

Smart Card Solutions



CRESCENDO® SERIES
Smart Cards





CRESCENDO™

Brian Jones
Emp.# 5643-44



Emp.# 5643-44
Brian Jones



Crescendo® offers the lowest total cost of ownership (TCO) for a combined logical and physical access control solution.

Crescendo® is a series of highly secure smart cards designed to provide out-of-the-box, standards-compliant support for thousands of logical access applications.

Crescendo is an off the shelf solution, allowing HID to offer a much faster turn time and lower minimum order quantity compared to many contact smart card solutions. Also, because the cards are fully produced within HID Global, the ordering process is greatly simplified, eliminating the risk associated with working with multiple suppliers.

Crescendo provides a strong authentication solution.

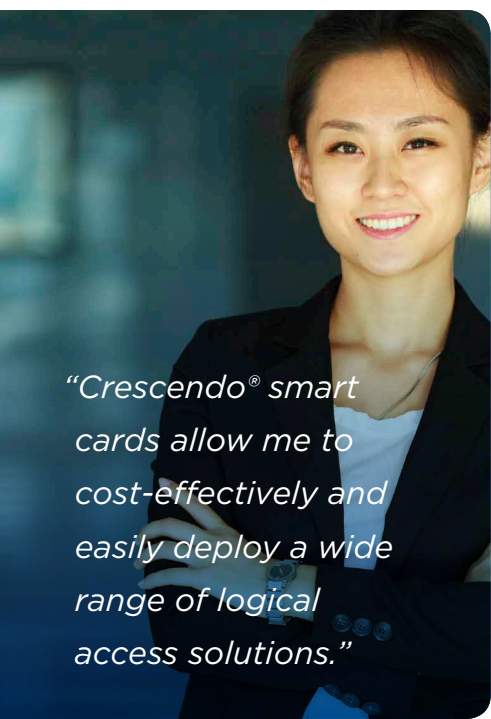
Crescendo contains a contact chip module, based on the Java Card operating system, capable of performing advanced cryptographic operations. This allows the Crescendo card to store certificates for the purpose of public key infrastructure operations.

Crescendo is a multi-technology smart card.

Crescendo is a credit card-sized card that enables logical and physical access control, also serving as an employee ID badge. An embedded contact smart chip is used for logical access control. To meet the needs of current physical access control customers, Crescendo can be customized with the “physical access control” technologies you choose (i.e, HID iCLASS®, MIFARE®, MIFARE DESFire® EV1, HID or Indala® proximity, and others)

Crescendo smart cards require no additional per-seat middleware license.

Using a powerful contact smart chip with cryptographic co-processor, Crescendo is supplied pre-initialized with the required on-card software and includes all required drivers and middleware. This equates to a high performance, cost-effective solution.



“Crescendo® smart cards allow me to cost-effectively and easily deploy a wide range of logical access solutions.”



As part of the HID on the Desktop™ solution, Crescendo contact smart cards represent the highest level of network security, working with highly developed Public Key Infrastructures (PKI). The features of the standard Crescendo product are extended using naviGO™ Server software to provide a simple management solution for card PIN and PUK as well as emergency access functionality.

Crescendo cards are as simple to install and use as any Windows® peripheral.

Crescendo has completed the Microsoft® certification program for smart card minidrivers, ensuring a seamless experience for the user.

Crescendo is Windows® compatible.

Crescendo C200 series smart cards are fully compatible with the Microsoft® Windows® Smart Card Framework (WSF) and support Microsoft® applications such as Windows® Domain Log-On, VPN, Outlook®, secure Web access, and wireless LAN authentication.

