I have chosen among many others because they will lead in the coming years our business model based on two pillars, Open Source and brand valorization.

Certification activities have been significantly stepped up in 2017, on the one hand for compliance to Calypso specifications and to radio communication standards, and on the other hand for portable objects and for terminals. Conformity to standards and interoperability is Calypso's commitment, and, to benefit fully, more and more operators require certified products from their providers.

We have had many developments building on our SDK, not only technical, but also organizational, commercial and legal, setting up the basis of our Open Source policy. We have created new partnerships and prepared proof of concepts with CNA members. We have given a brand name to this SDK, Keyple, which will become an official Open Source project through its publication onto the Eclipse platform: it is very important for us that the legitimacy of our open source solutions may not be challenged and that they rely on a state-of-the-art framework.

To finish, let me remind you that the strength of Calypso is our collaborative approach, and I take this opportunity to thank all CNA members, users and providers of Calypso for their contributions and their loyalty to our standard. I know that they are all strongly motivated to go on supporting Calypso in the coming years and to ensure its success.

PHILIPPE VAPPEREAU

CNA ORGANIZATION

The 16ᵗʰ of May 2018, during the UITP Global Public Transport Summit in Montreal, was held the General Assembly of CNA association, in the premises of STM, la Société des Transports de Montréal.

Throughout this assembly, a new Board of directors was elected for the next three years, and, in accordance with the new statutes, a chairman, three vice-presidents, a general secretary and a treasurer were elected. The vice-presidents are now in charge of sponsoring master activities of Calypso development. Besides, a dedicated team with permanent representatives has been set up in order to ensure a professional follow-up of CNA members requests, technical support and evolutions, and business development.

THE NEW BOARD OF DIRECTORS

ACTV, Azienda Consorzio Trasporti Veneziano, Vice-President, in charge of promotion and marketing activities, represented by Gianluca Cuzzolin and Morgan Chirici,

CTS, Compagnie des Transports Strasbourgeois, in charge of the governance of the Hoplink scheme of interoperability, represented by Alain Caffart,

INTERPARKING, represented by Roland Cracco,

LANDKREIS KONSTANZ, General Secretary, represented by Frank Hämmerle,

OTLIS, Operadores de Transportes da Regiâo de Lisboa, Vice-President, in charge of Open Source development, represented by Regina Ferreira,

RATP, Régie des Transports Autonomes Parisiens, chairman,
represented by Philippe Vappereau,

RIGAS KARTE, represented by Aleksander Brandavs,

SNCF, Société Nationale des Chemins de fer Français, Vice-President in charge of the industrial strategy, represented by Joel Eppe,

STIB, Société des Transports Intercommunaux de Bruxelles,
represented by Jean-Luc Van Ginder Deuren.

The CNA board

THE DEDICATED TEAM

CEO
Philippe Vappereau

Promotion &
Relation Manager
Ralph Gambetta

Marketing &
Communication Manager
Valentina Zajackowski

Communication &
Administrative Officer
Manon Chaix

Technical Coordinator
Philippe Guillaumin

Technical Manager
Nicolas Generali

Technical Expert
Pierre Terrée

Financial Officer
Françoise Chantren

Treasurer
Erik Baele

HIGHLIGHTS & MAIN ACHIVEMENTS

January

Set up of the CNA team, with **9 people** dedicated to the development of Calypso

April

A new Gold Member

ACTV, the transportation company of Venice joins the Board of CNA

February

Ticketing in Qatar

Exchange with the Ministry of Qatar for a technical visit in Paris, Brussels & Venice

July

Calypso in Ivory Coast

New Ticketing system based on Calypso for the Abidjan lagoon shuttles

October

Branding evolution

« Hoplink » the new name for Triangle

September

White Paper publication

« Account Based Ticketing with Calypso » White Paper release

May

New governance for CNA
CNA adopts new statutes and elects its new Board of directors

June

Conference in Budapest
3rd Smart Ticketing and Digital Services Forum

Certification process
Delivery of the 10th certificate for a Calypso Portable Object

79 MEMBERS

15 CERTIFED PORTABLE OBJECTS

42 HOPLINK NETWORKS

15 ACTUAL USERS OF THE CNA APPLET

05 RUNNING WORKING GROUPS

06 EVENTS ORGANIZED

November

Conference in Colombia
1st seminar dedicated to Calypso in Bogota, supported by the IDB

