

# Beyond Biometrics

FingerTec in Retrospect



## Reviewing the 2013 BSA Global Cloud Computing Scorecard

Assess nations' cloud computing readiness, and how TimeTec Cloud fits into the picture

## From Simple Door Security to Holistic Access Control

See how the Ingress/  
Ingressus combo will help  
FingerTec reach newer heights

## FingerTec Goes Global

Read implementation stories across  
industries worldwide

## 2014 Software Sneak Peek

Preview all-new FingerTec software  
coming your way



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Growth is usually complex; more so in the IT industry as technologies develop exponentially, rarely in a linear form.

When we planned a step forward by including control panels in our product line two years ago, a string of other considerations followed. This was unlike merely adding a new reader with improved features to our product line, even though on the surface, business still runs as usual.

Control panels or controllers in an access control system are unlike raindrops on a pond, stirring a ripple on its surface but settles thereafter. The controller as a major core component for the advanced access control system just wouldn't align to fit into our existing business system, it's like having a different stream of water that runs across the pond, a separate pathway is needed to contain the stream.

When controllers were introduced, it forked the access control system into two topologies; adding a centralization option to previously distributed systems; and providing an increase in other professional concerns.

Other than controllers, access control systems also have become increasingly complex since the introduction of TCP/IP communications, as many in the industry who previously used the proprietary RS485 communication system are now somewhat discouraged because the TCP/IP network needs of each security system element must be planned beforehand in conjunction with all other requirements, especially when often associated with business information technology systems. We are lucky because we are from the IT background, and always welcome and embrace the new era, yet we still have to address some shortcomings.

Firstly, the features provided by the simple access control module in our TCMS V2 software were limited because our main concentration was in time attendance. Secondly, in the access control segment itself we needed to shift focus from securing individual

doors to securing entire premises. Thirdly, it would be a new learning process for some of our resellers to market the advanced access control system.

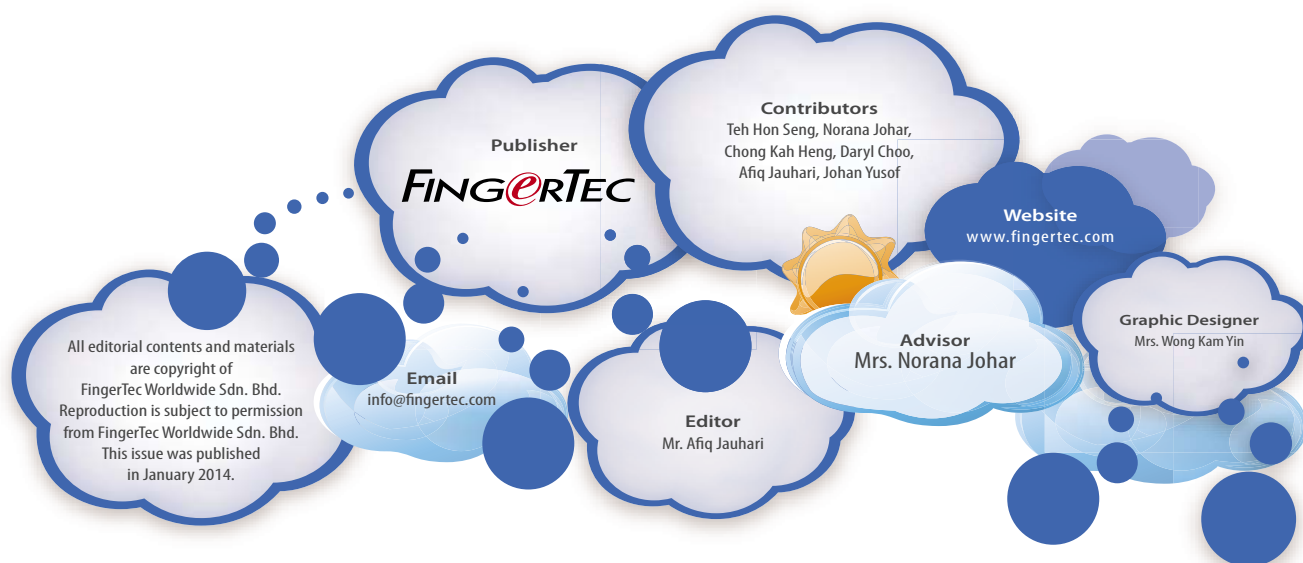
Our R&D team spent two long good years to come out with our very own comprehensive access control software, Ingress, to tackle the first obstacle. For the second concern, we integrated a video monitoring system via Milestones, developed [www.epicamera.com](http://www.epicamera.com) cloud surveillance and apps on remote access as well as addressed the issues on alarm, sensor and etc.

And for the third hurdle, we just launched [www.fingertec.com/accesscontrol](http://www.fingertec.com/accesscontrol), a sub-portal that includes all key topics regarding physical access control as a resource center for our resellers and customers. We have a few hundred resellers in around 170 countries; quite many of them are still fresh and eager in the controller/access control business. To think about access control as a holistic security system, they have to upgrade their knowledge, and this portal helps in both marketing and support.

We surely understand the importance of the continual research and development for Ingressus controllers and Ingress software; and more system integrations with NFCs (near-field communication), turnstiles, visitor management, lift control, and patrol system; as well as content enrichment of our web portal. No problem. It's in our pipeline, and we love new challenges.

We came in a little late, but given some time, we have the confidence that we can play catch-up and stand tall with the lot of the market leaders.

It is my sincere hope that together with the rest of the FingerTec family, especially our global partners, the world will be our playground and we could have the keys to unlock more doors and opportunities. On top of Ingress and Ingressus, EpiCamera is one of them.



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# 2013 Milestones



Though some cultures view the number 13 as unlucky, FingerTec Worldwide made our own fortune in 2013 with yet another eventful year of business operations. It was a paradigm shift for the brand, as we embarked on our two new corporate strategies of emphasizing on holistic access control systems & organizational knowledge management while maintaining ongoing sales promotion & market localization efforts. Here is a quick recap of what FingerTec have done in 2013.

## Emphasizing Holistic Security Systems



With the introduction of the Ingress software and Ingressus controllers, FingerTec has firmly sets its foot in the Access Control industry. Coupled with the release of new mobile apps, together with our sister company, EpiCamera for IP cam integration, the brand has definitely moved from simply securing doors to providing a holistic security system that is easily able to safeguard whole premises.

## Organizational Knowledge Management



In order to help the FingerTec family get more acquainted with the Access Control industry, we've also embarked on more progressive organizational knowledge management by releasing the FingerTec access control sub-site, Academia articles to highlight industry issues, the Webinar program for a borderless learning environment as well as a makeover of the official FingerTec blog.

## Ongoing Sales Promotions



To help our resellers promote FingerTec products, the company has been introducing sales promotions once every 2 months with offers such as getting certain terminals for free, bundled packages of our hardware with new accessories in addition to our updated line of novelty souvenirs, including high-quality t-shirts, acrylic coasters and elegant stationeries.

## Product's Market Localization



Being available in over 170 countries is no easy feat with differing wants and demands across diverse regions, but FingerTec faces the challenge head-on by strengthening our localization efforts, with specific marketing & support materials translated into many languages, as well as the modification of features in our Ingress and TCMS V2 software for specific usages according to certain markets.

Here's a toast to a momentous 2013, with hopes of an even better 2014 ahead. Flip through the next few pages for a more in-depth look at the product releases for both years. ☺



## Product Highlights & Major Updates

### Ingress

Yet another software developed by FingerTec, Ingress features advanced access control features such as real-time monitoring, database administration and report management, which are vital for office and building management. The software runs on the familiar MS Windows operating environment and is ideally suited for self-managed organizations of below 100-door environments.



### Ingressus

The FingerTec controllers, Ingressus I and II, are designed to provide access control functions for 1 and 2-door environments respectively. Ingressus can be used in combination with FingerTec slave readers and accessories for a more economical and flexible solution. Able to be linked up for a broader implementation, Ingressus is perfect for enterprises of all sizes.



### H3i & s-Kadex

To expand our target markets and capture small businesses and homes, FingerTec has introduced a new line of non-communicative readers. H3i and s-Kadex are simple plug-and-play door access terminals that require no additional software to function, making them the most economical solution for fingerprint, card and/or password access control.



### Keylock 7700

Popular due to its non-intrusive nature, Keylock 7700 is able to blend in as a doorknob replacement. Its sleek touch-screen keypad and sturdy nature guarantee both style and function as a fingerprint, card or password verification station. Operating on regular AA batteries with a 'Standby' option to prolong usage, Keylock 7700 is suitable for securing rooms of high-ranking officers.

### EpiCamera

Though not officially a FingerTec product, the offering from our sister company is vital in expanding our own product's functions and capabilities. EpiCamera ([www.epicamera.com](http://www.epicamera.com)) is a Cloud Storage Service that enables users to store recorded frames from IP cameras, which can be integrated into Ingress for a more holistic access control system and is suitable for any Cloud technology-ready business environment.

# 2014 Software Sneak Peek



Innovation is key in the IT industry. As consumer needs and wants change with time, businesses are always looking for new ways to satisfy the market. As such, FingerTec is looking forward to release four new additions to our current line of software; HR Module for TimeTec Cloud, the Android TA project, advanced time & attendance functions for Ingress, and Ingress Web & Mobile clients. Read on for a preview of what's in store for 2014.

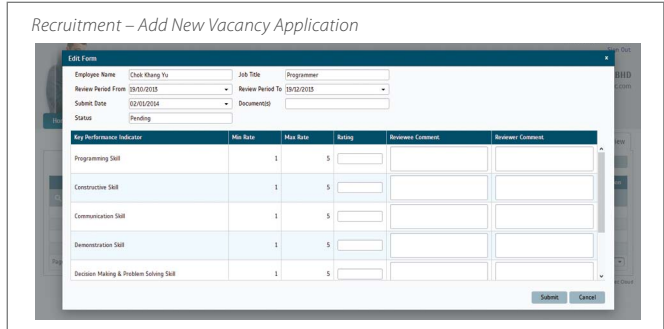
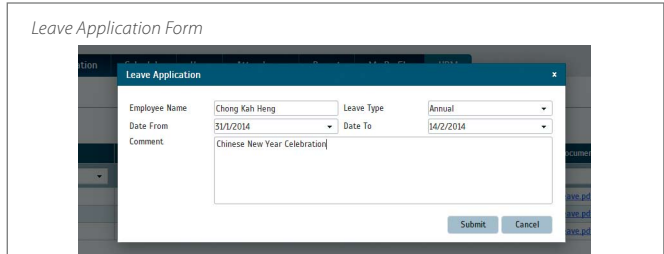
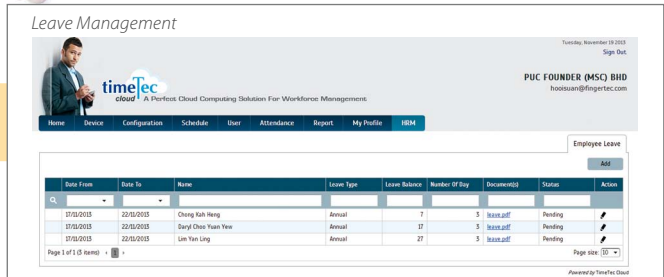
• By Mr. Chong Kah Heng,  
Chief Technology Officer, FingerTec HQ

## TimeTec Cloud HR Module

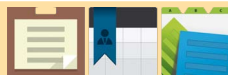
The powerful cloud-based solution for automated Time & Attendance is expanding its horizons with the planned release of a HR Module to handle six different aspects of human resource management (HRM). This module is designed to help organizations further reduce their administrative costs by significantly decreasing the time spent on previously manual HRM practices.

The following list shows the six distinctive features included in the HR Module:

- 1. Leave Management** – For handling self-online applications and configuring leave balancing, accrual, & restriction settings
- 2. Employee Management** – For handling inter-department transfers, appraisals, promotions as well as disciplinary actions
- 3. Recruitment** – For handling job vacancies, candidates resume repository, interview scheduling and many more
- 4. Performance** – For management of key performance indicator (KPI) including employee appraisal and review process
- 5. Training** – For management of employee training courses while giving employees better career succession planning
- 6. Asset** – For management of company resources assigned to employees and company asset information like brand, vendor & warranty



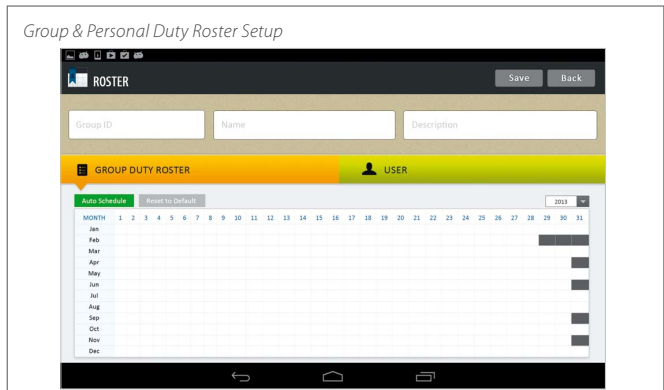
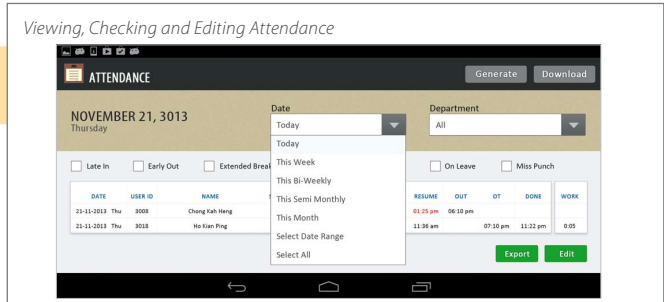
## Project Android TA



Android TA is an ongoing project by FingerTec to develop a simple-to-use Android app that provides API for clocking data collection from fingerprint, password, near-field communication (NFC), or face recognition verification stations. The soon-to-be-named app will be supported by all Android-based tablets, and includes four main utilities.

The following is a list of the four main functions in Project Android TA:

- 1. Attendance** – For generating, viewing & editing attendance data with multiple filter options and a summary of attendance data
- 2. Scheduling** – For managing weekly schedules with up to six clocking columns as well as configuring overtime and break time rules on top of other scheduling functions
- 3. Duty Rosters** – For setting up group or personal duty rosters and managing holidays & staff leaves
- 4. Reporting** – For generating up to 15 different types of comprehensive reports on attendance data which can be directly printed via wireless printer or exported into PDF format & emails



# Ingress Advanced Time & Attendance

The advanced access control system, Ingress, will be getting a major upgrade with the inclusion of comprehensive time & attendance functionalities. Previously focusing on access control, the addition of the new features will enable users to configure schedules, job costing and other advanced attendance rules. Ingress will also include multiple user levels for varying access to the software, supports multiple client login as well as provide an operation audit trail for tracking purposes.

