

Physical Access Systems by Finger Vein Authentication Launched in China

- Ensuring Construction of Large-scale Secure Systems
by Combining with HID Card -



Physical Access Systems by Finger Vein Authentication

TOKYO, Japan, October 15, 2007, -- Hitachi, Ltd. (NYSE:HIT / TSE:6501) today announced that it will begin the sale of its door access control system by finger vein authentication in Asia starting in October as the first step of its global sales.

With the product manufactured by Hitachi Information & Control Solutions, Ltd. authentication terminals connected to networks can be managed by management server software. By adding authentication terminals, scalable system construction can be achieved. Also, globally pervasive IC card 「iCLASS card」 from HID (HID Global Corporation: Headquarters: The United States California state: President and CEO Denis Hébert)can be incorporated, which enables construction of highly secure systems by combining finger vein and the HID card.

Following several years of research and development of the finger vein pattern recognition technology at the Hitachi Ltd., Central Research Institute in 1997, the company received a substantial number of patents. Hitachi has now commercialized the operating system and various applications, including PC login devices and validation devices for ATMs in Japan. The validation device for ATMs is fast becoming a de facto standard, with about 80 percent of the financial

institutions in Japan adopting finger vein biometrics by of the end of March 2007 - based on an independent ATM market analysis on the banking sector.

As adoption levels of finger vein pattern recognition increases in Japan, the level of interest in other markets is also increasing. To date, Hitachi is experiencing sales increases of the physical access device in China. In addition, growth potential is expected in Asia, the United States and Europe, particularly for physical access control and related applications. Hitachi recently installed a system at the Shinkin Central Bank, New York branch.

Hitachi developed the PC login device based on the original model designed for the Japanese market and has been sold in Japan since October 2006. The finger vein unit achieved its small size, high accuracy rate by employing a single-chip LSI design. In addition, an SDK is available to allow for development of custom applications or integration into existing application environments.

Hitachi is increasingly focusing its businesses on creating solutions to answer various market trends aiming at the achievement of a safe, comfortable, ubiquitous information society, exemplified by making finger vein technology the de facto standard for high-security biometrics.

Notes to the editor

Sales target –3,000 units for the door access control field in the first year.

Feature and mechanism of finger vein authentication system - The finger vein pattern recognition technology employs the vein pattern of the finger as the biometric feature. The finger vein pattern is impossible to counterfeit because the vein is inside the body. With some of the existing biometric systems, it is possible to acquire biometric data without the knowledge of the individual [e.g. finger-print, facial recognition, iris-scan etc.]. It is not possible to acquire the finger vein biometric feature without the knowing consent of the individual meaning that from a societal aspect, finger vein pattern recognition is safe and secure for the individual. In operation, the process of data collection is based on a contact-less principle. Light penetrates through the finger using a light-transmission technique to allow the detection of the structure of the vein pattern. The vein pattern is image-processed using a special algorithm resulting in digital data that can be stored in a relevant data repository. The device is compact and can be applied in a variety of ways including for car entry, personal authentication, PC login, and validation for ATM machines.

About Hitachi

Hitachi, Ltd., (NYSE: HIT / TSE: 6501), headquartered in Tokyo, Japan, is a leading global electronics company with approximately 384,000 employees worldwide. Fiscal 2006 (ended March

31, 2007) consolidated revenues totaled 10,247 billion yen (\$86.8 billion). The company offers a wide range of systems, products and services in market sectors including information systems, electronic devices, power and industrial systems, consumer products, materials and financial services. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

Note for Trademarks

Company names and product names mentioned herein are trademarks or registered trademarks of their respective companies.

Home page:

<http://www.hitachi.co.jp/Prod/comp/fingervein/global/index.html>

Home Page about HID global corporation

<http://www.hidcorp.com/>

Table 1. FVTC700 (*) Hardware Specifications

No	Item	Specification	Remarks
1	Terminal Type	Wall mounting type	—
2	Authentication Method	① Card only ② Card + Finger vein ③ Card + PIN ④ Finger vein + ID ⑤ Finger vein only ⑥ ID + PIN	⑤ In case of “Finger vein only” authentication, one terminal can authenticate up to 64 persons (128 fingers (2 fingers/person)). Maximum number of card registered is 50,000.
3	Finger Vein Authentication	6,000 fingers (3,000 persons) = 2 fingers/ID	Out of 3,000 persons (6,000 fingers) in the entire system, finger vein data for maximum of 3,000 persons can be stored.
4	Card Interface	For dedicated for HID iCLASS (16k/2)FVTC700 Telecommunication frequency: 13.56MHz	Finger vein data for 2 fingers are stored into card.
5	Dimensions	Processor unit: 130 (H) × 192 (W) × 105 (D)	—
		Controller unit: 100 (H) × 140 (W) × 27 (D)	—
6	Telecommunication	TCP/IP (100baseTx Ethernet) , 26bit Wiegand I/F	—
7	Door Controller Input	4TTL Level Input	—
		Door: Open (1 Input)	—
		Key: Locking (1 Input)	—
		Spare (2 Inputs)	—
8	Door Controller Output	1 Relay Output: Locking/Unlocking output selection (DC30V/2A)	—
		1 Relay Output: Alarm output (DC30V/3A) (Wiegand 26bits)	—
9	Power Supply	DC12V (DC18V-8V)	—
10	Power Consumption	1.0A (at DC12V)	—

Table 2. Software Dedicated for Door-Access Control (*)

No	Item	Specification
1	Database Software (SQL)	Database software to manage Site/Personal data/History. Microsoft® SQL Server 2005 Express is used.
2	Site Manager Software (SM) for Terminal Control	Software to manage authentication terminal. FVTC700 Site Manager is a middleware to manage FVTC700 terminals defined by using CL. Site manager plays a role of relay to pass operations from CL to terminals.
3	Client Software (CL)	Software for registration of vein, issuance of cards, display of history and maintenance of systems.
4	Basic Specification of PC	<ul style="list-style-type: none"> • Pentium 4 or higher • RAM 512MB or larger (Recommended: 1GB) • HDD: 30GB or larger • At least one LAN port
	Client Software (CL)	<ul style="list-style-type: none"> At least one USB2.0 I/F port At least one RS232C port for card readers
5	OS	<ul style="list-style-type: none"> • Windows XP Professional SP2 English Edition • Microsoft Windows 2003 Server English Edition

(*) Manufacture: Hitachi Information & Control Solutions, Ltd.

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