Benefit from the opportunities of a next generation Calypso product that delivers innovation, speed, efficiency and security.
Gemalto Calypso G1

Fast, convenient, future proof, flexible, secure. Empowers new form factors and services

Public transport is all about speed and security – and smart technologies are enabling transport authorities to really deliver on these. That’s why Gemalto’s next generation Calypso G1 is designed to deploy new form factors and services to be used for passenger ticketing applications. This secure, future proof and fast technology is available as a dual interface (DI) card, as a Gemalto full contactless (FC) card or in new form factors such as Wearable MiniTag that comes with a range of wristbands.

Calypso, the open and field-proven standard for transport ticketing and city services, designed by major transport operators and used around the world for more than 20 years.

Benefit from a certified product

Gemalto Calypso G1 supports all Calypso implementations:
- From Revision 1 to the newest Revisions 3.1 and 3.2, including the most deployed Revision 2.4.
- Gemalto Calypso G1 was the first card to achieve Calypso Networks Association certification, passing Elit’s Laboratory Rev 3.1 test suite evaluation.
- Its antenna design is both ISO 14443-1 and EMVCo Level 1 compliant, ensuring future-proof RF interoperability between cards and readers.
- Gemalto has tested the product in close collaboration with Spirtech, the world-leading Calypso technical specialist.

Secure your revenue stream

Cryptography is a key aspect of the security of your whole transport solution. Introduced with Calypso Revision 3.2, Gemalto Calypso G1 comes with AES cryptography that builds on DES, DES-X and 3DES cryptography. It enables customers to keep pace with the fast-evolving cryptographic requirements of the transit industry, where AES is gradually replacing 3DES. For example, Transport for London (TfL) in the UK started migrating its Oyster cards to AES cryptography as early as 2009.

Gemalto Calypso G1 offers a clear migration path: transit operators can start by pre-reading cards with both 3DES and AES keys, then take full advantage of the higher AES security level a few years later. This path allows the smooth migration of all infrastructure in parallel, and also avoids the cost of a massive and sudden card replacement program.

Secure your card supplies and gain the agility to respond to market changes

With just two products – Gemalto Calypso DI and Gemalto Calypso FC – Gemalto can serve all Calypso functional requirements (from Revision 1 to 3.2) and all memory size requirements (up to 22KB).

By drastically reducing legacy fragmentation, Gemalto Calypso G1 helps transport operators to share the same product.

Additionally, by introducing Flash memory technology in the Gemalto Calypso G1, Gemalto shares chip sourcing with other segments of the industry, such as banking, and leverages its expertise in the secure loading of operating systems in-house. By optimizing its supply chain, Gemalto has maximized its ability to meet your hard to predict needs on time.

Chip hardware is constantly evolving to protect against the constant threat of security attacks. The chip chosen by Gemalto for Calypso G1 has passed the stringent, state-of-the-art EAL 5+ Common Criteria evaluation. It has also achieved its initial EMVCo certification in December 2011.

Keep pace with the ever-increasing flow of passengers

Public transport usage is booming globally due to its increasing importance in alleviating critical political, economic and environmental pressures. This trend is set to continue as buses, trains and metro systems become more comfortable, convenient and cost effective - and journey times improve.

With this in mind, the card has been designed to help operators by optimizing passenger flow. Gemalto Calypso G1 offers superior performance compared to legacy Calypso products, both in terms of read range – up to 50% improvement, depending on reader model - and in terms of transaction speed - up to 30% improvement.

Free yourself from legacy solutions

More than 95% of Calypso cards deployed in the past have used chips from a single manufacturer. The new Gemalto Calypso G1, by using a different chip source, demonstrates that Calypso is an open standard and that multi-sourcing is a reality.

Investing in Calypso ticketing infrastructure should not mean you are stuck with legacy implementations. Choosing Gemalto Calypso G1 sets your independence as far as the chip is concerned.

Enable new services

When PTOS choose to issue the Gemalto Calypso G1 on their infrastructures, they open themselves up to a whole world of new opportunities and use cases:
- The 22KB memory available on the Gemalto Calypso G1 enables more services to be added to the card in the future. Whether multi-modal (including parking, bicycle hire, boats, etc), multi-operators (several profiles on the same media), or multi-application (other city services such as library, access control, etc), it is ready to support your deployment of new services.
- Unlike legacy Calypso cards, Gemalto Calypso G1 cards can be read and written by all NFC-ready phones running Android OS. By implementing such a solution built on a distance-based reloading server and mobile application, a traveler can reload his card contract using his own cell phone – anytime, anywhere.
- Digitalize traveler’s photography: Because of its larger memory capacity and excellent RF performance, the traveler’s photography can be encoded in the Gemalto Calypso G1 card and can be later inspected via a NFC phone. This fits well with the strategy of some PTOS to acquire off-the-shelf, lightweight and modern equipment for control devices. Additionally, it may reduce ongoing costs, by removing the need to personalize the photo on the card body.

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Take advantage of new form factors usage
Gemalto Calypso G1 directly benefits from a range of innovations such as wearables, first seen in the payment market.

New form factors such as contactless wristbands are easy and fast to deploy, bringing new user experiences. They use the same software as standard cards - only the read range needs to be validated: it is generally lower due to the smaller antennas.

The compact Gemalto wearable MiniTag mini-card format can be used in various types of wristbands, which are also available from Gemalto.

There are numerous ways in which wristbands can be used. For example:

- To target specific customers such as students, sportsmen/women, tech-savvy people...
  In case the cardholder's photo is needed, it can be digitalized via electrical personalization and incorporated into the wristband.

- To address a high volume of occasional users attending an event during a set period of time.
  This is a highly visible way of marketing an event and it also contributes to reduce road congestion by maximizing the use of public transport.

Please find more information at: gemalto.com/transport

Key advantages of Gemalto Calypso G1

- High speed performance
- High distance range
- Fully certified product
- AES security

All Calypso releases supported
Reloadable with a phone
Mobile inspection
Available in wearable formats

gemalto
security to be free