Below is a summary of the advanced time & attendance features in Ingress:

- 1. Scheduling** – Supports daily, weekly and flexi schedules with 6 columns of clocking slots, multiple shifts, as well as configurations for rotational shifts, complex work rate calculations, and time rounding features
- 2. Job Costing** – Supports unlimited clocking data entry & its editing, advanced work hours calculation logic, is fully integrated with FingerTec devices' work code feature, and comes with the API for integration with third party payroll software
- 3. Report Generation** – Provides a total of 30 time & attendance reports, including attendance listing & analysis, terminal analysis and duty schedule listing, which can all be exported into PDF, DOC, XLS or CSV formats
- 4. Report Scheduling** – Provides recurring automated interface to email reports to users on a periodic basis without having to login to the software

Flexi Schedule - Job Costing Attendance Data

Group Duty Roster for Multi Shifts

Weekly Schedule with Advanced Rounding, Break Time and Overtime Rules

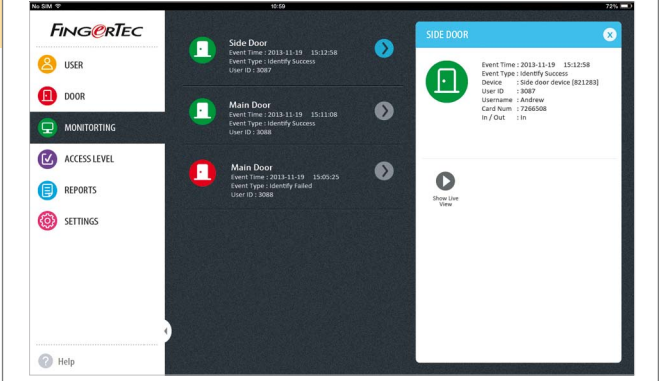
# Ingress Web & Mobile Client

To promote easier usages of the Advanced Access Control System, Ingress, FingerTec will be releasing Ingress Web and Ingress Mobile to provide remote access from web browsers or mobile devices like Android tablets or iPads. The mobile-friendly look, feel and interface as well as its easy deployment & installation helps to enhance user experience. The web and mobile clients will be fully integrated with the Ingress server and uses 128-bit AES encryption for secure communication between servers and clients.

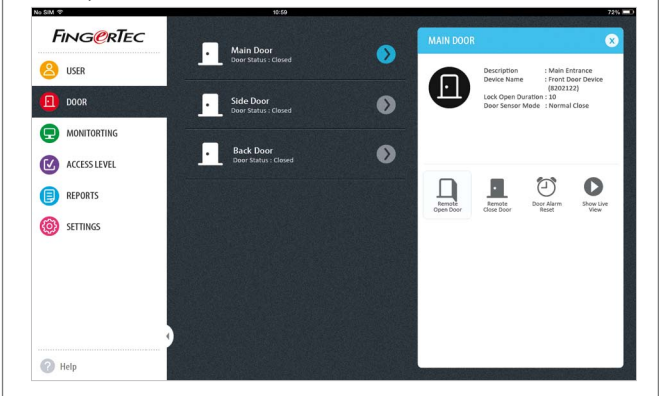
The list below summarizes the functions and features available in Ingress Web and Ingress Mobile:

- 1. Monitoring** – Provides real-time door & alarm event monitoring to receive and acknowledge alarms anywhere a wireless connection is available, with flexible event filter options
- 2. Door Control** – Provides real-time status display of doors with remote operation functions such as locking or unlocking a door
- 3. Users** – Enables editing users from the Ingress client and remotely uploading or downloading users to or from devices
- 4. Access Levels** – Enables configuration of user access levels and door & time zone settings
- 5. Reports** – Generates reports off-site when required, with in-depth info of devices & users listing, access level and event log which can be exported or emailed in PDF, DOC, XLS or CSV formats
- 6. System Settings** – Enables remote configuration of system parameter settings, alarm priority levels, alert sounds, email recipients as well as group and user login privileges

Real-time Remote Monitoring for All Doors



Remotely Control Doors





## FingerTec and Global Services Consultancy Join Forces to Provide Time Attendance Solution for Euro Garages



Recently, Global Services Consultancy (GSC) of London has completed the installation of 50 units of the FingerTec fingerprint time attendance machine, TA100CR, in Euro Garages Esso petrol stations around United Kingdom, and this is only the beginning of the biometrics implementation initiative by this reputable company to effectively manage its dispersed human resources.

GSC, an IT professional service and product development firm, always emphasizes on the notion that managing people should be simple, transparent and efficient. Offering Euro Garages the combination of FingerTec's affordable fingerprint system and GSC's WebHRMS software, they have successfully proposed a holistic solution to solve Euro Garages' current and impending human resource's challenges.

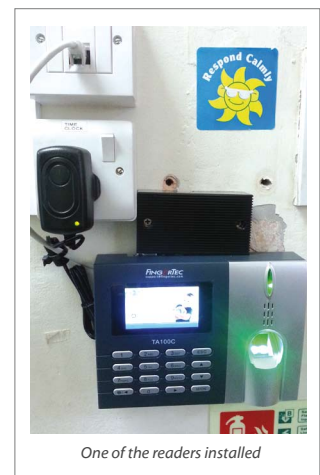
There are two parts to the implementation: data collection and data processing. Collection of employee's attendance data are made easy with FingerTec's advanced fingerprint products where the brand offers smooth user enrolments and verifications, with low FRR and FAR. Each fingerprint verification takes less than 2 seconds and more importantly, the data collected is genuine and trustworthy. For the software, GSC has integrated the FingerTec system with its very own WebHRM that offers web-based human resource management at an affordable cost.

WebHRMS offers various useful Human Resources features which include Management Recruitment, Employee Self-Service, Managing Employee Attendance, Tracking of Appraisal/Transfer/Promotion, Client Branding, Reporting and many more; which spells cost-effective solution to the client, Euro Garages. The WebHRMS promotes simplified web solution with great benefits to its users; providing access to reliable data anytime, anywhere without having to invest handsomely in IT infrastructure. And this FingerTec and WebHRMS combination has proven to have an interesting appeal to large clients such as Euro Garages.

Euro Garages is a Blackburn-based company, established in 2001 with a single petrol filling station in Bury, Greater Manchester. More than a decade later, the company has established itself as one of the UK's fastest growing forecourt operators and well-known for its innovative approach in forecourt trading with their strategic partnerships with large names such as Starbucks, Subway and Burger King. This recent decision to implement a biometrics system to the entire operation is also seen as another visionary view by Euro Garages' management to elevate the brand's modern approach in its everyday business.

GSC is hopeful that this project will expand and continue its success with Euro Garages and other

significant brands in the United Kingdom that wish to implement biometrics system in their organizations. GSC is one company amongst many who have taken part in FingerTec's Developer Program to integrate their software application to FingerTec's hardware in no time. ☺



One of the readers installed



## Assuring Time Attendance Stability Through FingerTec at AICO Insurance PLC



AICO Insurance PIC. is the largest life insurer in Nigeria. It commenced operation in 1963, became a public liability company in 1989 and in 1990, became listed on the Nigerian Stock Exchange. With 49 years in existence covering 33 branch offices and 4000 agents, AICO is the household name in insurance in Nigeria and is the second largest and one of the most profitable insurance companies in the country. For the purpose of monitoring time attendance, AICO relied on FingerTec products to boost staff attendance and punctuality.

To meet the requirements of curbing issues, such as absenteeism and tardiness, AICO have turned to FingerTec reseller, Loyalty Technologies, for a solution to their workforce management challenge. Loyalty Technologies recommended a robust and dependable product, FingerTec AC100C which AICO deployed on the five floors of the head office to cater for all of their head office staff. Loyalty also helped to deploy AC100C at one of AICO's remote branches, which is remotely managed from the head office in Victoria Island, Lagos.

As a prime information and communication technology solutions provider, Loyalty Technologies Integrated Global Limited offers first-class supply, installation, maintenance and training services. Aside from having the competency to provide and offer turnkey ICT solutions, Loyalty Technologies have an effective help desk, which is their main hub in their drive to achieve consistently world-class customer satisfaction and business excellence. It is because of these factors in which FingerTec is happy to have them as a part of the FingerTec family in marketing our products in Nigeria. ☺





TURKEY



## FingerTec Riding High with Viking International



*The Mediator Program and the TA103RC Wifi, from a different angle*

Viking Int. is a fully integrated oil and gas services company providing the widest range of solutions to the world energy industry. It operates in Europe, the Middle East and North Africa, and it also has major operations in Iraq, Turkey and Poland.

The company has over 15 drilling areas in Turkey and each drilling area has its own group of employees. For that reason their headquarters wanted to control employee time attendance in all sectors. Consequently, Viking Int. got into contact with AveA Dis Ticaret, a FingerTec distributor in Turkey, and agreed on the quality of FingerTec hardware and software. After that, Viking Int. and AveA Dis Ticaret elaborated on the needs and determined the proper hardware selection as TA103RC Wifi. The very capable device was chosen as it also works with RFID card and password in addition to the fingerprint option. Furthermore TA103RC is modified with a wireless option, which is more efficient for a company like Viking Int. that is very mobile and sometimes works in rural

areas without any technological infrastructure.

Moreover, Viking Int. wanted to control their catering services with FingerTec devices and wanted their employees to have tickets for their enrollments. Thanks to the FingerTec device's perfect data transfer capability, AveA Dis Ticaret provided a mediator program that provides a ticket with employee and timing details. In addition to ticketing, the program also provides reports for the HQ and has the capability to reach all catering terminals at the same time with a newly designed user interface with filtering options. The Mediator Program is now an off-the-shelf product for all FingerTec Devices.

The system is specially designed and built to suit the needs of Viking Int. to work with FingerTec devices and includes everything in the cabinets such as the Atom Processor, monitor, UPS, secured plugs, fan and etc.

Currently, Viking Int. uses over 60 devices at their drilling sectors for employee attendance and catering services. ©



BAHRAIN



## FingerTec Impresses UNEECO of Bahrain

The UNEECO Group of Companies is located in Manama, Bahrain. Its Fire & Security Division, Technical Protection Engineering (TPE), is actively involved in the design, engineering, supply, installation, commissioning and after sales service of high quality fire & security systems. Initially, UNEECO's first exposure to FingerTec came through the brand awareness created by FingerTec. After testing out the AC900 device along with its powerful bundled software, TCMS V2, for their headquarters, the company was impressed and immediately added the device to their line of products to be introduced to their clients.

Ever since UNEECO's involvement in the FingerTec family in 2012, the company has been successfully installing different FingerTec models in different sectors of the industry. This has been part of UNEECO's plan to play an essential role in creating even more brand awareness for FingerTec in Bahrain. Among the projects completed by the company were:

1. Bahrain Internet Exchange (BIX) - AC900 (all offices)
2. Asia Jewelers - AC900 (all branches)
3. GOYS (through Cablinx) - R2 & R2c (headquarters)
4. Glass tech - AC900 (glass factory)
5. Ministry of Interior - AC900
6. Sadafco - AC900
7. Maple Media - AC900
8. BATELCO - Face ID 2

According to Mr. Madhu Sudhan, Sales Manager of the Technical Protection Engineering division of the UNEECO Group of Companies, "(UNEECO) have successfully designed and commissioned a number of major projects in the following fields; industrial, residential hotels, shopping complexes, high-rise buildings, banks, military works, and civil aviation". He also goes on to mention that their main focus is "to satisfy and offer (customers) the best after-sales support" while their main strength is "(having) a strong team of highly-skilled engineers for design, engineering and installation of integrated fire & security systems in Bahrain".



PALESTINE



## Staff Attendance Curbed by FingerTec at Palestine's Ministry of Education and Higher Education

The Ministry of Education and Higher Education of the Palestinian National Authority is the branch of the Palestinian government in charge of managing the education in the Palestinian territories. It was established in 1994 after the formation of the Palestinian National Authority. The ministry's missions include finalizing the establishment of a Palestinian national curriculum by hiring teachers and providing classrooms and books, which they had done throughout 2001-2005.

Just as it is with class attendance in school, staff attendance is equally important and the ministry wanted to improve the monitoring of staff attendance within their premise. With that, they turned to FingerTec products, which were offered to them by our reseller, Al Jaffal. Al Jaffal had suggested that the best solution for the ministry's time attendance needs is to install multiple units of FingerTec Q2i. The ministry were happy with the features of the device, including multi-verification

methods through fingerprint, card and password verification and were also very pleased with the accuracy in recording time attendance of their staff.

Al Jaffal Group was established in 1988 and its target has been to work with communication and banking systems as well as offices and IT equipment. Some of their clients range from ministries and hospitals to banks and they have prided themselves in providing high quality and reliable equipment and as part of their success story, Al Jaffal has been providing their clients with a professional team of engineers, tech support and customer service. They've been a part of the FingerTec family for a while and have been instrumental in the successful installation of several of our devices throughout the region as they continue to help FingerTec become a world-renowned provider of access control and time attendance products even further.



## Helping The Ministry of Water Resources to Monitor Time Attendance through FingerTec

The Ministry of Water Resources in the Republic of Iraq (MOWR) provides integrated water resources management to the citizens of Iraq. The goal of the ministry is to transform and modernize the MOWR into a dynamic and efficient organization that meets current requirements and optimizes future utilization of the nation's diminishing water resources. They are also striving to balance the competing demands of irrigation, municipal and industrial water supply, hydropower, flood control and environmental requirements, including marsh restoration.

The ministry was looking to take time attendance to the next level in order to manage and monitor their employees. With that, they turned to FingerTec reseller, AIN Al-Zulal Co. Ltd, who suggested the installation of TA100TCR within their premises. The TA100TCR terminals that AIN Al-Zulal provided the ministry also came with enclosure cases to prevent the terminals from being damaged. Senior Engineer Ehab Fadel Tayeh, the Director of Computer Department in the ministry, praised TA100TCR for its efficiency, high precision in recording attendance, as well as operating its mechanism and its flexibility in dealing with a diverse set of tables in the system's software. He also praised the system's centralized data management which is essential to manage the employees who would verify their attendance on the various floors of the building, allowing all data to be transmitted into one PC for record-keeping purposes.

AIN Al-Zulal Co. Ltd was established in 2009 with a dynamic team of professionals to provide and set up different electronic systems. Their workforce comprising experienced engineers and technical staff are all specialists in their respective fields, including integrating security solutions and access control systems for fingerprint, smart card and face recognition. This makes AIN Al-Zulal ideal to be a part of the FingerTec family due to the services they provide and we look forward to continue working with them in order to market our products throughout the region. ☺



Exterior of the Ministry of Water Resources



An employee using TA100TCR



## FingerTec Constructs Solution for International Conglomerate, The Bauer Group



The international construction and machinery manufacturing conglomerate, The Bauer Group, is a collection of more than 110 subsidiary businesses with about 9,700 employees in around 70 countries as of 2011. In line with their global expansion, Bauer had recently opened a new office building in Tuas Avenue 11, Singapore.