December

Open Source
CNA becomes member of the Eclipse Foundation

TECHNICAL WORKSTREAM

CERTIFICATION OF THE CALYPSO PORTABLE OBJECTS (PO)

In 2017, CNA has enhanced its effort in the field of certification, which is a key topic for the future of Calypso. Initialized in 2014, the policy of CNA towards an end to end certification is now operational: at the functional level, for portable objects and at the radio frequency level, for portable objects and terminals

PORTABLE OBJECT (PO) FUNCTIONAL CERTIFICATION

CNA has been delivering, from the beginning, 15 certificates, of which 5 in 2017, for portable objects. This certification is based on a technical evaluation made by an independent laboratory. The certificate delivered by CNA ensures that the PO is strictly compliant with Calypso specifications , for the moment, rev. 3.1. This certification concerns both software for native cards -7 certificates- and applet on Java Card platforms -8 certificates. A certification dedicated to the Calypso Light specification, for middle-end product with streamlined features, has been setup in 2017 and is now also available.

CONTACTLESS INTERFACE CERTIFICATION

At the radio frequency (RF) layer, all products refers now to the standard CEN/TS 16794, derived from the ISO 14443 for contactless interface in Public Transport applications, and promoted by the Smart Ticketing Alliance. Paycert and CNA jointly created a Certification Body and rolled out this certification process with accredited laboratories, available since 2016 for the portable objects, whatever the transport scheme they support, Calypso or others. In 2017, CNA and Paycert have setup the RF certification for terminals. From the beginning, 6 certificates for RF compliance to CEN TS 16794 have been delivered, of which 3 in 2017.

FUNCTIONAL AUDIT FOR TERMINALS

Not strictly speaking a certification, but more an audit, a registration label is delivered to terminals which conforms to the Calypso specifications. From the beginning, 12 labels have been delivered to terminals, of which 5 in 2017.

CALYPSO LIGHT PRODUCT : CLAP

CLAP
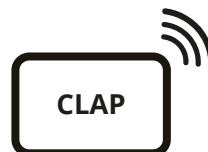
Calypso products used to be considered as high value ones, mostly used to store weekly, monthly or season pass. To widen its product range and address part of the market currently supplied by low-end solutions, CNA published the 31st of May 2017 a specification of a Calypso Light Application (CLAP). CLAP is a middle-end product, halfway between a full Calypso card and a contactless ticket, microprocessor based, with these main characteristics:

- A reduce set of commands compatible with Calypso 3.1;

- Same Calypso security (Secure Session, Ratification) as full Calypso Products but only with TDES keys;

- Two types files structure available with two contract files maximum.

The specification is ready to be integrated in tenders and a CLAP Functional Certification Process is available (following the same process than the Calypso PO 3.1 certification).

ACCOUNT BASED TICKETING :

Account Based Ticketing is already considered as the next major evolution in Ticketing Systems, while Calypso has been adopted in many card centric contactless ticketing schemes in the world. The question for CNA is to see what part Calypso could and should play in account-based ticketing and what evolutions are required. By combining these two models, CNA truly believes that each network could take advantage of both worlds, and fine-tune a solution depending on its own requirements and specificities.

To address that subject, CNA has published a White Paper "Calypso and Account Based Ticketing" written in coordination with BMC & Ixxi, providing a relevant analysis of ABT with first tracks for Calypso in the ABT ecosystem. CNA also launched a working group in June 2017 in order to define a set of guidelines for an ABT–Calypso system.

KEY CEREMONY STANDARDIZATION
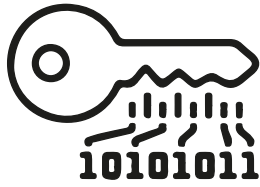
In order to ensure more and more the openness of the Calypso Standard, Calypso Networks Association has just published a new specification about Security Architecture and Key Ceremony. This document defines the rules ensuring interoperability and interchangeability of key management systems designed by providers of Calypso secret keys.

■ The owner of the keys (e.g. public transport authority) has a full control over its keys, always being able to entrust them to any third party of its choice by itself, for any evolution of its system.

■ The owner of the keys may freely and securely have Secure Application Modules (SAM), customizeded by the provider of its choice, with its keys.

