

# One-Time Password (OTP)

Joint G&D/Todos solution for secure authentication



## Why OTP?

Nowadays, the number of threats to conventional authentication methods, such as static passwords and even printed one-time codes, is increasing. In the case of Internet banking, this can result in both a monetary loss and damage to the bank's reputation.

A cost-efficient solution that is secure against continually-evolving threats is the generation of one-time passwords (OTP). No static secret data is transmitted via an insecure network like the Internet as

passwords are newly created for each authentication. Two factor authentication is supported, and special OTP configurations can help to prevent malicious software from exploiting intercepted passwords and transaction numbers.

To provide reliable and portable security, this solution does not have to be implemented in software on a clients' PC. Ideally, a hardware token like a smart card is used to compute and to display the OTP on a pocket reader. A back-end system for verification of the OTP completes the solution.

The use of OTP functionality as an additional application on payment smart cards offers advantages over formerly introduced individually personalized tokens, leading to minimized cost of ownership:

- The functionality can be personalized on a newly issued card at virtually no extra cost.
- The reader contains no secret or individual data and acts as a simple display interface to the card reducing cost and logistics efforts.



Giesecke & Devrient

Partners



Powered by  **TODOS**

## A complete solution

Having recognized customers' demand for well integrated solutions from a single, trusted vendor, G&D teamed with Todos, a well known and experienced player in the OTP market. Together, we jointly defined a complete authentication solution.

Besides the Todos proprietary eCode™ OTP functionality, MasterCard's chip authentication program (CAP) and Visa's dynamic passcode authentication are both supported on the cards from the pocket-readers to the back-end system. Efforts will be taken to implement further upcoming OTP specifications (e.g. from Visa).

Furthermore, the solution has been defined in such a way that customers can choose from a range of cards and readers to satisfy their particular demand for higher security and cost effectiveness.

If you are searching for a secure alternative to your existing authentication system and want to allow users to authorize transactions, take a closer look at the joint G&D/Todos solution. It has been created to satisfy your business demands.

Giesecke & Devrient GmbH  
Prinzregentenstrasse 159  
P.O. Box 80 07 29  
81607 Munich  
GERMANY

Phone: +49 (0)89 41 19-21 32  
Fax: +49 (0)89 41 19-11 50

www.gi-de.com  
payment.cards@de.gi-de.com

© Giesecke & Devrient GmbH, 2006  
Sm@rtCafé® is a registered trademark of Giesecke & Devrient GmbH. SECCOS® is a registered trademark of EURO Kartensysteme GmbH, Frankfurt am Main. eCode™ is a trademark of Todos Data Systems AB. All technical data subject to change without notice. G&D/GAO patents.

## Product description

### The joint authentication solution consists of the following components

- G&D's StarDC OS or Sm@rtCafé® Expert smart cards
- Todos pocket readers
- Todos back-end system
- Integration service

### G&D cards for OTP

G&D's OTP-enabled products

- StarDC OTP
- Sm@rtCafé® Expert with eCode™ applet

Products supporting MasterCard CAP and Visa dynamic passcode

- G&D native card
- G&D SmartCafé Expert®

Other G&D products featuring OTP

- EMV native StarDC OS products
- ZKA/SECCOS® TIBC (upon request)

Special features available from G&D for certain products

- Offline PIN change
- Transport PIN
- Support of PIN unblocking

### Pocket reader

Todos eCode™ "Reader"

- OTP without PIN
- Convenient form factor

Todos eCode™ "Signature"

- OTP with PIN
- OTP with challenge/response
- Wheel to key in numbers
- Convenient form factor

Todos eCode™ "Authenticator"

- OTP with PIN
- OTP with challenge/response
- PIN pad
- MasterCard CAP and Visa dynamic passcode authentication

### Back-end system

- Integrates into existing infrastructure
- Validates submitted OTPs
- Supports multi-communication channels (e.g. telephone, Internet, SMS)
- Supports challenge/response (e.g. electronic signature on transaction data)
- Supports proprietary eCode™ OTP and MasterCard CAP and Visa dynamic passcode authentication

### Benefits of the joint G&D/Todos solution

- Increased security
- Two-factor authentication
- Secret data stored securely in the card and back-end system
- Users can authorize transactions
- Electronic signature on transaction data
- Cost efficient to implement
- Functionality available on G&D's native StarDC OS and Sm@rtCafé® Expert EMV cards
- Easy-to-use pocket readers
- Flexible back-end system