The Germany-based company's expansion in the Singaporean market has benefited many local firms with business opportunities. As such, Bauer required a cost-efficient time attendance and access control solution for its new building and after due consideration

awarded the project to their local FingerTec reseller, Smartsys Solutions Pte. Ltd. After taking into account the client's specific needs, Smartsys proposed a combination of products from the FingerTec Kadex family to suit Bauer's requirements.

A total of 17 Kadex readers were installed. The m-Kadex device used were customized with lift controller integration while the i-Kadex readers were installed with Kadex readers at the equipment store according to Bauer's requests. A centralized power distribution is implemented for all the readers, in which a power module with two 37AH SLA batteries

were used. Similarly, a fire alarm control panel located in the guard house is also connected to all the doors centrally.

Smartsys Solutions Pte. Ltd has always been an efficient reseller of FingerTec, providing top quality solutions and services to their various clients around Singapore. With the successful completion of the time attendance and access control solution in The Bauer Group's new office building, they hope that this move will open up more similar opportunities for them in the future as a FingerTec reseller. ☺



## FingerTec Provides Services for Server Room in Ghana Airports Company Limited



As Ghana Airports Company Limited (GACL) moves towards its vision of becoming the preferred global gateway and a leader in airport business, they aim to provide world-class airport facilities and services to meet the needs of their valued customers and the expectations of stakeholders. In order to uphold this mission, the company has decided to implement a more comprehensive access control system to keep up with the latest practices and innovations in security. Realizing this need, GACL looked no further and consulted authorized FingerTec distributor, Telecomputer Network Systems, to provide the best solution for their scenario.

After consultation sessions between the two companies, Telecomputer acknowledged GACL's needs for a higher level of security for their server room while not necessarily overlooking the verification logs even though they were not currently keen on using time

management functions. With this fact established, GACL was presented with one of the best IN/OUT time attendance and access control terminals in the market, the FingerTec R2 reader, and immediately took a liking to the idea. With the bundled TCMS V2 software provided, it was also possible for them to easily view any transaction records and configure the terminal's functions.

Telecomputer has been with the FingerTec family for 6 years, and this project is among the many successful installations done by them. As GACL is responsible for planning, developing, managing and maintaining all airports and aerodromes in Ghana such as the Kotoka International Airport (KIA) and other regional airports like Kumasi, Tamale, and Sunyani, Telecomputer Network Systems hope that this partnership will be the start of a healthy business relationship between both parties going into the future. ☺




## FingerTec Stamps its Mark in Green Island Cement's Management Efficiency

The demand and popularity of smart card access control & time attendance systems is growing rapidly. Green Island Cement (Holdings) Limited (GIC) operates the only integrated cement plant in Hong Kong and has decided to improve its existing management system by implementing a card access control system to improve its overall operational efficiency.

Modern machinery and equipment contribute towards a high-efficiency production line, but staff management problems often become a stumbling stone for sustainable development. Mr. James Wai from GIC's Maintenance Department mentions; "There were cases where the staff were misplacing and abusing the machines. There was also once where an employee from an outsourcing company used our forklift after office hours and caused an accident". Wai goes on to explain that they were facing difficulties in keeping track of their staffs' movements due to there being no records. This has led to the urgent need of employing control over the machinery after office hours, and inspired the company to seek a general smart card access control system.

GIC deploys its machines all over its premises, both indoors and outdoors. The company decided to employ FingerTec's Kdex devices for its warehouse access control management and also to control the switches

of the machine controller. The data obtained from the transactions are then stored and analyzed using FingerTec's TCMS V2 software. James explained that the FingerTec products used enables them to not only limit access to only authorized employees, but also to keep track of its usage. This is important in determining the machinery's relative wear and tear, as the data is then analyzed to ensure efficiency in using all available resources.

The TCMS V2 software used by the company is a powerful and comprehensive management tool that can provide detailed usage information, while being flexible enough to accommodate different environments with corresponding adjustments. In addition to being able to confirm an authorized person's identity; through a variety of different settings, TCMS V2 can specify the period of use for an authorized person to further improve the efficiency of resource usages. The TCMS V2 software's ability to support integration with a third-party software has effectively saved their departments from redundancies as they are employing third-party software in the main applications of the plant. This compatibility has also enabled them to finally practice a more efficient access control, machine usage control, security patrols, canteen meal tickets and other central group operations, further proving that FingerTec products can adapt and adjust to meet almost any situation. 



The Green Island Cement (Holdings) Limited Headquarter



MALAYSIA



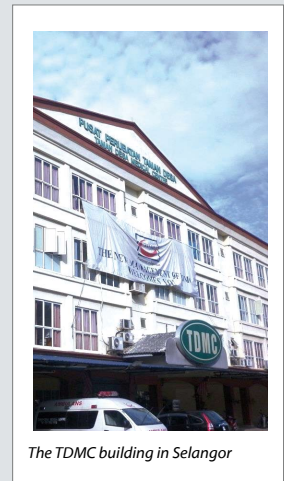
## FingerTec Equips Medical Centre with Time Attendance Solution

Taman Desa Medical Centre (TDMC) is owned and managed by TDM Berhad, a public listed company in the Main Market of Bursa Malaysia, and is an established specialist hospital providing quality, affordable medical care. The center provides medical services such as Pediatrics & Children's Health, Obstetrics, Gynaecology & Women's Health, Orthopedic and other services. With a capacity of 128 beds, TDMC also offers both inpatient and outpatient medical care. In line with its vision of delivering quality products at affordable prices, TDMC decided to upgrade their time attendance system from the traditional punch card method to something better.

Before TDMC approached trusted FingerTec reseller, PC Mart Sdn Bhd, they had already surveyed for the perfect solution to be installed in their premises. TDMC were initially interested in FingerTec products mainly because of its ability to export data to third-party applications, specifically Microsoft Excel. After consulting with PC Mart, the center proceeded with installing the TA102C device at the main entrance of the building to be used by their roughly 125-strong staff.



Although there were some hiccups during implementation, in which there were confusions regarding certain scheduling issues, TDMC has now been operating its newly upgraded time attendance solution without a hitch. PC Mart, the reseller responsible for the installation, has been an active contributor in the FingerTec family with many other success stories on top of this one. According to Mr. Goh Kiang Hock, PC Mart wants to be with FingerTec as the company is a "Malaysian pioneer in this (biometrics) industry with good after-sales services".



The TDMC building in Selangor



HAITI

## FingerTec Provides Access Control for the Embassy of Switzerland in Haiti



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

The Embassy of Switzerland in Haiti under the Swiss Agency for Development and Cooperation (SDC) has been mobilized in the country for many years. The bilateral development cooperation has been supporting two projects, the first in the field of drinking water and sanitation and the second in the field of forest conservation. Ever since the devastating earthquake that struck Port-au-Prince in 2010 and the outbreak of cholera that same year, Haiti has become the largest recipient of humanitarian aid from the SDC. As an embassy, a high level of security is es-

sential and FingerTec has been chosen by our reseller in Haiti, E-Solutions, to strengthen the level of access control for the embassy.

Previously, the embassy had been utilizing a card reader for access control purposes. However, they were not satisfied with the provider of the card reader due to the lack of support provided to the embassy in the event something goes wrong with the reader. The embassy had received word about FingerTec's efficient support system and has decided to install our product for their access control needs and for a support system that would

cater to their needs and enquiries. Realizing this, E-Solutions recommended FingerTec H2i to be installed and used by the embassy, who were impressed by the terminal and the support system that FingerTec provides them.

Based in Haiti, E-Solutions specialize in the planning and implementation of wireless infrastructure. They are dedicated to providing wireless solutions as their support service without the need for local servers, network cabling or an onsite IT team.



MALDIVES



## FingerTec Brings New Life to Maldives Ministry of Environment and Energy



Ministry of Environment and Energy  
Republic of Maldives

The Ministry of Environment and Energy of the Republic of Maldives has been established by its President under the powers granted to him by the Constitution of the Republic of Maldives. Some of the points listed in the ministry's mandate include formulating policies related to environment, energy, water and meteorology and formulating regulations and standards needed for the implementation of legislation, as well as protecting the environment of the Maldives and planning the sustainable development and implementation of all aspects of energy, water and sanitation and meteorology. Having moved into a new building recently, the ministry wanted to implement an access control system within their premises and FingerTec stepped in to provide them with the system they require.

After comparing with models from other vendors, the ministry decided to settle on FingerTec for door access control. Our reseller in the Maldives, Astech Maldives, recommended the deployment of FingerTec H2i

and FingerTec R2c with our software, Ingress. With a total number of approximately 260 of the ministry's personnel working within the premises, the deployment of these terminals would make it easier to track their personnel's attendance and provide security to the ministry. The ministry will be using Ingress for access control purposes and as for time attendance, they will be integrating the system with a third party HR software for payroll and to record attendance. All in all, they were happy with the terminals as it goes with the client's requirement of what they were looking for in a door access control system.

Astech Maldives redefines the communications landscape by delivering technologically advanced communications software and hardware to any of their clients' business. With over a decade of experience and professional training, Astech provides total solutions to their clients from simple tasks, such as a LAN setup, to setting up a fully integrated network solution on a corporate level. 



A technician installing H2i



## FingerTec Provides Security and Simplicity to Sybaris Residences



Sybaris Residences is an apartment residential project built inside a resort area called Guavaberry Golf and Country Club located in Juan Dolio, southeast of Santo Domingo, Dominican Republic. This upscale, gated community prides itself in providing facilities and services that ensure a pleasant stay for guests to satisfy even the most discerning patrons. In order to protect their prestigious residences, the management decided to employ an access control system for their residents and a time attendance system for their staff. This is where respected FingerTec distributor, E. Threan & Cia, comes in.

After going through the needs and requirements of Sybaris Residences, it was proposed that H2i would be installed to record time attendance among their staff. The small-sized reader with a super-sized capacity complements the luxury residential area well with its sleek and stylish design, and has been positively received by the employees there.

On the other hand, m-Kadex with proximity cards were installed for Sybaris Residences' access control purposes. The devices were installed at the gated community's entry points as a way to control the flow of vehicles in and out of the residential area.

On top of the FingerTec hardware provided in the time attendance and access control solution, Sybaris Residences has also been using the bundled TCMS V2 software that came together with the installed devices to centrally manage their data. On the whole, the installation was a success for both sides. Johnny H. Peña of E. Threan & Cia comments, "(this installation) proves that we can bring FingerTec products to just about any industry, regardless of how (upscale) the project is". The company looks forward to building on its 7-year strong relationship with FingerTec as they carry on spreading their operations in the Dominican Republic. ☺



*View of part of the residential buildings in the community*



*The m-Kadex devices are used to control the flow of traffic in and out of the community*






## FingerTec and ULR Automotive Group - United, Let's Roll!

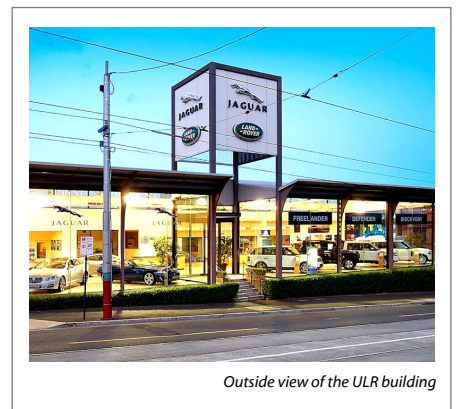
ULR Automotive Group has been in the automotive dealership industry for over 50 years, promoting sales for both new and used cars. The family-owned business is a multi-award winning company, gaining recognition from their excellence in sales, service and customer satisfaction. Their subsidiaries, ULR Land Rover and ULR Jaguar, have long been servicing the Melbourne area with sites in Malvern and Port Melbourne. Their state of the art contemporary showrooms and display areas show a penchant for up-to-date technology, which fits well with what FingerTec offers.

After consulting with FingerTec Australia, it was decided that both sites were to be installed with FingerTec TA200 Plus Fingerprint Terminals with TimeTec Web. The fingerprint's full-color screen and its aesthetic design goes hand in hand with ULR's preference for

modern-looking devices, while the powerful web-based solution for automated time and attendance management system helps the company implement its payroll system more efficiently. Their staff now clocks in and out using just their fingerprints. Having worked previously with our partner, Unipay Australia, FingerTec Australia successfully installed the new system so that payroll could be sent directly to the Unipay software.

When asked about the company's reception of the FingerTec products, the representative from ULR, Peter, mentioned "(we are) Happy with the (installation) and service". In fact, TimeTec Web has impressed the ULR management to the extent that they have decided to migrate to FingerTec's TimeTec-Box, also known in other regions as the T-Box. This all-in-one solution eliminates the hassles of setting up as it combines hardware, soft-

ware and accessories in one box. Peter goes on to share that "(we are) also looking forward to move to the new TimeTec-Box system" and this enthusiasm marks a new beginning for the relationship between FingerTec and ULR. 



Outside view of the ULR building




## FingerTec Successfully Installed at Central Finance Company PLC

Central Finance Company PLC is one of the leading financial institutions in Sri Lanka with a strong branch network spanned throughout the country. The principal activities of the Central Finance include leasing, hire purchase financing, vehicle hire, deposit mobilization, vehicle trading, providing money transfer facilities and provision of other financial services. Its other activities and services are widely diversified and range over commercial, investment and private banking; real estate development, property development, housing, insurance broking, power generation and manufacturing through its several subsidiary and associate companies.

Central Finance invested in FingerTec

TA100C terminals with the recommendation of FingerTec reseller, Blue Chip Sri Lanka to improve their workforce management. TCMS V2 in integration with Central Finance HRIS has streamlined the HR process for Central Finance. They were impressed with the powerful FingerTec terminals and Blue Chip's efforts in their comprehensive after-sales support and training in terms of technical assistance and spare parts provisions, as well as the vast knowledge of their technicians and salespersons. Currently, these terminals are installed at over 80 locations and with every new branch that requires a terminal, Central Finance now knows where to get the best solution for their situation.

Blue Chip Technical Services (Pvt) Ltd,

a total IT solutions provider boasts a decade-long partnership with FingerTec to sell and provide support services for the entire range of FingerTec products. Blue Chip is a fully-owned subsidiary of the Blue Chip Group UK, with international branches in Scotland, Sweden and Portugal. Blue Chip occupies a unique niche in Sri Lanka's Information Technology and Services sector, investing in the skills necessary to deliver the highest level of customer service for all of its services and solutions. Multi-skilled, qualified and experienced professionals in Blue Chip have depth of experience in FingerTec installations and related services for over a decade, during which they have provided services to leading companies in Sri Lanka. 

# Global Reseller Program

**Conclude Sales Fast. Reduce Support Cost. Get Better Profit.**

Welcome to our Global Reseller Program, an effective reseller program formulated with two clear objectives: to conclude sales in no time, and to reduce support costs for a more profitable operation. Using 4 simple modules and 8 useful microsites, FingerTec Global Reseller Program is tailor-made to fulfill all the requirements of a reseller. Let's walk through what FingerTec has for you as our Global Reseller.