In addition to these rules, those specifications also contain recommendations for the design of a Calypso Key Ceremony, with suitable balance among security and constraints. This new specification will allow transport networks to freely choose at any time, different providers for their personalized SAMs and Key Ceremony.

NEW VERSION FOR CALYPSO APPLET

At the end of 2017, CNA has released a new major version 1.3 of Calypso REV3.1 applet which involved:

■ An improvement of the compatibility with recent Java Cards platforms

■ An additional mode of personalization process: for platforms set with predictive GlobalPlatform challenge, the personalization can be now precomputed and pushed into a single message.

■ For NFC devices, the dedicated applet includes the support of NFC notifications: thereby a mobile application could be automatically informed on contactless transactions operated.

Several Java Card eSE platforms were already evaluated with the Calypso applet in 2017.

CALYPSO FOR MOBILE WITH HCE

SPECIFICATION OF A CALYPSO HCE APPLICATION

CNA published the revision 1.3 of the specification of a Calypso HCE application using a Public Key Infrastructure (PKI), that guaranties the security of the exchanges between the mobile phone and the central system, to load initial data or rights, such as transportation. Only the Calypso debit key is stored in the HCE application for validation on entrance and control during travel. By delivering HCE Authorization Modules (HAM) with certificates to HCE application providers and service providers, CNA plays the role of a Certification Authority in this PKI scheme.
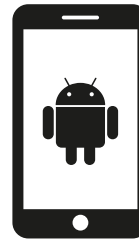
CALYPSO HCE GUIDELINES, REV. 1.0

Unlike hardware secure components such as chip cards, SIM cards and eSEs, which are designed to protect data over a long period of time, a mobile phone HCE application is hosted on a purely software environment and therefore can only offer protection for a limited amount of time. It features intrinsic weaknesses that requires security countermeasures to be implemented in a back-office system. That is why CNA published an implementation guide, the Calypso HCE guidelines, that describes the Calypso HCE ecosystem and prescribes security countermeasures that should be implemented.
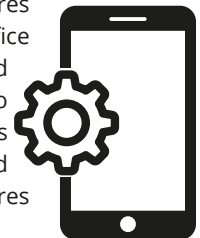
TECHNICAL DOCUMENTATION ACCESSIBLE TO ALL CNA MEMBERS

The CNA Board changed the rule of access to the technical documentation by giving more rights to CNA members.

Therefore, the technical support website (**www.calypsostandard.net**) has been adapted to consider the specific rights of Calypso Networks Association members.

KEYPLE LEADS TICKETING TO OPEN SOURCE

FUNDAMENTAL PRINCIPLES OF KEYPLE

The main goal of Calypso Networks Association has always been to ensure the openness of Calypso Standard and his adoption by many industrials partners, in order to guarantee a fair and attractive competition for users. However, open standards and specifications are necessary, but not enough to avoid proprietary and closed solutions. That is why CNA has decided to push further the concept of openness in the ticketing world and to move from an open standard to an open source model with its Open Source Software Development Kit (SDK) called **Keyple.**

Keyple will be offered in Open Source by CNA, and will provide to applications' developers a library of simple functions that allows to manage and hide the complexity of a secure Calypso ticketing transaction.

Indeed, the Calypso security guarantees a high level of security of the transaction between a Portable Object (Card, Smartphone, USB key…) and the equipment of the service provider, terminal or portable device. This high level of security needs a certain level of expertise to be correctly implemented in the equipment

