



# STARCOS®

Native, High-Performance Card and Token  
Operating System



Giesecke & Devrient  
Creating Confidence.



# STARCOS®: A Powerful Platform for Customized Applications

As a global group, Giesecke & Devrient (G&D) has a 150-year history of developing security technologies. With its commitment to industry standards and to interoperability, G&D solutions are the ideal platform for your e-Identity strategy.

STARCOS® is G&D's feature-rich, native operating system (OS) offering the highest levels of security and speed, along with a sophisticated architecture suited to high-end authentication devices like smart cards and tokens. STARCOS® also gives you the flexibility to develop customized functions or applications for your authentication devices and simply store them in the EEPROM.

The number of applications you can add is only limited by the available EEPROM memory, making STARCOS® a powerful and cost-effective way to use your cards or tokens for multiple authentication tasks – without compromising security or performance.

Alongside support for both symmetrical and asymmetrical cryptography, STARCOS® stands out from the crowd with its breadth of functionality, which meets and surpasses ISO® 7816 requirements. And that makes it ideal for industry-specific and customized applications.

STARCOS® offers robust security as well as high performance – because our customers demand it. Encompassing enterprises, government departments, and financial institutions, G&D customers have implemented STARCOS® in applications including:

- National ID cards
- Chip passports
- Healthcare cards
- Corporate ID cards

You can choose your STARCOS® version from a number of different variants to comply with a range of certifications. For example, a member of the STARCOS® family enables you to include the

generation and verification of digital signatures compliant with the European Electronic Signatures Directive and with the CWA 14169 standard for signature creation devices. Please refer to the STARCOS 3.0 and 3.2 column in the table on the next page for more details.

## STARCOS®: Benefits at a glance

- **High speed:** Commands are executed directly by the CPU
- **Robust security:** Highest level of security; supports different security levels for different applications; support for symmetrical and asymmetrical cryptography
- **Flexibility:** Very easy to adapt to any company's requirements; different versions available for different needs and certifications; contact-based and contactless interfaces; several applications can be stored and post-loaded on the card or tokens

# STARCOS<sup>®</sup>-based Operating Systems

Operating systems from other manufacturers are also supported

	STARCOS <sup>®</sup> SPK 2.4 FIPS	STARCOS <sup>®</sup> 3.0, 3.0 DI	STARCOS <sup>®</sup> 3.2
<b>Chip</b>	NXP P8WE5032	NXP MX P5CT072 NXP MX P5CC072	Infineon SLE66CX680PE
<b>EEPROM</b>	32 kB	72 kB	68 kB
<b>Max. asymmetrical key length</b>	1024 bit RSA <sup>®</sup>	2048 bit RSA <sup>®</sup>	2048 bit RSA <sup>®</sup> 256 bit ECC
<b>Certifications</b> - Chip - Card operating system	ITSEC E4High FIPS 140-2 Level 2	Common Criteria EAL 5+ Security functions Common Criteria EAL 4+ Secure Signature Creation Devices (SSCDs)	Common Criteria EAL 5+ Security functions Common Criteria EAL 4+ Secure Signature Creation Devices (SSCDs)
<b>Interfaces</b>	- Contact-based (T=0/T=1) - Up to 115 kBaud	- Contact-based (T=0/T=1) - Contactless (T=CL) - Up to 115 kBaud	- Contact-based (T=0/T=1) - Up to 115 kBaud
<b>Standards</b>	- ISO <sup>®</sup> 7816-3/-4/-8 - NIST FIPSPUB 140-2	- ISO <sup>®</sup> 7816-3/-4/-8/-9 - ISO <sup>®</sup> Type A 14443-1/-2/-3/-4	- ISO <sup>®</sup> 7816-3/-4/-8/-9
<b>Available applets / applications</b>	- StarSign <sup>®</sup> PKCS #15 - Other industry-specific solutions	- StarSign <sup>®</sup> PKCS #15 - Digital signature CWA 14169 - Other industry-specific solutions	- StarSign <sup>®</sup> PKCS #15 - Digital signature CWA 14169 - Other industry-specific solutions
<b>Additional features</b>	- Several authentication options - Secure Write - Secure Messaging	- Up to 8 DF Levels - Support of logical channels - Secure Write - Secure Messaging - Memory management - Several authentication options - Biometrics version also available	- Up to 8 DF Levels - Support of logical channels - Secure Write - Secure Messaging - Memory management - Several authentication options



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