Module 1 MARKETING	Module 2 PRODUCT	Module 3 TRAINING	Module 4 SUPPORT
<p>FingerTec offers two websites to cater to your marketing requirements when you promote FingerTec's product line.</p> <p><b>Website 1: Online Sales Resources</b>  <a href="http://sales.fingertec.com">sales.fingertec.com</a> lets you obtain various resources to carry out effective sales pitch.</p> <p><b>Sales Materials</b></p> <ul style="list-style-type: none"> <li>• Video Demonstrations</li> <li>• Powerpoint Presentations</li> <li>• Product Factsheets</li> </ul> <p><b>Sales Reference</b></p> <ul style="list-style-type: none"> <li>• Distributor Guidebook</li> <li>• Success Stories</li> <li>• Image Banks</li> </ul> <p><b>Useful Reference</b></p> <ul style="list-style-type: none"> <li>• Certifications</li> <li>• Awards</li> <li>• Global News</li> <li>• Monthly E-newsletters</li> </ul> <p><b>Website 2: Sales Materials</b>  <a href="http://material.fingertec.com">material.fingertec.com</a> lets you order hardcopies of sales materials, presentation kits and supplementary marketing items to boost your marketing.</p> <ul style="list-style-type: none"> <li>• Brochures, Buntings, Posters</li> <li>• Videos</li> <li>• Demo Kits</li> <li>• Display Casings</li> </ul>	<p>FingerTec offers three websites to present how FingerTec makes things easy when it comes to operating the products and support handling.</p> <p><b>Website 3: Product Listing</b>  <a href="http://product.fingertec.com">product.fingertec.com</a> presents to customers the full list of items that are included in a package of FingerTec's product for clients to make informed decisions.</p> <p><b>Website 4: User Support</b>  <a href="http://user.fingertec.com">user.fingertec.com</a> lets end customers find relevant information for their FingerTec system after the sales.</p> <p><b>Website 5: Accessories</b>  <a href="http://accessory.fingertec.com">accessory.fingertec.com</a> provides customers options to source necessary accessories from FingerTec as a one stop centre providing you with everything you need.</p> <p>On top of that FingerTec also offers multiple channels of effective communication when it comes to obtaining information about FingerTec products and their technical specifications, features and capabilities.</p> <p><b>Email:</b>              Drop an email to <a href="mailto:info@fingertec.com">info@fingertec.com</a> and a reply will reach you the soonest.</p>	<p>Knowledge is the key to gain customer satisfaction. FingerTec Trainings are tailor made for two target groups, sales personnel and technical personnel.</p> <p><b>Website 6: Product Training</b>  <a href="http://training.fingertec.com">training.fingertec.com</a> contains 3 major syllabus to satisfy all target audiences.</p> <ul style="list-style-type: none"> <li>• Sales Training</li> <li>• Product Training</li> <li>• Technical Training</li> </ul> <p>Test your understanding of FingerTec's system by sitting for an in-house exam. A certificate of training will be issued to your name once you've passed the exam(s).</p> 	<p>The key to successful sales and having a loyal customers is the ability to provide good support all year round. When a customer feels supported, you know you have done a good job.</p> <p><b>Website 7: Technical Tips</b>  <a href="http://tips.fingertec.com">tips.fingertec.com</a> is for resellers to obtain information about various issues concerning FingerTec technical matters including troubleshooting, hardware and software tips, repair video clips, advanced repair program and etc.</p> <p><b>Website 8: Global Product Warranty</b>  <a href="http://warranty.fingertec.com">warranty.fingertec.com</a> makes warranty claim effortless for resellers. FingerTec covers 24 months limited hardware warranty for end users, and 28 months for resellers. Check out the warranted &amp; unwarranted parts in this website. Find out how our Spare Part Allocation Scheme, Warranty Policy and Product End of Life Policy eases your warranty concerns.</p> <p><b>Email:</b>              Contact <a href="mailto:support@fingertec.com">support@fingertec.com</a> and a reply will reach you within 12 hours, guaranteed.</p> <p><b>Online Chat:</b>              Skype and MSN us for quick support (GMT +8).</p> <p><b>Team Viewer:</b>              Allow us first-hand view of errors and glitches, and lets us fix them for you instantly.</p>

**Additional Advantages**

- 28-month manufacturer limited warranty.
- Complimentary Powerful Time Management Software with Multilanguage Selection.
- FingerTec TCMS V2 Viewer for access into attendance data via LAN.
- Inclusive of FingerTec Data Processor (FTDP) for extraction of raw data.
- Free BioBridge System Development Kit (SDK) for third party software integration.
- Quality Lead Referrals.

**This Program Applies To**

- Office Automation Industry.
- Security/Physical Access Control Industry.
- Solution Providers who are interested to add fingerprint technology.
- Time Attendance Industry.



**How To Become A FingerTec Reseller**

- Buy Sample Units to test the technology, to understand the system, and to experience what FingerTec has to offer. Visit [www.fingertec.com/sample-pack](http://www.fingertec.com/sample-pack) for more info.
- Determine the level of commitment you prefer as a FingerTec reseller.
- Start your business and enjoy all the benefits from FingerTec Global Reseller Program. Get started now by sending an email to us at [info@fingertec.com](mailto:info@fingertec.com).



# Reviewing the 2013 BSA Global Cloud Computing Scorecard

• By Mr. Afiq Jauhari, Editor, FingerTec HQ

**T**he 2013 BSA Global Cloud Computing Scorecard (The Software Alliance, 2013) is a report that tracks and measures year-over-year change in the international policy landscape for cloud computing. The report functions as a point of reference for cloud providers regarding the cloud-readiness of countries all over the globe, useful for business owners when deciding which countries to spend more of their resources on for sales & marketing purposes.

Below are the top 15 countries in the world considered most ready to adopt cloud technologies as measured by the Scorecard:

1. Japan, 84.1
2. Australia, 79.9
3. USA, 79.7
4. Germany, 79.1
5. Singapore, 78.5
6. France, 78.3
7. UK, 76.9
8. Korea, 76.2
9. Canada, 75.8
10. Italy, 75.5
11. Spain, 73.7
12. Poland, 72.0
13. Malaysia, 69.5
14. Russia, 59.1
15. Mexico, 56.9

These scores were compiled based on seven key extents in every nation tested, covering the areas of concerns faced by businesses wishing to expand their cloud computing business globally. This is explained in the list below:

## IT infrastructure

Analyzes each country's national broadband plan and the laws or policies that regulate the establishment of different service levels for data transmission based on its nature.

## Data portability and harmonization of international rules

Analyzes laws, regulations and policies that establish a standards-setting framework for interoperability and portability of data, the existence of e-commerce laws and the international instruments used in them, whether the downloading of applications or digital data from foreign cloud service providers are free from tariffs or other trade barriers, as well as if domestic standards are preferred over international standards.

## Promoting security

Analyzes if there are laws giving clear legal weight on electronic signatures, whether ISPs and content service providers are free from mandatory filtering/censoring, general & specific security/audit requirements for digital data hosting and cloud service providers, as well as specific certifications for technology products.

## Ensuring privacy

Analyzes each country's governance on the collection, use and processing of personal information, its compatibility with the Privacy Principles in the EU Data Protection Directive and APEC Privacy Framework, and whether cross-border transfers are free from registration requirements.

## Battling cybercrime

Analyzes each country's availability of cybercrime laws, its consistency with the Budapest Convention on Cybercrime, the law enforcement authorities' access to encrypted data and how they deal with extraterritorial offenses.

## Protection of intellectual property

Analyzes each country's involvement in the TRIPS Agreement and WIPO Copyright Treaty, the criminal & civil sanctions available for unauthorized posting of copyright holder's works on the Internet, ISPs' liability for copyright infringing content found in their site or system, and clear legal protection against misappropriation of cloud computing services.

## Ease of free trade

Analyzes laws/policies on technology neutrality in the government, whether cloud computing services are able to operate free from laws or policies that mandate the use or establish preferences for certain products, services, standards or technologies, and whether cloud computing services are able to operate free from laws that discriminate based on the nationality of the vendors, developers or service providers.

## References

- The Software Alliance. (2013, January 15). 2013 BSA Global Cloud Computing Scorecard. Retrieved October 13, 2013, from BSA Global Cloud Computing Scorecard

<http://cloudscorecard.bsa.org/2013/>

www.fingertec.com

# From Simple Door Security To Holistic Access Control

• By Mr. Afiq Jauhari, Editor, FingerTec HQ



**T**he 'access control' concept is not a hard sell; its requirements are always present. The majority of consumers are aware of access control's value, and more than likely demands for the system in their lives one way or another. Predictably, the size of the global access control market is fairly significant. Post recession impact correlates positively with the growth of access control industry, as every new commercial and residential building would have access control requirements factored into its overall budget and planning. The future of access control industry looks promising, especially when taking into account the Global Industry Analysts' forecast that the market will reach USD 6.0 billion by 2015.

Taking into account the access control market size and the demand of today's consumers on such devices, it is only fitting that FingerTec places more emphasis on its access control offerings. Not necessarily the new kid on the block when it comes to security products, FingerTec will be taking a more in-depth and holistic approach in tackling the market.

In early 2013, FingerTec proudly introduced Ingress, the premier access control software as an optional bundled item with every product purchased. The software focuses on access control features with a simple time attendance module to attract access control users. Specifically, Ingress centers more on the ability to remotely monitor your premises' door access in real-time. With its relevant access control features and settings, Ingress is expected to be a hit amongst access control users due to its comprehensiveness and almost no-cost implementation.



Next in line was the introduction of Ingressus controllers that act as a centralized control unit for FingerTec slaves readers. The implementation of Ingressus controllers is economical, suitable for large-scale deployment and able to work in combination with other FingerTec master products. Concurrently, FingerTec also debuted H3i and s-Kadex, which solely targets controlling door access without requiring any software installation. The simplified nature of the fingerprint and card standalone access control devices is hoped to appeal to the segment of the market that demands no-hassle, no-complication access control products.



The FingerTec product range does not only stop at biometric time attendance and access control hardware. It also includes a range of complimentary software applications, SDKs, and additional applications that can be purchased, while ensuring the software's customizability and can be exported into a variety of different formats. The reason is simple: FingerTec is designed to be as adaptable as possible so that it can be flawlessly and seamlessly integrated into any third-party applications in a holistic security system. This is why the FingerTec Developer Program was introduced; to make things easier for software developers to integrate FingerTec into other systems.



These newly introduced access control items will make its mark on the industry and FingerTec is planning to continue providing the market with the latest technology such as Near Field Communications (NFC); mobile contactless credentials that act as virtual keys or access control cards that can be stored in our mobile handset and used to lock and unlock doors. NFC, the short-range high-frequency wireless communication technology, makes exchange of information between electronic devices possible.

It was common knowledge in the industry that there is no one brand that can provide an all-inclusive, best security solution for a particular customer. FingerTec aims to change that perception with a complete and holistic offering that aims to provide hassle-free installation & implementation at a competitive price. With all these factors in tow, delivering a complete solution successfully in the industry is not a far-fetched dream for FingerTec.



## Security Hub for Smart Control

# ingressUS Controllers

Centralization of Access Control Devices Made Easy



The Ingressus Controllers series supports access control for any 1-door (Ingressus I) or 2-door (Ingressus II) environments. Users perform verification via fingerprint, card, or password at Wiegand terminals but Ingressus will do the heavy lifting – verifying identities, saving transaction records and granting access. Multiple Ingressus Controllers can be setup and centralized via the complimentary powerful access control management application, *Ingress*.



FingerTec is a renowned brand for fingerprint, facial recognition and RFID technology in the time attendance and door access systems industry. FingerTec is available in over 150 countries, installed in tens of thousands of sites, and is being used by millions around the clock. With FingerTec's extensive line of hardware and software products, we are THE complete solution for your needs.



Real-time event monitoring via graphical floor map & IP cameras.



Integrate Ingressus with other software via our SDKs for free.



Compatible with all security devices including CCTV, fire alarms, BAS, etc.



3 types of surge protection to extend product lifespan.



Elaborate features like multi-card, antipassback, interlock and more!



Easy data communication through the use of the common TCP/IP and RS485.

### Recommended FingerTec Slave Terminals



**R2c**  
(Fingerprint, RF Card, Key Tag)



**OFIS-y**  
(As a fingerprint enrollment station)



**k-Kadex**  
(Pin/Code, RF Card, Key Tag)



**i-Kadex**  
(RF Card, Key Tag)

Refer to product.fingertec.com

CATCH US AT OUR UPCOMING EXHIBITION!

<http://info.fingertec.com/exhibition14>

**FINGERTEC**  
Beyond Biometrics  
[www.fingertec.com](http://www.fingertec.com)

FingerTec Worldwide Sdn. Bhd. (528531-X)  
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Tel: (603) 8070 9933 Fax: (603) 8070 9988 Email: info@fingertec.com



## Reduce the Intricacies of Nurse Scheduling Management in Healthcare Industry with Biometric Implementation

• By Mrs. Norana Johar, Chief Operating Officer, FingerTec HQ

**T**he healthcare industry is a labor-intensive industry globally. In the United States of America alone, the industry constitutes to more than 14 million jobs, which is equivalent to 10% of the total workforce in America during 2006 (Ozcan Y.A., 2009). Even so, the demand was expected to increase at 21% within 10 years. Healthcare is also the fastest job growth area according to the U.S. Department of Labor, 2006. The trend is mirrored in the same industry worldwide, and the demand is even higher in densely populated nations such as in China, Indonesia and India.

In hospitals, administration of physicians, nurses and other important workers including therapists and technicians, is critical as most services offered by these health care personnel have effect on the lives of people, directly and intimately. Hence, the effectiveness of the healthcare organization depends upon the effective roles performed by the personnel from top to bottom (Goyal R.C., 2005). Poor management of labor in healthcare organizations could result in low morale among its personnel and in turn reflects on the quality of services provided to the patients under their care.

The primary expenses for healthcare organizations are salary-related costs, because operating them requires massive man-hours from various positions and job functions. As such, a firm grasp of staffing plans is crucial in managing healthcare organization. Planning nurses' shifts, for example, is a really intricate task considering the various factors to be taken care of in drawing out feasible schedules to ensure smooth running of the healthcare organizations and

their staff's satisfaction. The experience levels of the nurse, his or her specialties, competencies, turnover and skill mix are amongst factors to be considered when drafting staffing plan and shifts scheduling that is fair, effective and unbiased. The fact that the healthcare industry has the largest percentage of part-time workers, 16%, makes staffing plans even more challenging due to the lack of commitment, lack of skill mix and high turnover rate among part-time staffers (S. Leiyu, 2007).

This article intends to explore the possibility of using biometric time clocks and computerized centralized solution to reduce the intricacies of shift scheduling in managing nurses in healthcare industry. It is anticipated that the use of the said system could increase the efficiency in human resource departments, minimize human bias factor to some extent and provide a cost-effective solution to healthcare organizations in the long run.