The main scope of Keyple is to allow developers to develop applications that communicates with Calypso portable objects, without being obliged to develop all the Calypso layer, that requires a lot of investment, time, expertise and big investments.
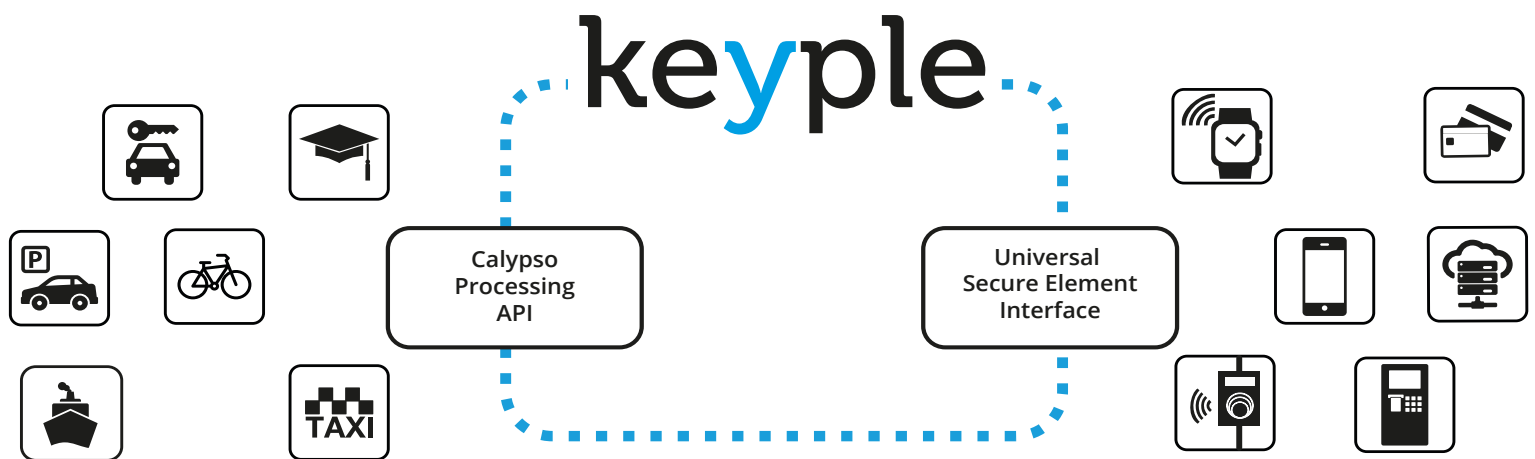
KEYPLE TECHNICAL FEATURES

With Keyple, the implementation of an application becomes independent of the terminal architecture. It integrates all standard environments, but can also be integrated into proprietary environments.

Keyple operates at two levels: card controls and management of the terminal's security module. It fully supports Calypso media, but can also can be used for other technologies media.

Keyple will exist in Java, C or C ++ languages

Keyple will be hosted as an Eclipse Project by the Eclipse Foundation, ensuring adherence to Open Source principles. The avalaible version allows local or remote authentication of a medium and is fully adapted to ABT schemes and multiservice applications.

CNA strongly believes that Keyple will deeply modify the panorama of ticketing in the next years, as the Open Data has strongly enriched the field of Passenger Information.

HOPLINK, A NEW NAME FOR INTEROPERABILITY

TRIANGLE IS NOW HOPLINK®

In order to promote Triangle 2, a technical solution dedicated to facilitate interoperability through all Calypso networks, it has been decided in 2016 to upgrade its brand image by creating a new logo and a new name, easier to identify and memorize.

Besides, the main issue of Triangle 2 was to make it recognizable by travellers, in order to encourage them to use this service, the true key of its success. Two years of a real collaborative work with the Alliance signatories led to the creation of a more modern, dynamic and customer-oriented brand image with a new logo revealed in 2016 and **a new name in 2017 : Hoplink**®.

In order to support all the Hoplink® signatories with this change of brand and to help them to address to their customers understandable messages, CNA also created a full set of communication tools : A dedicated website, hoplink.info, a commercial brochure, a communication guidelines with generic messages to address to partners and travellers, a promotional video, flyers, stickers, and a dedicated ressource to answer to all technical and communication questions.

All materials are accessible for free to all Hoplink signatories through this dedicated website : **hoplink.calypsonet-asso.org**

A unique Charter for a unique Alliance

The Hoplink Alliance consists of all the transport authorities, operators and service providers that have chosen to use Hoplink, ensuring its governance, defining and controlling business rules and making sure that security principles comply. Hoplink is offered free of charge by CNA to its members. If you want further information or support, the CNA coordination team is at your service. Contact : Hoplink@calypsonet-asso.org

OPENING TO NEW FIELDS AND COLLABORATIONS

Mobility As A Service has definitely became the new paradigm of ticketing. If CNA strongly concurs with this philosophy, our experience in creating interoperable standards learned us that «sharing» is the only way to lead to real added value services for customers. That is why in 2017 CNA multiplied exchanges with various actors, from public organization to private manufacturers.