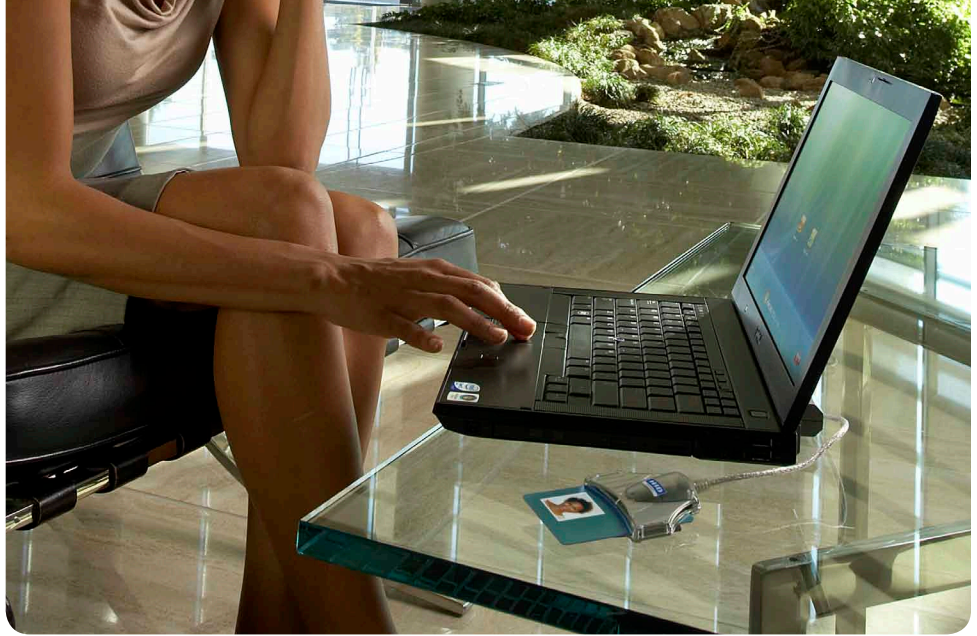
Crescendo is supported by the Microsoft® Forefront Identity Manager 2010, dramatically simplifying the deployment, management, and auditing of smart cards used for logical access control applications.

Crescendo supports security applications from other vendors including:

- Windows domain log-on
- Single sign-on
- Pre-boot authentication
- Email encryption and signing
- Disk and file encryption
- Digital signatures

Crescendo® Benefits

- Reduces card management costs and increases user convenience by combining logical and physical access control in a single card.
- Provides out-of-the-box, standards-compliant support for hundreds of logical access applications provided by Microsoft® and others.
- Is supplied pre-initialized with the required on-card software and includes all required drivers and middleware.
- Requires no per-seat middleware licenses, reducing overall costs.
- Uses a powerful contact smart chip with cryptographic co-processor coupled with any of HID's contactless technologies, including iCLASS, Prox, DESFire and others.
- Is available off-the-shelf, and in small quantities, reducing lead times and cost.



Crescendo® supports a wide variety of applications



Crescendo® smart cards provide a number of functions offered by legacy smart card solutions, but are faster to implement, easier to use, less expensive to deploy and pre-integrated with Windows components. A powerful solution for controlling access to data, Crescendo smart cards enable a variety of data security applications.

Windows Domain Log-on

To support strong authentication utilizing PKI, Crescendo cards support two-factor (PIN + Card) log-on. The card is compatible with a wide range of card management systems.

Single Sign-on

Use your Crescendo card to log-on to a variety of applications with a single credential. This reduces the need for a variety of usernames and passwords.

Pre-boot Authentication

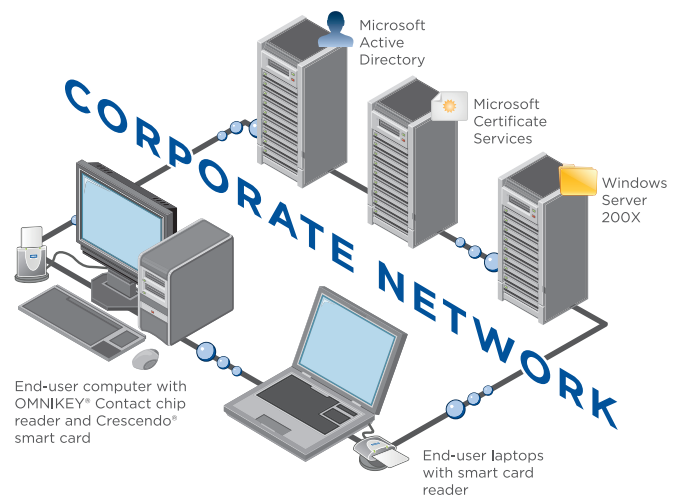
Crescendo enables users to protect PC access at the BIOS level, ensuring a trusted environment prior to PC log-in.