## Critical Care Required in Scheduling Nurses Shifts

Shifts and nurses go in tandem; there are no two ways about it. A preferred and traditional shift is an 8-hour shift with a variable of 10- or 12-hour shifts or a mixture of all three. Studies on both nurses and physicians have indicated that working 8-hour shifts on a 5-day rotation has been proven to improve patient care as compared to 12-hour shifts on a 3-day rotation. However, the 10- and 12-hour shifts provide more added advantages to the staff such as consecutive days off, more weekend days off and many more, but these shifts would require more staff and may gradually increase staff fatigue. In nurse working environment, there are also 4-hour shifts useful for peak activity periods and part-time staff, (Polly. G.Z. 2002). Combined with staff rotations, weekend requirements, requests, holidays and vacation days, managing staff scheduling is definitely a challenge to maintain service quality and order, and the choice in shift pattern can affect turnover, absenteeism and job satisfaction amongst the involved staff.

On top of the different shift types, there are different types of work schedules for nurses such as cyclical (permanent) or flexible (discretionary). Under the cyclical work schedule, employee's shifts are constant. The schedules are usually planned for a four to six-week period and is repeated period after period. The good thing about this is, the plan is stable and the system allows the employees to select the shift that best fits their schedule. However, having chosen that, the nurses are locked into that shift. Flexible shifts on the other hand provide flexibility to the hospitals to assign work schedules yet the planning of flexible schedules requires the management to continuously change the schedule to fit the requirements of the hospitals and match it with the availability of labor.

In drafting nurses shift schedule plans, considerations on these five factors are greatly required.

**Patients' Coverage:** Refers to whether or not the patients' needs are met, continuity of care is present and fair coverage is given to all patients.

**Schedule Quality:** Refers to how well the staff likes the shift plan, and if the plan provides equalization of rotation, weekend days off and work stretch.

**Stability of the Plan:** Nurses want assurance about the stability of the schedule because change could/would cause chaos.

**Schedule Flexibility:** Refers to the schedule's ability to adapt to environmental changes for example understaffing, nurses changing amongst shifts, etc.

**Cost Factor:** Are resources being consumed wisely? Would alternative schedules produce better care at lower costs?

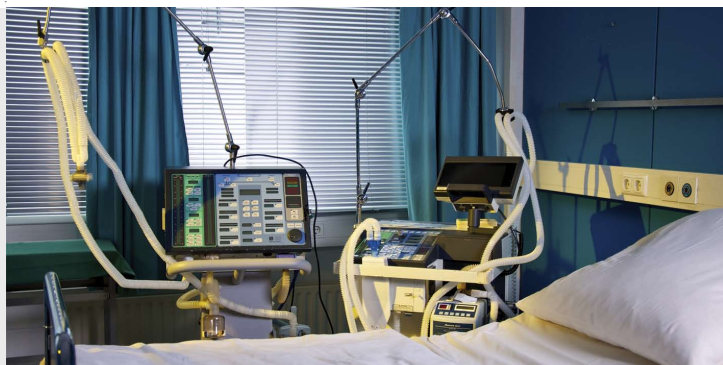
## Injecting Biometric System into Nurses' Shifts Management

While the relevant supervisors can sort out scheduling manually, when it can be done efficiently and without any bias factor, it's the ideal way to go. Integration of a biometric system in time attendance's implementation could bring about several benefits to the nurses' shift management. Biometric verification is a technology that uses human's body parts to identify one's true identity. Fingerprint, for example, is unique to each individual and it's impossible to find someone who has the exact fingerprint pattern and minutia like yours. Face technology is another novel biometric technology that reads important points on a face to produce a calculation via an exclusive algorithm. The contactless nature of the face biometric product makes it relevant and appealing to those who use gloves or are in situations where presenting fingerprints could be cumbersome, for example surgeons, physicians, nurses, etc. Hence, when the biometric traits are verified as yours, the data recorded will be saved as your own genuine record.

Managing nurses' shifts using a biometric verification system enables a healthcare organization to calculate the actual time of nurses on his/her tasks against the scheduled hours by their supervisors. Tardiness data, longer break minutes, early leaves, etc., will be recorded for management review, improvement, appraisal and payroll calculation.

According to Hospital Administration and HR Management by R.C. Goyal, while the use of hi-tech machines could be costly, they can increase efficiency, save time and reduce human bias to a great extent (2005). For example, frequently, there are disputes over late reporting on duty between the administrative staff and other employees. Installation of computerized electronic time recorder to record the arrival and departure time of employees will be of immense use and they (employees) will feel that their time has been recorded correctly. Timekeepers will have no dispute over the attendance data of employees. Department heads also are able to obtain daily information about the man-hours employed and lost by their employees, giving the hospital a clear indication of its labor's ROI. Therefore, automated biometric systems can not only eradicate the bias factors and differences which arise in the minds of nurses and department heads, but timekeepers and HR managers will also get peace of mind knowing that the system keeps all the accurate data, records and reports.

Nevertheless, there are issues that could arise in healthcare industry with regards to biometric implementation such as performance of the biometric machines due to the fact that many of the nurses have chronically dry hands, a condition resulting from frequent hand-washing and the use of alcohol-based hand sanitizers. This might undermine the performance of biometric readers. The solution has also been found with the latest face recognition technology that deploys contactless verification.





# Automation in TimeTec Cloud is the Remedy for Staff Scheduling Woes

Biometric terminals make up one crucial part to assure accurate collection of data; its accompanying software is another important part. With the software, all data from the terminals will be treated according to the rules, settings and policies set in the application.

TimeTec Cloud is a powerful cloud-based solution for automated Time & Attendance to suit most businesses, regardless of their size. It is designed to help organizations reduce their administrative overhead by eliminating the time spent on manual timecard calculations, decrease overall labor costs, and to shrink the gap between payroll policy and actual practice. TimeTec Cloud comes fully loaded with powerful features, allowing users to automate company's housekeeping, attendance tracking, labor scheduling, and data collection in a centralized database.

Take one sample where one hospital uses 12-hour shifts of three-on, three-off. This means that staff work three weekends (assuming Friday is a weekend) in a row and then have the next three weekends off. It is appealing to staff because there are 8 days off in a row, hence they get a "mini-vacation" every 6 weeks.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
Off	Off	Off	Off	12-hr	12-hr	12-hr
Off	Off	Off	12-hr	12-hr	12-hr	Off
Off	Off	12-hr	12-hr	12-hr	Off	Off
Off	12-hr	12-hr	12-hr	Off	Off	Off
12-hr	12-hr	12-hr	Off	Off	Off	Off
Off	Off	Off	Off	12-hr	12-hr	12-hr

Table 1: The 12-hr 3 weekends on and 3 weekends off

There are hospitals that are comfortable using a pattern of 10-hour shifts, 7 days on and 7 days off.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
10-hr	10-hr	10-hr	10-hr	10-hr	10-hr	10-hr
Off	Off	Off	Off	Off	Off	Off
10-hr	10-hr	10-hr	10-hr	10-hr	10-hr	10-hr
Off	Off	Off	Off	Off	Off	Off
10-hr	10-hr	10-hr	10-hr	10-hr	10-hr	10-hr
Off	Off	Off	Off	Off	Off	Off
10-hr	10-hr	10-hr	10-hr	10-hr	10-hr	10-hr
Off	Off	Off	Off	Off	Off	Off

Table 2: The 10-hr 7 days on and 7 days off, cyclical throughout the year

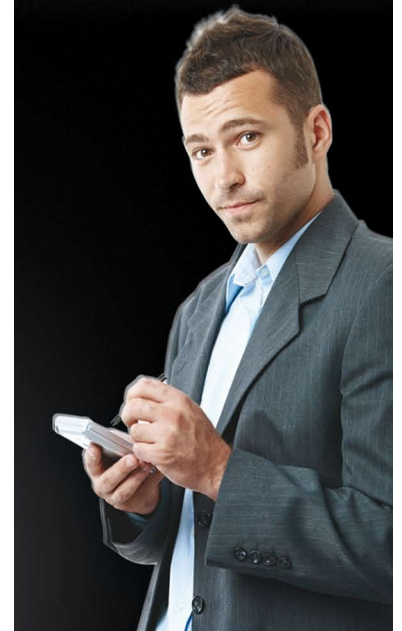
There are also hospitals that hires all staff to work one of two distinctive cycles of 12-hour shifts, 2 days on and 2 days off, 4 days on and 6 days off (2.2.4.6) or (2.6.4.2). Having a cyclical set schedule such as those has resulted in a financial gain and saved schedule making- time, some have claimed.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
12-hr	12-hr	Off	Off	12-hr	12-hr	12-hr
12-hr	Off	Off	Off	Off	Off	Off
12-hr	12-hr	Off	Off	12-hr	12-hr	12-hr
12-hr	Off	Off	Off	Off	Off	Off

Table 3: The 12-hr 2 days on and 2 days off, 4 days on and 6 days off (2-2-4-6)

Mon	Tue	Wed	Thu	Fri	Sat	Sun
12-hr	12-hr	Off	Off	Off	Off	Off
Off	12-hr	12-hr	12-hr	12-hr	Off	Off
12-hr	12-hr	Off	Off	Off	Off	Off
Off	12-hr	12-hr	12-hr	12-hr	Off	Off

Table 4: The 12-hr 2 days on and 6 days off, 4 days on and 2 days off (2-6-4-2)





Regardless of the schedule type preferred by a healthcare organization, TimeTec Cloud is able to cater to various schedules possible, cyclical or flexible. Below are some examples of the 12-hour, 3 weeks on, 3 weeks off cycle being set in TimeTec Cloud for viewing.

Showing the Flexi Schedule which can be configured for nurses' staffing schedules

Showing the General rules of the Flexi Schedule for further configuration of schedules

The system has features suitable for setting up hospital nurses' staffing schedules. Using TimeTec Cloud could save considerable time in schedule planning because all the possible schedules that the organization might be using can be preset in the system waiting for them to be assigned to the relevant nurses. It provides rules that can be set according to the healthcare organization's policies and such; rules on clocking, time range, general, tolerance, break and overtime for each schedule can be specifically defined.

With every rule, policy, data, staff information and activities stored in one server, these records and reports could be retrieved at anytime. Healthcare organization could improve in the way it runs its nurses and manage their effectiveness in patient care.

## A Small Dose of Improvement for a Healthier Organization

System automation definitely brings substantial benefits to large organizations and automation on staff attendance is especially crucial for places such as healthcare organizations that are labor intensive. Improvements on the staffing system are expected to improve labor time utilization, effectively reduce excessive labor cost and strengthen the management of the entire human resources.

Looking at it closely, nurse scheduling management can be better managed by the introduction of biometric verification systems and powerful time control management software, which can handle not only nurses' time attendance but also their intricate shifts scheduling. Biometric systems such as fingerprint and face have been proven to be reliable and convenient, able to reduce the question mark of who's who in attendance reporting. And when all data and records are centralized, making them accessible to relevant higher-level personnel, they can then save a lot of time and headache on scheduling nurses' shifts.

An investment on automation system could be seen as costly but with the accuracy of data and its efficacy in handling all the necessary functions, in the long run, it'll still be beneficial to the organizations.

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# TimeTec Cloud Security FACING SECURITY CHALLENGES HEAD-ON

• By Mr. Daryl Choa, Chief Information Officer, FingerTec HQ

## Cloud Usage and Trend

Cloud Computing is getting more common nowadays and eventually almost everybody will need to consume this technology daily either for leisure purposes or for critical ones such as enterprise business solution. With the rapid enhancement and improvement in the Cloud Computing technology, it is now a mature technology for enterprise to adopt and implement.

Based on the market analysis conducted by both Gartner and IDC, the Cloud market is estimated to increase from \$40B to \$109B in 2012 and to grow at around 19% on a compounded basis from 2010-2015 [1]. In early January 2013, another research carried out by Gartner anticipated that most of the uncertainty in global business is nearing resolution and IT spending will grow at 4.2% in 2013 [2]. Based on their statistics as well, Data Center Systems and Enterprise Software, which are the major components of Cloud Computing, are having constant growth rates.

Cloud Computing is definitely the technology of the future but the question is, what are the obstacles waiting for the Cloud implementors and Cloud users, and are we up to the challenge that might come our way?

## Challenges

Despite the positive outlook in Cloud Computing, the latest survey done by KPMG on Cloud Computing implementation highlights a major concern and challenge for Cloud adoption at an enterprise level: Cloud security [3]. The risks of intellectual property theft and data loss are among the top areas of concern for Cloud implementation.

In the PwC IT Outsourcing and Cloud Computing Survey 2011, which compares data and system portability, IT governance, etc., data security is getting the most attention [4]. Therefore, early identification of the potential Cloud security issues during implementation and deployment is crucial to roll out a secure and successful Cloud Application for the market. More recently, PwC has again conducted a research on security, The Global State of Information Security® Survey 2013 [5], which highlighted that information security is still a very tough challenge in the business world but with more understanding about the security risks involved, organizations can improve and manage the security issue better.



This paper will discuss all the existing and possible security issues based on the many researches conducted by the leading Cloud agencies in order to provide a complete overview of the Cloud security matters. We shall also highlight some risk management and mitigation plan within our Cloud Strategy to offer a reliable and secure Cloud environment to our customers.

## 1 • Data Breach

When we are moving from physical to Cloud or consuming Cloud Service, data breach is arguably the most frequently asked question. Besides the Cloud Virtual Machine (VM), the data that resides on Cloud solutions will need to be protected in order to prevent the organization's sensitive internal data to fall into the hands of their competitors. In a more complex and complicated environment like multitenant applications, a single flaw might cause another client's data to be compromised.

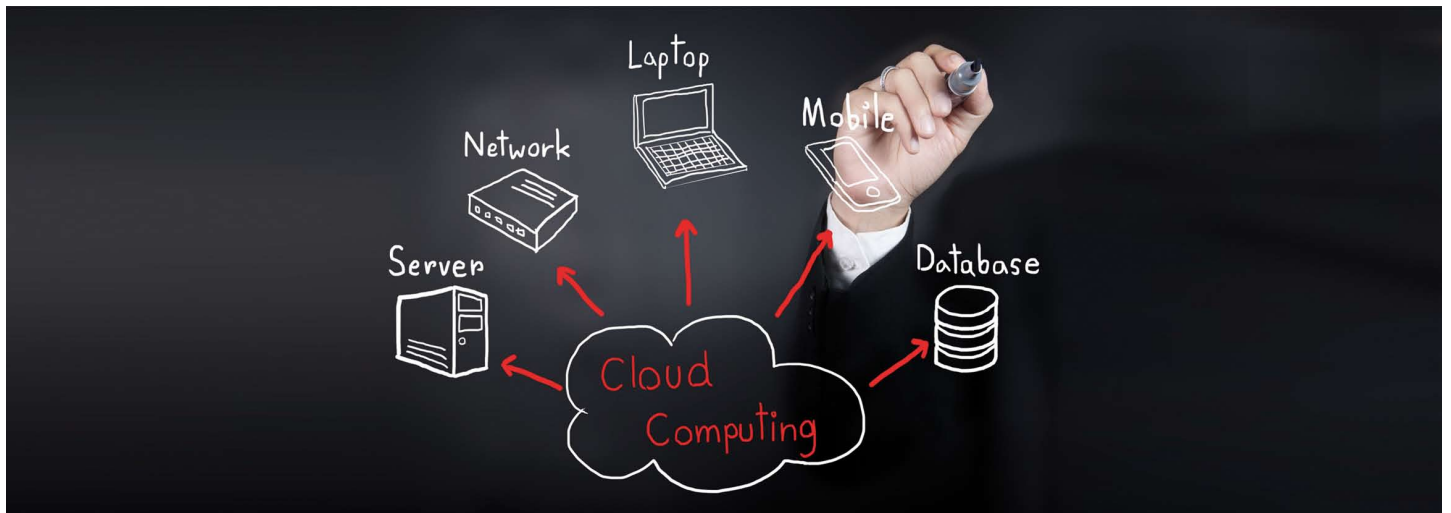
It was published in AWS Security Whitepaper [7] the remedy for data breaches taken by them, that all the virtual machines and the data that resides on AWS are isolated and the data is wiped off completely before it is made available to the next customer to prevent any information leak to their competitors.