ECLIPSE AND THE OPEN SOURCE COMMUNITY

In the context of its new Open Source policy, CNA has joined the not-profit corporation Eclipse Foundation as a solution member, in order to host its Open Source SDK project, Keyple. Created in 2004, Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly software and has over 330 different projects. CNA also participated to various Open Source events and integrate the "Fabrique des mobilités" initiative, which aims to be an European Acceleror for Mobility, based on Open Source products and Open ecosystems.

DIGITAL KEY STANDARDIZATION WITH CAR CONNECTIVITY CONSORTIUM

The CCC is developing an open standard for use of smart devices as digital keys for vehicles. The solution will be car and smart device agnostic and will enable consumers to conveniently lock/unlock the vehicle and start the engine along with other interesting features. CNA has been invited to share its knowledge of an open standard deployment for ticketing while ensuring a high level of security, in an online or offline context.

CERTIFICATION WITH STA

In 2017, CNA actively participated to the promotional activities of the Smart Ticketing Alliance, which has, as a main objective, to be a Certification Body, establishing a common approach to conformity certification and technical equivalence of certification carried out by the STA Group of Certification Bodies' members.

MULTISERVICE WITH THE ADCET & AMC

The ADCET is a non-profit organization established in 2005, bringing together members of the public and private sectors in order to promote the development of electronic transactions in the territories, by providing a standard for Services – museums, libraries, swimming pool, etc- based on Calypso, called AMC.

MOBILE WITH GSMA

As Calypso is mostly known as the contactless open standard for Smart Cards, CNA decided to promote its mobile products approach. This resulted in an active participation to the Mobile World Congress in Barcelona and some intervention of GSMA to CNA conferences, such as the 3rd Smart ticketing & Digital Services Forum in Budapest. The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 300 companies in the broader mobile ecosystem.
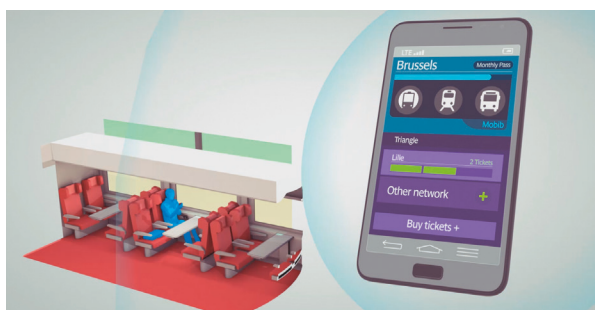

MOBILITY INTEROPERABILITY WITH AFIREV

The AFIREV is the French Association for Roaming of Electricity Charging Service which has been created on march 2015 by 7 major actors of e-mobility. One of the condition to a massive adoption of electric mobility is the development of roaming for charging services. Since 2017 CNA is exploring with AFIREV the subject of interoperability with transportation and working jointly on open source standards.
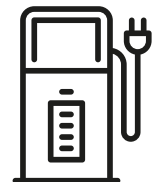
PROMOTION AND CONTRIBUTION

UITP CONGRESS IN MONTREAL

With 2 500 participants from 84 countries, 330 companies from 30 countries, displaying their innovative products and solutions and with more than 13 000 visitors, the UITP Global Public Transport Summit in Montreal was without doubt the most important worldwide event in the field.

For CNA, such an important and strategic event, with high-level representatives of public transport, was a relevant opportunity to present its latest developments for the benefice of transport authorities and operators.

CNA was sponsor for its first time of this Summit, offering to the 2 500 delegates a cardholder for the OPUS transportation pass, provided by the STM during the congress.
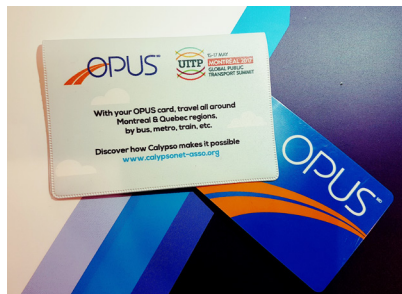
From 14th to 17th of May CNA took advantage of these 3 days of the UITP summit to oganise events and presentations in order to present its last features.

■ Through presentations on its booth, CNA showed its latest developments in Mobile and Account Based Ticketing solutions. It was also the opportunity to share the newest CNA positioning with authorities, operators and manufacturers, which expressed their strong interest towards Calypso products and CNA open source strategy.