Email Encryption

Use Crescendo to encrypt sensitive communications, and ensure that you're dealing with a trusted source by verifying sender's certificate.

Disk and File Encryption

Using Crescendo allows you to simplify encrypting sensitive information for storage or transfer. You can protect a single file or an entire disk with a wide range of data security applications.



For an up-to-date list of supported Crescendo® applications, please visit hidglobal.com/crescendo

Choosing a smart card for logical access has never been easier or more economical!

Crescendo® highly secure, off-the-shelf smart cards provide out-of-the-box, standards-compliant support for thousands of logical access applications. By incorporating HID's industry standard proximity and iCLASS®, MIFARE DESFire EV1, or MIFARE Classic technologies, Crescendo is a single card that can be easily deployed for both logical and physical access control use.



C200⁴ C700

OS Support

Windows Vista™ / Windows 7	Yes (32 & 64 bit)	Yes (32 & 64 bit)
Windows® 2000 / Windows® XP	Yes	Yes
Windows® Server 2003 & 2008	Yes (32 & 64 bit)	Yes (32 & 64 bit)
Windows® CE / Mobile	No	Yes
Mac® OS X, Linux®, Solaris, Unix	No	Yes

Standards Support

ISO 7816 1-4	Yes	Yes
PCSC / CCID	Yes	Yes
CryptoAPI / MSCAPI	Yes	Yes
PKCS11	No	Yes
Base CSP	Yes	No
X.509 Certificates	Yes	Yes

Contact Smart Chip

Java Card OS v2.2.2	Yes	Yes
Global Platform Specification 2.1.1	Yes	Yes
Crypto Co-Processor	Yes	Yes
Number of 1024 Bit Digital Certificates ¹	16	21
Number of 2048 Bit Digital Certificates ¹	12	15
EEPROM Storage	64K	64K
EEPROM Data Retention	20 Years	20 Years

C200⁵ C700

Contactless Technologies

HID iCLASS	Yes	Yes
MIFARE Classic	Yes	Yes
MIFARE DESFire EV1	Yes	Yes
HID & Indala Prox and Magnetic ² Stripe	Yes	Yes
Options Available on Request	Yes	Yes

Microsoft® Applications

Windows® Domain Log-On	Yes	Yes
Remote Desktop / RDP	Yes ³	Yes ³
Microsoft® Forefront Identity Manager 2010	Yes	Yes
Outlook	Yes	Yes
Encrypted File System	Yes	Yes
Internet Explorer	Yes	Yes
Windows® Certificate Authority	Yes	Yes

Other Applications⁵

Single Sign-On	Yes	Yes
Pre-Boot Authentication	No	Yes
Firefox®, Netscape®	No	Yes
VPN (SSL / IPSEC)	Yes	Yes
Citrix™	Yes	Yes
Smart Card Management Utility	No	Yes

¹ Maximum number of certificates

² The Magnetic stripe is ABA standard 3 track, high coercivity (4000 Oe), ISO 7811-6 compliant.

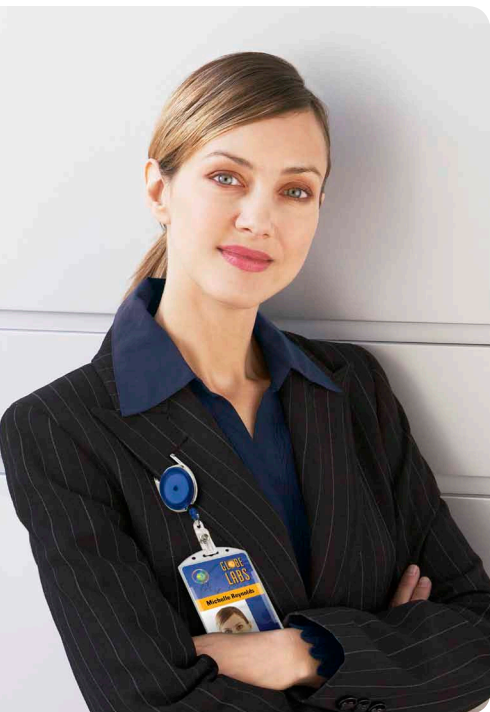
³ Requires Windows 7, Windows Vista, or Windows XP

⁴ The Crescendo C200 credential solution has completed the Microsoft certification program for smart card minidrivers based on the v5 specifications

⁵ Please review the "Crescendo Third Party Product Compatibility" document for a complete listing of applications and uses



Issue Crescendo® Smart Cards Conveniently and Securely!