For TimeTec Cloud, we offer a centralized authentication layer to verify all user access prior to granting any user any access permission.

## 2 • Data Loss

Apart from the deliberately deleting action by a user, data loss could also be caused by malicious attacks, physical catastrophes, Cloud service provider problems, and etc. The Cloud backup would be a very important task for both the Cloud service provider and the Cloud application provider. Both of them will need to ensure that multiple copies of backups are in place and reside on different locations to ensure data can be recovered in case of any hardware failure or service outage. These backups are in place for databases, server, storage and etc.

TimeTec Cloud is running in a Multi Availability Zone (Multi-AZ) concept, which means that if one availability zone is having problem, TimeTec Cloud will not be affected, as the second availability zone will immediately take over. This is almost identical with the Fail-Over concept.



### 3 • Account or Service Traffic Hijacking

Besides the Cloud infrastructure and Cloud instance, the Cloud-based application also plays a very important role in Cloud implementation. Most of the time, system engineers are able to secure the Cloud environment and its infrastructure through Firewall and Intrusion Detection System (IDS) but a minor bug or a backdoor entry to the Cloud application might cause a user account to be hijacked by an unscrupulous user. Once an account or a service is hijacked, the attacker will be able to gain access into your account and 'eavesdrop' on your transactions and activities. The common way of this exploit is via SQL injection attack and Cross-Site Scripting.

TimeTec Cloud has a dedicated and experienced software testing team to run detailed testing procedures on the product. Load testing, penetration testing and functionality testing are thoroughly conducted prior to any software release. Inserting a captcha code is also required at the login process to increase login security and to reduce the potential of break-ins by brute force.

### 4 • Insecure Interfaces and Application Programming Interfaces (APIs)

In a Cloud Computing environment, we are often exposed to an API either internally or externally with our third party vendor. It might be at the infrastructure level, application level and database level. Without a proper plan or a complete design to consolidate all these interfaces prior to giving access to our client, the system access control or the client data might be compromised and this will increase the risk of the entire Cloud Infrastructure.

TimeTec Cloud does not offer API integration directly from our Cloud infrastructure or database level. However, we have created an in-house API layer on Secure Socket Layer (SSL) to communicate with a third party application for information exchange and processing. The API access is fully controlled by another set of encrypted key and this feature shall be available to the customer soon for integration with a third party application.

### 5 • Denial of Service (DOS)

Not only for Cloud Application, but DOS attacks can happen a lot of time in our typical web hosting application. A DOS attack aims to consume inordinate amounts of finite system resources, which causes an intolerable system slowdown and

failed to response to the user's request. The common attack method is via Ping Flood, SYN flood and etc. On a larger scale, the Distributed Denial of Service (DDoS) attack might complicate the incident, as large numbers of infected machine from different locations will be working together to bring down the Cloud Service.

To minimize the risk of DOS attacks, all unrelated services inclusive of ping service has been turned off and blocked by the firewall on TimeTec Cloud. Furthermore, the TimeTec Cloud application is also running on the SSL Layer that further complicates the DOS attack process while the Enterprise Load Balancer installed at the background can greatly minimize the risk of DOS attack.

### 6 • Malicious Insider

Apart from technology and security risks, human resources and personnel could also be another threat to Cloud Implementation. Current or formal employees, contractors or business partners who have access to a Cloud service might, intentionally or otherwise, obtain organization or system data if the user access rights are not properly defined. This shows that it's important to have a mechanism to block or disable user access rights in order to prevent any data leakage from the organization.

In TimeTec Cloud, we practiced different user access levels control. From the system level, application level and database level, all the login credentials are unique and limited to their own scope of data to prevent information leakage from one to another. In further securing access control, only a trustworthy person within the organization infrastructure itself can manage TimeTec Cloud.

### 7 • Abuse of Cloud Services

With the introduction of Cloud Computing, one can easily own tens of thousands of virtual servers in a jiffy, an otherwise impossible task with a physical server. One can switch on or off the virtual server that they want after their task or workload is completed. It has become the responsibility of the Cloud Service Provider to ensure that their Cloud customers do not misuse the system for email spamming, malware distribution, denial of service attack, pirated software distribution and etc. If this is not well managed, it might affect all the Cloud customers who are running their Cloud Solution on its platform.

TimeTec Cloud runs on AWS infrastructure, where a lot of security measurements have been taken care off. A lot of value-added services have been added, such as Simple Email Service (SES), Content Delivery Network (CDN), and Database Service (RDS), to cater for all type of customers whereby they can scale up and down depending on their capacity without affecting the overall usage of the entire Cloud Service.

## 8 • Insufficient Due Diligence

Since Cloud Computing is getting more common and stable, a lot of businesses and enterprises have started to adopt Cloud services for their business solutions. Unlike their existing on-premise architecture approach, the Cloud computing is rather more complicated for network and user level security access control. It is also very important to have capable resources, either technical or non-technical, to oversee the entire risks and Cloud Service Provider's due diligence before adopting the Cloud Computing model.

The AWS is committed to Service Level Agreement [8] of at least 99.95% uptime. It has also maintained a high level of security and data protection via it AWS Compliance program [9]. Apart from conducting our research and development on AWS infrastructure and services, we do work together with AWS consulting partners during the whole planning and implementation process in order to get the best performance and optimization of user experience on TimeTec Cloud.

## 9 • Shared Technology Vulnerabilities

Cloud computing exists for the sharing service model. With the virtualization technology used on server, storage and network, it is very crucial to have strong isolation properties for multi-tenant architecture. If system vulnerability is detected in a Cloud server but cannot be isolated, it might potentially affect the entire Cloud provider operation. We must ensure that all Cloud solutions operate at its sandbox without interfering with other client's system.

Based on AWS Security Whitepaper [7], its network, instances, storages have enforced secure user access control. On top of that, all the instances are isolated from each other via the Xen Hypervisor to ensure other hosts would not jeopardize the instance performance.

# Cloud Security Challenges by Type

For a clearer overview of the security issues for different types of Cloud services, like Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS), they are represented in the following schematic diagram based on the hierarchy of Cloud computing [10].

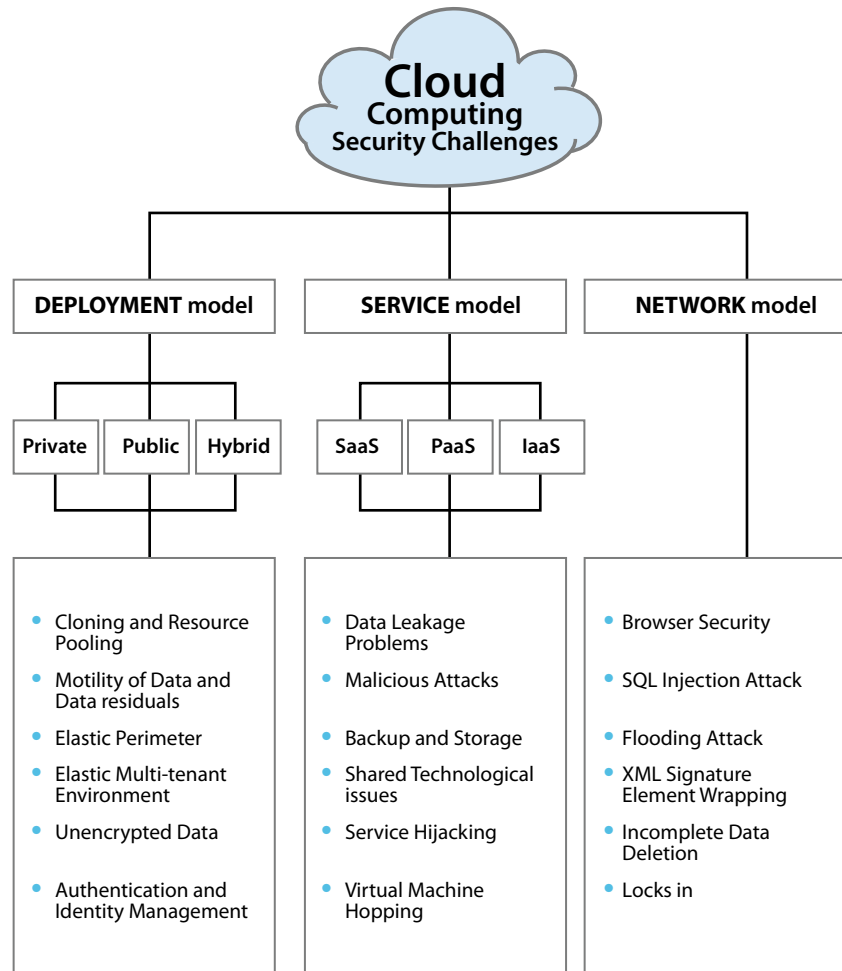


Figure 1: Classification of Security Challenge

Based on the paper, An Analysis of Security Challenges in Cloud Computing [10], it emphasizes that security challenge exists in all phases along the Cloud Implementation. Some challenges have been discussed earlier and other challenges only exist on Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) models. The decision on a deployment model is also required, whether it is on Private Cloud, Public Cloud or Hybrid Cloud as they all offer different pros & cons to our Cloud Solution. A secure Cloud solution is one thing, but more importantly the Cloud Service Provider must be able to cater to your needs and expansion in the future.



## Cloud Strategy

A lot of security risks have been highlighted and it might become a deterrent for some organization to continue their journey on the Cloud application. Nevertheless, Cloud based application is definitely THE trend for current and future development and deployment. As long as we have done thorough upfront planning and follow the best practice available, the risks can be minimized and we can prevent any unforeseen circumstances on the Cloud Application.

Based on the recommendation by PwC in The Global State of Information Security® Survey 2013 [5], businesses seeking to strengthen their security practice must:

- Implement a comprehensive risk-assessment strategy and align security investments with identified risks.
- Understand their organization's information, the people who wants it, and what tactics adversaries might use to get it.
- Understand that information security requirements — and, indeed, overall strategies for doing business — have reached a turning point.
- Embrace a new way of thinking in which information security is both a means to protect data and an opportunity to create value to the business.

During our TimeTec Cloud development and deployment, we have adhered to the best practices in setting up the Cloud Solution based on all points discussed earlier and designed the TimeTec Cloud architecture [11] accordingly to offer high reliability and high availability to our customers.

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# Experience the Real **Cloud Time & Attendance Management**

from **timeTec**  
cloud



#### Multi-level Login

Assign and manage login accounts for each of your employees and allow them to check their own attendance, thus creating transparency.



#### Mobility & Flexibility

Get FREE TimeTec Mobile app on iOS and GooglePlay smartphones that allow staff to report attendance from anywhere.



#### Generate Reports

Analyze data and generate relevant reports eg: attendance summary, tardiness report, etc.



#### Efficient Branch Management

TimeTec Cloud is suitable for companies with multiple branches, as attendance data can be simply centralized by the headquarters.



#### Reduce Cost

Server maintenance, management, updating and backups are done by TimeTec Cloud, thus reducing IT staff burden.



#### Centralize Attendance Data

Collect, manage and edit all staff attendance data in just one account.

### 4 Easy Steps to Get Started with TimeTec Cloud

**1** Test our  
FREE TRIAL

**2** Locate a  
DEALER

**3** Choose  
YOUR  
PACKAGE

**4** Ready  
to START  
PACKAGE

**SIGN UP**  
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**FREE TRIAL NOW!**

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\*for pricing, please go to [www.timeteccloud.com](http://www.timeteccloud.com)



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Access your IP Camera  
**anywhere, anytime\***  
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Surveillance Solution**



*Suitable for all IP cameras  
that support image uploading via **FTP!***



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With EpiCamera, users can access captured images from their installed IP cameras whenever & wherever they go via simple web access through the website.

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# Fingerprint and Card Access Control & Time Attendance Model

FingerTec access control devices are specifically made to manage door accessibilities at your work or home area. These access control models are able to support fingerprint, card, password, or any combination of the three methods as a means of controlling access in a secured area. All FingerTec access control and time attendance models come with a complimentary copy of the powerful Ingress software to implement a more advanced access control system. Ingress can also be substituted with the TCMS V2 software for customers that mainly require time attendance functions.