■ Philippe Vappereau, CNA Chairman, took part in the "Ticketing and Payment" focus session in order to explain how an Open Source solution could be a lever to enrich more the Ticketing ecosystem

■ A networking cocktail dinner was organized for all CNA members at the Pullman Wine Bar, a true moment of exchanges and experience sharing between users, providers and experts in Calypso and Ticketing.

Did you know it ?

Since 2008, the travel Opus card is running with Calypso technology, allowing people to travel all around Montreal & Quebec region by bus, metro, train... 20 local companies have made the choice of Calypso in order to provide a full interoperability to their customers.

THE OPEN SESSION 2017

The Calypso Awards ceremony takes place every year during the Open Session where all the Calypso and ticketing players gather. It is a unique opportunity to encourage R&D projects, and also to reward those who work hard to create new ticketing solutions and products to improve travellers' experience. This year again, the selected projects reveal the diversity of ticketing solutions imagined by providers and operators, in order to better address their customers' new mobility needs: Mobility as a Service, Mobile Ticketing, Wearables for transportation, cross-border interoperability on a single media and many other topics.

The creativity of CNA members to propose new services and innovations also demonstrates that the Calypso standard has the ability to adapt and be in line with new mobility and ticketing challenges.

THE WINNER

RAVKAVONLINE
BY P-CENTRA

Ravkavonline allows public transportation passengers to top up their smart card and profit from a full set of services, using a mobile app, a website or in one of the 3000 ATM machines across Israel.

THE NOMINEES

HOPLINK FIRST IMPLEMENTATION
BY PARKEON

Thanks to the innovative solution Hoplink, Parkeon is the first industrial to simplify the life of public transport users and allow them to travel through various countries and several mobility contexts with one unique media.

SMARTWATCH CALYPSO HCE SOLUTION
BY POSTE MOBILE

Poste Mobile implemented a solution to use an Android Wear Smartwatch with Calypso HCE architecture, which can show how to validate a ticket with a Smartwatch.

MANY WAYS TO MEET US

CNA, as a true platform of exchanges, organizes various events, conferences, seminars, user-days, technical workshops on many topics around Calypso and Ticketing. In 2017, CNA raised significantly the number of dedicated events for its members and users, but also its participation and contribution to international fairs in the Transportation, Ticketing, Mobile, Open Source and New Technologies field.

TRANSPORT TICKETING GLOBAL
24 - 25 January - London, England

MIDDLE EAST RAIL 2017
7 - 8 March - Dubaï, Emirates

TRANSPORT TICKETING AMERICAS
7 - 8 March - Mexico city, Mexique

JOURNÉES BILLETTIQUE
13 - 14 March - Paris, France

CITYTRANS UKRAINE
30 - 31 March - Kiev, Ukraine

2ND SMART TICKETING AND DIGITAL SERVICES FORUM
26 April - Doha, Qatar

UITP GLOBAL SUMMIT
15 - 17 May - Montreal, Canada

3RD BUDAPEST SMART TICKETING & DIGITAL SERVICES FORUM
8 - 9 June - Budapest, Hungaria

VIVA TECHNOLOGY
15 - 17 June - Paris, France

2ND ANNUAL TICKETING INNOVATIONS SUMMIT
15 - 16 June - Lisboa, Portugal

12TH EUROPEAN ITS CONGRESS 2017
19 - 22 June - Strasbourg, France

ECLIPSECON
19 - 22 June - Toulouse, France

INDUSTRIAL CALYPSO DAY
21 September - Paris, France

USER DAY CALYPSO
27 - 29 September - Venice, Italy

26 ᴱᴹᴱ RENCONTRES NATIONALES DU TRANSPORT PUBLIC
10 - 12 October - Marseille, France

ASSISES DE L'ADCET
16 - 17 October - Rennes, France

AUTONOMY
19 - 21 October - Paris, France

SMART MOBILITY 2020: INNOVATIVE AND SUSTAINABLE URBAN TRANSPORT IN EUROPE
22 - 23 November - Tallinn, Estonia

CHALLENGES FOR THE INTEROPERABILITY IN PUBLIC TRANSPORTS
17th November - Bogota, Colombia