Use Crescendo® Cards to Enhance Corporate Identity and Brand Recognition

No one wants to wear or present a plain, boring, unattractive badge. This card represents the user's personal image as well as the corporate image. Incorporate visual features such as a photo ID, name, or department color code to visibly identify individuals. High resolution printing and special inks are all available for your card design. A well-designed card demonstrates your company's commitment to security.

Use Anti-Counterfeiting Features on the Outside of Your Crescendo Smart Cards

Enhance the security on the outside of your card. Holograms have been required by MasterCard® and Visa® for years. Passports, immigration cards, and currency also use holograms and other anti-counterfeiting features. Anti-counterfeiting options include:

- Surface Holograms
- Embedded Holograms
- Micro-Fine Text
- Guilloche Images
- Holographic Overlaminates
- Optically Variable Inks
- Ultra-Violet and Infrared Fluorescing Inks

Use HID's Identity on Demand™ Services to Create Your New Badges

Economically create new badges that incorporate the technologies you need with the graphics and anti-counterfeiting features you choose.

HID's Identity on Demand Services:

- Can create your ID badge layout; no in-house graphics capabilities or equipment is required.
- Can use an existing photo ID database to create new, personalized ID badges.
- Eliminates costs associated with cards destroyed or disfigured during the badging process.
- Reduces overall costs associated with ID badge production. Wear and tear on in-house badge production equipment is minimized.
- Enables the security department to manage security, not ID badge production.

A reader for any application on any computer

Optimized for use with Crescendo® smart cards, a complete range of OMNIKEY® readers - desk-top readers with contact or RFID interface, notebook models, and secure readers with PIN pad and display - offers one-stop shopping for any need in the area of ready-to-use PC smart card reader devices. OMNIKEY standardized readers are connected via USB or serial cable to a desktop computer to be placed on the desk or to be attached to a monitor. To secure laptops or other mobile devices with smart card technology, readers that can be connected via PCMCIA/ExpressCard™ slot or USB interface are available.

Characterized by robust and durable housings and versatile driver support, OMNIKEY readers are available with contact, contactless and multi-technology interfaces.

The following is a list of popular OMNIKEY readers for use with Crescendo smart cards.

OMNIKEY 5321 USB

Dual interface feature economically supports end-user environments where both contactless and contact smart card technology may be in use



OMNIKEY 4040 Mobile PCMCIA

A high-performance smart card reader for mobile use



OMNIKEY 4321 Mobile ExpressCard 54

Smart card reader that can be used in laptops and PDAs with the new ExpressCard™ interface



OMNIKEY 3121 USB

A high-performance smart card reader for desktop use with multiple standing options in a robust housing



OMNIKEY 2061 Bluetooth® Reader

Contact log-on reader enables hands-free operation and authentication



OMNIKEY 3021 USB

A high-performance smart card reader, with a USB interface, in a small form factor for desktop and mobile usage



To learn more about the breadth of HID's OMNIKEY reader line, visit hidglobal.com/omnikey

North America: +1 949 732 2000 • Toll Free: 1 800 237 7769
Europe, Middle East, Africa: +44 1440 714 850
Asia Pacific: +852 3160 9800 • Latin America: +52 477 779 1492



ASSA ABLOY

An ASSA ABLOY Group brand

© 2010 HID Global. All rights reserved. HID, the HID logo, Crescendo, naviGO, OMNIKEY, HID on the Desktop, and HID Identity on Demand are trademarks or registered trademarks of HID Global in the U.S. and/or other countries. All other trademarks, service marks, and product or service names are trademarks or registered trademarks of their respective owners.

20101117-crescendo-card-br-en