## SPECIFICATIONS

MODEL	AC900	R2	R2c (Slave)	H2i	Q2i	i-Kiosk 100 Plus
<b>SURFACE FINISHING</b>	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)
<b>TYPE OF SCANNER</b>	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner
<b>MICROPROCESSOR</b>	400 MHz	400 MHz	Managed by master	300 MHz	800 MHz	600 MHz
<b>MEMORY</b>	128 MB flash memory & 32 MB SDRAM	128 MB flash memory & 32 MB SDRAM	Managed by master	256 MB flash memory & 32 MB SDRAM	256 MB flash memory & 64 MB SDRAM	256 MB flash memory & 64 MB SDRAM
<b>ALGORITHM</b>	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0	Supports BioBridge VX 10.0	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0
<b>DIMENSION (L X W X H), mm</b>	91 x 40 x 190	94 x 50 x 189	64 x 42 x 135	78 x 50 x 150	200 x 56 x 160	260 x 70 x 320
<b>STORAGE</b>						
• Fingerprint templates	1500	3000	Storage in master terminal	1500	10000	10000
• Transactions	100000	120000	Storage in master terminal	100000	200000	200000
<b>ENROLLMENT &amp; VERIFICATION</b>						
• Methods	Fingerprint (1:1, 1:N) & password	Fingerprint (1:1, 1:N) card & password	Fingerprint & card	Fingerprint & card	Fingerprint (1:1, 1:N), card & password	Fingerprint (1:1, 1:N), card & password
• Recommended fingerprint per user ID	2	2	Managed by master	2	2	2
• Fingerprint placement	Any angle	Any angle	Any angle	Any angle	Any angle	Any angle
• Verification time (sec)	< 1	< 1	Managed by master	< 1	< 1	< 1
• FAR (%)	< 0.0001	< 0.0001	Managed by master	< 0.0001	< 0.0001	< 0.0001
• FRR (%)	< 1	< 1	Managed by master	< 1	< 1	< 1
<b>CARD TECHNOLOGY</b>						
• RFID: 64-bit, 125kHz	×	Yes	Yes	Yes	Yes	Yes
• MIFARE: MF1S50/S70, 13.56MHz	×	Made to order	Made to order	Made to order	Made to order	Made to order
• HID: HID 1325, 26-bit, 125kHz	×	Made to order	×	Made to order	Made to order	Made to order
<b>COMMUNICATIONS</b>						
• Method	TCP/IP, RS232, RS485	TCP/IP, RS232, RS485, USB disk	RS485	TCP/IP, RS485, USB disk	TCP/IP, RS232, RS485, USB disk <i>(Optional WiFi, GPRS &amp; 3G)</i>	TCP/IP, RS232, RS485, USB disk & WiFi
• Baud rates	9600~115200	9600~115200	×	9600~115200	9600~115200	9600~115200
• Wiegand	26-bit output	26-bit input/output	×	26-bit input/output	26-bit input/output	26-bit input/output
<b>OPERATING ENVIRONMENT</b>						
• Temperature (°C)	0 ~ 45	0 ~ 45	0 ~ 45	0 ~ 45	0 ~ 45	0 ~ 45
• Humidity (%)	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80
• Power input	DC 12V 3A	DC 12V 3A	Managed by master	DC 12V 3A	DC 12V 3A	DC 12V 3A
<b>TIME ATTENDANCE</b>						
• Siren	×	×	×	×	Built-in <i>(Optional External)</i>	Built-in
• Work codes	Yes	Yes	×	×	Yes	Yes
<b>MULTIMEDIA</b>						
• Voice	×	Yes	×	Yes	Yes	Yes
• Display	Black and white	Black and white	×	×	3.5" 65k color TFT screen	8.0" 65k color TFT touch screen panel
• Short messaging	×	Yes	×	×	Yes	Yes
• Music playback	×	×	×	×	×	Yes
• Movie playback	×	×	×	×	×	Yes
• Internal backup battery	×	×	×	×	×	Yes (DC 12V 2000mAh)
<b>ACCESS CONTROL</b>						
• EM lock driving output	DC 12V 3A / relay output	DC 12V 3A / relay output	Managed by master	DC 12V 3A / relay output	DC 12V 3A / relay output	DC 12V 3A / relay output
• Alarm output	NO	NO/NC	Managed by master	NO/NC	NO/NC	NO/NC
• Anti passback	×	Yes	Managed by master	Yes	Yes	Yes

\* N/A = Not Applicable | All master terminals come packaged with FingerTec software.



## RFID Card Access Control & Time Attendance Model

FingerTec card technology models are suitable for companies that prefer to use practical, convenient tokens during verification to track, monitor and analyze staff attendance. RFID is the default technology employed, however, Mifare and HID card technologies are also available upon request. Mix and match between the master and slave models for a cost effective IN-OUT access control solution. FingerTec door access master models come with a complimentary copy of the advanced door access software, *Ingress*, and the TimeLine 100 model comes with *TCMS V2* software.

## Controller Security Hub for Smart Control

The FingerTec controllers, Ingressus I and II, are designed to provide access control functions for 1 and 2-door environments respectively. Ingressus can be used in combination with FingerTec slave readers and accessories for a more economical and flexible door access control solution. Each controller comes complimentary with FingerTec's advanced access control software, *Ingress*.



### SPECIFICATIONS

MODEL	Ingressus I	Ingressus II
<b>BASIC</b>		
• Dimension (mm)	186 x 36 x 106	186 x 36 x 106
• Power input	12V DC	12V DC
• Operating temperature (°C)	0 to 45	0 to 45
• Operating humidity (%)	20 to 80	20 to 80
• CPU	32-bit, 400MHz	32-bit, 400MHz
• Flash memory (MB)	128	128
• SDRAM (MB)	32	32
• Polarity protection	Yes	Yes
<b>STORAGE</b>		
• Fingerprints	3000	3000
• Cards	30000	30000
• Passwords	30000	30000
• Transactions	100000	100000
<b>COMMUNICATIONS</b>		
• Communications with server	TCP/IP, RS485	TCP/IP, RS485
• Quantity of terminal	2	4
• Communication with terminals	2 x 26-bit wiegand input. Each for 1 slave terminal. (1 x RS485 input to support RS485 network - max 2 units)	4 x 26-bit wiegand input. Each for 1 slave terminal. (1 x RS485 input to support RS485 network - max 4 units)
<b>INPUT</b>		
• Push release button	1	2
• Door sensor	1	2
• AUX	1	2
• Types of AUX input supported	Motion & passive DIR detector, curtain passive infrared pet & immunity PIR detector, two-beam digital active infrared detector, heat detector	
<b>OUTPUT</b>		
• Door lock (12VDC 10A Form C relay)	1	2
• AUX output (30VDC 2A Form C relay)	1	2
• Types of AUX output supported	Gas detector and compatible sensors, Piezo strobe siren, electronic siren	Gas detector and compatible sensors, Piezo strobe siren, electronic siren
<b>ACCESS CONTROL</b>		
• Door opening time (sec)	0 to 999	0 to 999
• Inter-locking	X	Yes
• Anti passback	Local only	Local only
• Multi card unlocking	Yes	Yes
• First card unlocking	Yes	Yes
• Time zone	50	50
• Holiday time zone	Yes	Yes
• Permanent door release/lock time zone	Yes	Yes
• Day light saving time zone	Yes	Yes
• Continuous verification of users	Yes	Yes
<b>SECURITY FEATURES</b>		
• Door force open alarm	Yes	Yes
• Door open time out alarm	Yes	Yes
• Fire linkage	Yes	Yes
• Duress alarm	Yes	Yes
• Door status and event	51 types	51 types

### SPECIFICATIONS

MODEL	TimeLine 100	Kadex	m-Kadex	i-Kadex (Slave)	k-Kadex (Slave)
<b>SURFACE FINISHING</b>					
	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Polycarbonate	Polycarbonate	Acrylonitrile butadiene styrene (ABS)
<b>MICROPROCESSOR</b>					
	400 MHz	400 MHz	400 MHz	Managed by master	Managed by master
<b>MEMORY</b>					
	8 MB flash memory & 32 MB SDRAM	8 MB flash memory & 32 MB SDRAM	4 MB flash memory & 32 MB SDRAM	Managed by master	Managed by master
<b>ALGORITHM</b>					
	BioBridge VX 9.0	BioBridge VX 9.0	BioBridge VX 9.0	Managed by master	Managed by master
<b>DIMENSION (L X W X H), mm</b>					
	190 x 50 x 140	92 x 49 x 137	92 x 29 x 134	55 x 15 x 100	75 x 20 x 115
<b>STORAGE</b>					
• Cards	10000	30000	30000	Storage in master	Storage in master
• Transactions	30000	50000	50000	Storage in master	Storage in master
<b>ENROLLMENT &amp; VERIFICATION</b>					
• Methods	Card or password	Card or password	Card	Card	Card or password
• Card per user ID	1	1	1	Managed by master	Managed by master
• Reading distance, mm	40 ~ 80 (RFID, HID), 30 ~ 50 (Mifare)	40 ~ 80 (RFID, HID), 30 ~ 50 (Mifare)	40 ~ 80 (RFID, HID), 30 ~ 50 (Mifare)	40 ~ 80 (RFID, HID), 30 ~ 50 (Mifare)	40 ~ 80 (RFID, HID), 30 ~ 50 (Mifare)
• Verification time (sec)	< 1	< 1	< 1	Managed by master	Managed by master
<b>CARD TECHNOLOGY</b>					
• RFID: 64-bit, 125kHz	Yes	Yes	Yes	Yes	Yes
• MIFARE: MF1S50/S70, 13.56MHz	Made to order	Made to order	Made to order	Made to order	Made to order
• HID: HID 1325, 26-bit, 125kHz	Made to order	Made to order	Made to order	X	X
<b>COMMUNICATIONS</b>					
• Method	TCP/IP, USB disk <i>(Optional RS232 &amp; RS485)</i>	TCP/IP, RS232, RS485, USB disk	TCP/IP, RS232, RS485, USB disk	Wiegand	Wiegand
• Baud rates	9600 ~ 115200	9600 ~ 115200	9600 ~ 115200	X	X
• Wiegand	X	26-bit input/output	26-bit input/output	26-bit output	26-bit output
<b>OPERATING ENVIRONMENT</b>					
• Temperature (°C)	0 ~ 45	0 ~ 45	0 ~ 45	-10 ~ 70	-10 ~ 70
• Humidity (%)	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80
• Power input	DC 5V 2A	DC 12V 2A	DC 12V 3A	DC 12V 1A	DC 12V 1A
<b>TIME ATTENDANCE</b>					
• Siren	External	X	X	X	X
• Work codes	Yes	Yes	X	X	X
<b>MULTIMEDIA</b>					
• Voice	Yes	Yes	X	X	X
• Display	Black and white	Black and white	X	X	X
• Short messaging	Yes	Yes	X	X	X
• Music playback	X	X	X	X	X
• Movie playback	X	X	X	X	X
• Internal backup battery	X	X	X	X	X
<b>ACCESS CONTROL</b>					
• EM lock driving output	X	DC 12V 3A / relay output	DC 12V 3A / relay output	Managed by master	Managed by master
• Alarm output	X	NO/NC	NO/NC	Managed by master	Managed by master
• Anti passback	X	Yes	Yes	Managed by master	Managed by master

\* N/A = Not Applicable | All master terminals come packaged with FingerTec software.



# Fingerprint Time Attendance Model

FingerTec time attendance biometric models are ideal for most companies that are looking to track, monitor, and analyze staff attendance effectively. Sturdy in design, all the models come with a complimentary copy of the comprehensive attendance software, *TCMS V2*, or it can be used with the changeable applications, *TimeTec Web* and *TimeTec Cloud*, for more elaborate and extensive management features.



SPECIFICATIONS				
MODEL	TA300	AC100C	TA100C	TA200 Plus
SURFACE FINISHING	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)	Acrylonitrile butadiene styrene (ABS)
TYPE OF SCANNER	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner	Optical fingerprint scanner
MICROPROCESSOR	400 MHz	400 MHz	400 MHz	800 MHz
MEMORY	8 MB flash memory	256 MB flash memory & 32 MB SDRAM	256 MB flash memory & 32 MB SDRAM	256 MB flash memory & 32 MB SDRAM
ALGORITHM	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0	BioBridge VX 9.0 / VX 10.0
DIMENSION (L X W X H), mm	160 x 120 x 127	195 x 48 x 144	190 x 52 x 140	200 x 56 x 160
<b>STORAGE</b>				
• Fingerprint templates	1500	10000	10000	10000
• Transactions	50000	200000	200000	200000
<b>ENROLLMENT &amp; VERIFICATION</b>				
• Methods	Fingerprint (1:1, 1:N) & password <i>(Optional RFID Card)</i>	Fingerprint (1:1, 1:N) & password	Fingerprint (1:1, 1:N) & password <i>(Optional RFID Card)</i>	Fingerprint (1:1, 1:N), card & password
• Recommended fingerprint per user ID	2	2	2	2
• Fingerprint placement	Any angle	Any angle	Any angle	Any angle
• Verification time (sec)	< 1	< 1	< 1	< 1
• FAR (%)	< 0.0001	< 0.0001	< 0.0001	< 0.0001
• FRR (%)	< 1	< 1	< 1	< 1
<b>CARD TECHNOLOGY</b>				
• RFID: 64-bit, 125kHz	Made to order	×	Yes <i>(TA100C-R only)</i>	Yes
• MIFARE: MF1S50/S70, 13.56MHz	Made to order	×	Made to order <i>(TA100C-MF only)</i>	Made to order
• HID: HID 1325, 26-bit, 125kHz	Made to order	×	Made to order <i>(TA100C-HID only)</i>	Made to order
<b>COMMUNICATIONS</b>				
• Method	USB cable / connection	TCP/IP, USB disk <i>(Optional RS232 &amp; RS485)</i>	TCP/IP, USB disk <i>(Optional RS232, RS485, WIFI &amp; GPRS)</i>	TCP/IP, USB disk <i>(Optional RS232, RS485, POE, WIFI &amp; GPRS, 3G only applicable to non-POE devices)</i>
• Baud rates	×	9600~115200	9600~115200	9600~115200
<b>OPERATING ENVIRONMENT</b>				
• Temperature (°C)	9600~115200	0 ~ 45	0 ~ 45	0 ~ 45
• Humidity (%)	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80
• Power input	DC 5V 800mA	DC 5V 2A	DC 5V 2A	DC 12V 3A, DC 5V 2A <i>(POE)</i>
<b>TIME ATTENDANCE</b>				
• Siren	×	×	Built-in and external	Built-in <i>(Optional External)</i>
• Work codes	×	Yes	Yes	Yes
<b>MULTIMEDIA</b>				
• Voice	Yes	Yes	Yes	Yes
• Display	Black and white	3.0" 65k color TFT screen	3.0" 65k color TFT screen	3.0" 65k color TFT screen
• Short messaging	×	Yes	Yes	Yes
• Music playback	×	×	×	×
• Movie playback	×	×	×	×
• Internal Backup Battery	Yes (DCSV 1300mAh)	×	×	×



# Fingerprint Mechanical Lock Model

FingerTec mechanical lock models present advanced and sophisticated fingerprint door locks, suitable for use in important rooms, banks, labs and hotels. By default, RFID card technology is embedded in the models for an added verification option. Each model comes with a complimentary copy of Ingress advanced access control software.



SPECIFICATIONS		
MODEL	Keylock 7700	Keylock 8800
SURFACE FINISHING	Zinc alloy with brushed nickel effect	Zinc alloy
TYPE OF SCANNER	Optical fingerprint scanner	
MICROPROCESSOR	400 MHz	400 MHz
MEMORY	32 MB flash memory	4 MB flash memory
ALGORITHM	BioBridge VX 10.0	BioBridge VX 9.0
RESOLUTION OF SCANNER (dpi)	560	560
DIMENSION (L X W X H), mm	150 x 93 x 268	150 x 195 x 310
• Thickness of door (mm)	35-70	35-55
• Door latch type	Single tongue <i>(Ky 7700S)</i> Double tongue <i>(Ky 7700D)</i>	Mortise, 3-tongue
• Inner lock switch	Yes	Yes
<b>STORAGE</b>		
• Fingerprint templates	500	500
• Passwords	100	100
• Cards	100	100
• Transactions	30000	30000
<b>ENROLLMENT &amp; VERIFICATION</b>		
• Methods	Fingerprint (1:1, 1:N), card & password	
• Recommended fingerprint per user ID	2	2
• Fingerprint placement	Any angle	Any angle
• Verification time (sec)	< 1	< 1
• FAR (%)	< 0.0001	< 0.0001
• FRR (%)	< 1	< 1
• Password length (digits)	6	8
<b>CARD TECHNOLOGY</b>		
• RFID: 64-bit, 125kHz	Yes	Yes
• MIFARE: MF1S50/S70, 13.56MHz	Made to order	Made to order
• HID: HID 1325, 26-bit, 125kHz	×	Made to order
<b>COMMUNICATIONS</b>		
• Method	USB disk	USB disk
• Baud rates	×	×
• Wiegand	×	×
<b>OPERATING ENVIRONMENT</b>		
• Temperature (°C)	0 ~ 45	0 ~ 45
• Humidity (%)	20 ~ 80	20 ~ 80
• Power input	4 x 1.5V AA battery for 4000 operations	
• Power consumption – static (uA)	< 35	< 40
• Power consumption – activity (mA)	< 150	< 100
• Power consumption – driving (mA)	< 200	< 400
• Antistatic voltage (V)	> 1500	> 1500
• Low battery warning voltage (V)	< 4.5	< 4.67
BACKUP UNLOCK MECHANISM	Battery & mechanical key	

\* N/A = Not Applicable | All master terminals come packaged with FingerTec software.