OPEN SESSION, AWARDS & TECHNICAL WORKSHOP
29th November - Cannes, France

VILLAGE DE L'INNOVATION
6th December - Paris, France

Invited	Speaker	Stand	Sponsor	Organiser

OUR MEMBERS

MEMBERS ALL AROUND THE WORLD

One main characteristic of the new members which joined CNA in 2017 is their wide diversity, both at geographical origin and in type of business activity. Indeed, the association welcomed transit authorities, operators, start-ups, bike-sharing operators, software providers, consulting companies, from a wide variety of countries and continents, such as France, Italy, Mexico, Brasil, Peru and Vietnam. This diversity of new members is the result of the CNA ambition to be a real player of the Mobility as a Service new paradygm, but also fits with its main objective to extend the deployment of Calypso widely.

THE MEMBERS

5T
ACTV
ADCET
AEP
Azienda Napolitana Mobilita
Billettique Services
Bluenet
BMC
Capgemini Technologie Services
Card 4B
Cie Transports Strasbourgeois
Conduent
Consortium CB
Cubic
Digimobee
Digital People
Dioss
Elitt
Fime
Gemalto
Giesecke & Devrient
GSD plus
Hb Technologies
HID Global
High Q
Idemia
Infineon

Inmedia
Interparking
Iquantics
ITSO
JM Asesores y Servicios
Keolis
Landkreis Konstanz
Link Consulting
Ministry of Transport Israel
Mk Smart JSC
Moovel
M Peso
Mycard
Nacion Servicios
Novabase
Opentech
Orange
Ort tech
Otlis
Paragon ID
Parkeon
Pass and Money NFC
Paycert
Pesamax
Phaymobile
Pluservice
Postemobile

RATP
Region Nouvelle Aquitaine
Saint-Nazaire Agglomeration
Scheidt & Bachmann
Selp
Sia Rigas Karte
Sia spa
SMTAG
SNCF
Societe de Transport de Montréal
Sopra
Spirtech
SRWT - Groupe TEC
St Microelectronics
STIB
Telematica Grupo Lefic
Thales
The Mobile Knowledge
TPR Service
Transdev
Ubitransport
Vitalis
Vix Technology
Watchdata
Wizway

THEY JOINED CNA IN 2017

ACTV
Billettique Services
Capgemini Technologie Services
Cubic
Digital People
Giesecke & Devrient
GSD plus
Infineon
Inmedia
Iquantics

Mk Smart Jsc
Moovel
MPeso
Mycard
Nacion Servicios
Pass and Money NFC
Region Nouvelle Aquitaine
Saint-Nazaire Agglomeration
SMTAG
SRWT - Groupe TEC

Telematica Grupo Lefic
The Mobile Knowledge
Ubitransport
Vitalis

CNA AT THE SERVICE OF ITS MEMBERS

CNA proposes to its members technical support, training and certification.

Certification, in an open environment, is the main key to ensure the success of ticketing; transit authorities and operators more and more require it to guarantee the sustainability of their investment. CNA has a full set of certifications, at each layer of a transaction, for portable objects, to guarantee an end-to-end compatibility.

A generic Calypso applet, a software for Secure Elements on Javacard platforms and a highly secure solution for mobile ticketing, is offered to all CNA members. CNA also provides Hoplink, the Calypso application for interoperability, with its security keys.

CNA intends to be not only a provider of technology, but a reference for the different actors which need assistance when they are entering the complex world of ticketing. Indeed, more and more solutions, options, such as card or system centric, mobile ticketing SIM, eSE or HCE, open payment, interoperability require to be evaluated. In order to help its members better understand, evaluate all the possibilities, and share their experience between them, CNA, as a true platform of exchanges, organizes various events, seminars, user days, technical workshops, and also issues white papers on specific topics, like the Account Based Ticketing paper in 2017.

WORKING GROUPS & WORKSHOPS

For many years CNA has achieved a lot of developments which have enriched the Calypso offer: applet, HCE specifications, security improvements, specifications rev3.1, 2, 3, key ceremony specification, Hoplink scheme of interoperability, Calypso Light Application, SDK, etc. are the results of working groups and have been realized in a collaborative way thanks to CNA members contributions.

CNA thinks that it is useful to share more widely not only the results but also the on-going works between all its members, to enrich the exchanges, the experiences, the needs, and so to increase the relevance of these developments and their adoption by the Calypso providers and users.

That is why CNA proposes now the Calypso workshops which provide a transverse assessment of the works and dedicated exchanges in small groups for each topic. This formula has been set-up with great success during the 2017 Open Session in Cannes and will be renewed.

WHY DID THEY JOINED US ?

"Open Standards as means to drive highly competitive markets is strategic to Infineon. This is key to make the eco-system players benefitting from multiple sources and consequently saving them money. We are proud to contribute Infineon's unique expertise regarding security in contactless cards, tickets and mobile to CNA."

Bernardo Knoblich, Head of product Line Transports and Ticketing Infineon

"Cubic's NextCity™ vision is centred on three core principles: integrated customer experience, one account and integrated operations and analytics. Our approach utilises interoperable secure standards supporting open architecture and addressing tomorrow's business and technical models. In 2017 CNA started on a new journey aligned well with these core principles."

John Pickworth, Business Development Director, Cubic Transportation Systems

25 new members in 2017

79 members

+40% new members in 2017

TOWARDS 2020

The ambitious work program that CNA is running aims to guarantee the sustainability of Calypso to its users and to lead ticketing towards fully open solutions, at all layers of a ticketing system.

It relies on two pillars: Open Source and Certification.

Open Source is the answer that CNA proposes to the evolution of mobility, which takes many new forms and implies many new actors; the SDK will facilitate the access to Calypso and its security features, and so, hugely widen its scope of usage, for mobility, multiservice and other fields, such as events management for example.

Certification is, for the users of Calypso, the necessary guarantee, even more important in an open ticketing environment, to ensure technical compatibility of portable objects and equipment, to allow interoperability, to ensure sustainability of the investment. For the providers of Calypso, certification is a real added value to their offer.

Besides these two pillars, CNA also intends to enhance its role as a platform of exchanges, with the ambition to simplify access to ticketing to its members. Indeed, ticketing offers more and more possibilities, options, card or system centric, mobile solutions, open payment, etc. and CNA must facilitate a better understanding and share of experiences, through white papers publications, training, workshops, seminars, user-days.

Open Source, certification and added value for its members represent the ambition of CNA. They are also the basis of the business model set-up to ensure that CNA will be able, after 2020, to manage Calypso independently from all particular interest and financially self-sustaining.

Consequently, this business model relies on three quite equivalent sources of revenues :

■ Membership fees;

■ Commercialization of services (training, help-desk and maintenance for open source products, certification);

■ Brand valorization, directly linked to the certification policy, which will consist in a fee per product to get the Calypso label.

Their progressions are the relevant indicators to measure that we are on the right track and that CNA will reach its goals.

CNA REVENUES EVOLUTION

■ Membership fees ■ Products & services sales ■ Branding ■ Patents revenues
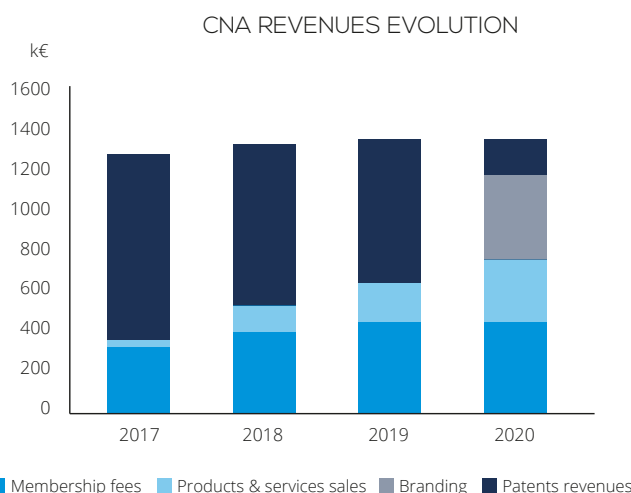
Keywords for 2018

2018 will be in many fields a decisive year on the path to 2020. Keywords for 2018 are :
■ Publication of the SDK, cornerstone of our Open Source policy
■ On-field deployment of Hoplink
■ Setup of the CNA products & services offer
■ Finalization of the mobile ticketing set of solutions : applet for eSE, HCE
■ Promotion of Calypso worldwide

Calypso

YOUR KEY FOR MOBILITY
DESIGNED FOR THE SMART CITY

Look at our videos on Youtube,
Calypso Networks Association

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