# Face Recognition

## Access Control & Time Attendance Model

FingerTec advanced face recognition technology offers a contactless mode of verification for time attendance and door access control with an optional card technology embedded as well. Scan a face to get accurate verifications in split seconds. FingerTec access control and time attendance models come with a complimentary copy of the advanced access control software, *Ingress*, which can be substituted with *TCMS V2* software for customers that mainly require time attendance functions. Suitable for application in areas such as hospitals, labs, workshops, etc.



### SPECIFICATIONS

MODEL	Face ID 2	Face ID 3	Face ID 4	Face ID 4d
<b>SURFACE FINISHING</b>	Acrylonitrile butadiene styrene (ABS) & acrylic	Acrylonitrile butadiene styrene (ABS) & acrylic	Acrylonitrile butadiene styrene/ polycarbonate blend	
<b>TYPE OF SCANNER</b>	Hi-res infrared camera & fingerprint scanner	High resolution infrared camera	High resolution infrared camera	High resolution infrared camera
<b>MICROPROCESSOR</b>	800 MHz	800 MHz	800 MHz	800 MHz
<b>MEMORY</b>	256 MB Flash Memory & 128 MB SDRAM	256 MB Flash Memory & 128 MB SDRAM	256 MB flash memory & 128 MB SDRAM	256 MB flash memory & 128 MB SDRAM
<b>ALGORITHM</b>	Face BioBridge VX 8.0, FP BioBridge VX9.0/10.0	Face BioBridge VX 8.0	Face BioBridge VX 8.0	Face BioBridge VX 8.0
<b>DIMENSION (L X W X H), mm</b>	207 x 120 x 145	86 x 62 x 218	148 x 148 x 122	148 x 148 x 122
<b>STORAGE</b>				
• Fingerprint templates	10000	×	×	×
• Face templates	500	400	400	400
• Cards	10000	10000	10000	10000
• Transaction logs	200000	100000	100000	100000
<b>ENROLLMENT &amp; VERIFICATION</b>				
• Methods	Face (1:1, 1:N), fingerprint (1:1, 1:N), card or password	Face (1:1, 1:N), card or password	Face (1:1, 1:N), card or password	Face (1:1, 1:N), card or password
• Recommended fingerprint per user ID	2	×	×	×
• Fingerprint placement	Any angle	×	×	×
• Verification time – Fingerprint, sec	< 1	×	×	×
• Verification time – Face, sec	< 2	< 2	< 2	< 2
• Fingerprint	FAR < 0.0001%, FRR < 0.1%	×	×	×
• Face	FAR < 0.01%, FRR < 0.1%	FAR < 0.01%, FRR < 0.1%	FAR < 0.01%, FRR < 0.1%	FAR < 0.01%, FRR < 0.1%
<b>CARD TECHNOLOGY</b>				
• RFID: 64-bit, 125kHz	Yes	Yes	Yes	Yes
• MIFARE: MF1S50/S70, 13.56MHz	Made to order	Made to order	Made to order	Made to order
• HID: HID 1325, 26-bit, 125kHz	Made to order	Made to order	×	×
<b>COMMUNICATIONS</b>				
• Method	TCP/IP, RS232, RS485, USB disk (Optional GPRS & 3G)	TCP/IP, RS232, RS485, USB disk (Optional WiFi)	TCP/IP, USB disk, USB client (Optional WiFi)	TCP/IP, USB disk, USB client (Optional WiFi)
• Baud rates	9600 ~ 115200	9600 ~ 115200	×	9600 ~ 115200
• Wiegand	26-bit output	26-bit input/output	×	×
<b>OPERATING ENVIRONMENT</b>				
• Temperature (°C)	0 ~ 45	0 ~ 45	0 ~ 45	0 ~ 45
• Humidity (%)	20 ~ 80	20 ~ 80	20 ~ 80	20 ~ 80
• Power input	DC12V 3A	DC12V 3A	DC 12V 3A	DC 12V 3A
<b>TIME ATTENDANCE</b>				
• Siren	Built-in and external	Built-in and external	Built-in	Built-in
• Work Codes	Yes	Yes	Yes	Yes
• Fast transaction checking	Yes	Yes	Yes	Yes
<b>MULTIMEDIA</b>				
• Greeting voice	Yes	Yes	Yes	Yes
• Display	4.3" 65K color TFT touch screen panel	3.0" 65K color TFT touch screen panel	3.0" 65K color TFT touch screen panel	3.0" 65K color TFT touch screen panel
• Photo-ID	Yes	Yes	Yes	Yes
• Short messaging	Yes	×	Yes	Yes
• Day Light Saving Timer	Yes	Yes	Yes	Yes
• Internal Backup Battery	Yes (DC12V, 2000m Ah)	×	×	×
<b>ACCESS CONTROL</b>				
• EM lock driving output	DC12V / relay output	DC12V / relay output	×	DC 12V / relay output
• Alarm output	NO/NC	NO only	×	NO/NC
• Antipassback	×	×	×	Yes

\* N/A = Not Applicable | All master terminals come packaged with FingerTec software.



# Logical Fingerprint

## PC Access Model

FingerTec logical access fingerprint readers (OFIS) are designed to work with our single sign on enterprise software application and developer's tools (SDKs) for integration with select applications. It comes complimentary with the OFIS Gateway software, providing a quicker and safer way to use fingerprints for PC login authentication. OFIS TA for attendance system is also available for purchase.



### SPECIFICATIONS

MODEL	OFIS-X	OFIS-Y
<b>ALGORITHM</b>	BioBridge VX 9.0 / VX 10.0	
<b>SUPPORTING OS</b>	32-bit Windows XP, Windows Vista, Windows 7, Windows 8, Windows Server 2008	32/64-bit Windows XP, Windows Vista, Windows 7, Windows 8, Windows Server 2008
<b>PIXEL RESOLUTION</b>	512 dpi (average x, y over the scanning area)	
<b>SCAN CAPTURE AREA</b>	17mm x 26 mm	15mm x 18 mm
<b>SCAN DATA</b>	8-bit grayscale (256 levels of gray)	
<b>READER SIZE (APPROXIMATE) (L X W X H), MM</b>	87 x 58 x 24	45 x 78 x 40
<b>COMPATIBILITY</b>	USB 1.0, 1.1 and 2.0 (Full speed) specifications	
<b>OS/BROWSER</b>	MS Windows/ MS Internet Explorer (IE 9)	
<b>POWER SUPPLY</b>	5.0V +/- 0.25V USB supply	
<b>OPERATING TEMPERATURE (°C)</b>	0 – 40	0 – 55
<b>OPERATING HUMIDITY (%)</b>	20 – 80 non-condensing	
<b>STANDARD FCC CLASS</b>	FCC Class B, CE, USB	
<b>USAGE</b>	Indoor, home and office use	

### FEATURES

- Small form factor
- Excellent scan quality
- Encrypted fingerprint data
- Latent print rejection
- Counterfeit finger rejection
- Rotation invariant
  - Recognize dry, moist, or rough fingerprints
  - Compatible with FingerTec's standalone readers and software products
  - Compatible with Windows XP, 2000, Me, 98, NT4.0, Windows Server, Windows 2000, Windows 2003, Windows Vista, Windows 7 and Windows 8.

### APPLICATIONS

- Desktop computer security
- Registration Station for Users
- Mobile PCs
- Custom applications
- Home and office use



# Model Selection Guide

FingerTec

has an extensive range of biometrics and card products. This guide serves as initial tool for you to compare it against your requirements and budget. Once you have decided on the models you want or you have further questions, email us at [info@fingertec.com](mailto:info@fingertec.com) for detail discussions. FingerTec pledges to make things easy for you, always.

MODEL FEATURE	METHOD				LCD DISPLAY		COMMUNICATION						FUNCTIONALITY		Bundled Software	Price Range
	Fingerprint	Face	Card	Password	Black & White	Color	RS232/RS485	TCP/IP	WiFi/GPRS	3G	USB	Wiegand	Time Attendance	Door Access		
<b>Fingerprint Time Attendance Model</b>																
TA300	✓	×	A	✓	✓	×	×	×	×	×	✓	×	✓	×	TCMS V2	★
AC100C	✓	×	×	✓	×	✓	A	✓	×	×	✓	×	✓	×	TCMS V2	★★
TA100C	✓	×	×	✓	×	✓	A	✓	A	×	✓	×	✓	×	TCMS V2	★★★
TA100C-R	✓	×	✓	✓	×	✓	A	✓	A	×	✓	×	✓	×	TCMS V2	★★★
TA100TC	✓	×	×	✓	×	✓	✓	✓	A	×	✓	×	✓	×	TCMS V2	★★★
TA100TC-R	✓	×	✓	✓	×	✓	✓	✓	A	×	✓	×	✓	×	TCMS V2	★★★
TA200 PLUS	✓	×	✓	✓	×	✓	A	✓	A	A	✓	×	✓	×	TCMS V2	★★★★
TA200 PLUS (POE)	✓	×	✓	✓	×	✓	A	✓	A (WiFi only)	×	✓	×	✓	×	TCMS V2	★★★★
<b>Fingerprint Access Control &amp; Time Attendance Model</b>																
AC900	✓	×	×	✓	✓	×	✓	✓	×	×	×	✓	✓	✓	Ingress	★★
R2	✓	×	✓	✓	✓	×	✓	✓	×	×	✓	✓	✓	✓	Ingress	★★★
R2c*	✓	×	✓	×	×	×	RS485 only	×	×	×	×	×	×	×	×	★
H2i	✓	×	✓	×	×	×	RS485 only	✓	×	×	✓	✓	✓	✓	Ingress	★★
Q2i	✓	×	✓	✓	×	✓	✓	✓	A	A	✓	✓	✓	✓	Ingress	★★★★
i-Kiosk 100 Plus	✓	×	✓	✓	×	✓	✓	✓	✓	×	✓	✓	✓	✓	Ingress	★★★★★
<b>RFID Card Access Control &amp; Time Attendance Model</b>																
TimeLine 100	×	×	✓	✓	✓	×	✓	✓	×	×	✓	×	✓	×	TCMS V2	★★★
Kadex	×	×	✓	✓	✓	×	✓	✓	×	×	✓	✓	✓	✓	Ingress	★★★
m-Kadex	×	×	✓	×	×	×	✓	✓	×	×	✓	✓	✓	✓	Ingress	★★
k-Kadex*	×	×	✓	✓	×	×	×	×	×	×	×	✓	×	×	×	★
i-Kadex*	×	×	✓	×	×	×	×	×	×	×	×	✓	×	×	×	★
<b>Face Recognition Access Control &amp; Time Attendance Model</b>																
Face ID 2	✓	✓	✓	✓	×	✓	✓	✓	A	A	✓	✓	✓	✓	Ingress	★★★★★
Face ID 3	×	✓	✓	✓	×	✓	✓	✓	A (WiFi only)	×	✓	✓	✓	✓	Ingress	★★★★
Face ID 4	×	✓	✓	✓	×	✓	×	✓	A (WiFi only)	×	✓	×	✓	×	TCMS V2	★★★
Face ID 4d	×	✓	✓	✓	×	✓	×	✓	A (WiFi only)	×	✓	✓	✓	✓	Ingress	★★★
<b>Fingerprint Mechanical Lock Model</b>																
Keylock 7700	✓	×	✓	✓	✓	×	×	×	×	×	✓	×	✓	✓	Ingress	★★★
Keylock 8800	✓	×	✓	✓	✓	×	×	×	×	×	✓	×	✓	✓	Ingress	★★★
<b>Fingerprint Logical Access Model</b>																
OFIS Series	✓	×	×	×	×	×	×	×	×	×	✓	×	×	×	Gateway	★
<b>Fingerprint &amp; Card Simple Door Access Model</b>																
H3i	✓	×	✓	✓	×	×	×	×	×	×	×	×	×	✓	×	★
s-Kadex	×	×	✓	✓	×	×	×	×	×	×	×	×	×	✓	×	★
<b>Controller Security Hub for Smart Control</b>																
Ingressus I	✓	×	✓	✓	×	×	RS485 only	✓	×	×	×	✓	✓	✓	Ingress	★★
Ingressus II	✓	×	✓	✓	×	×	RS485 only	✓	×	×	×	✓	✓	✓	Ingress	★★★

\* = Slave reader | ✓ = Available | ✗ = Not available | A = Available Upon Request



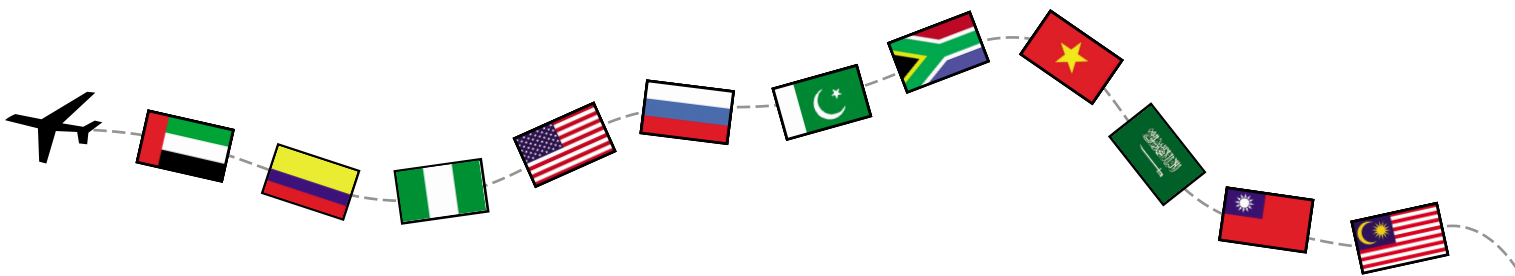
# Software Selection Guide

FingerTec offers a variety of different types of softwares to suit the different business needs of our clients. With all the different requirements, comparing the different software functions can be a little tricky. So here's a selection guide to help you out with the details, similarities, and differences between our offered softwares.

MODEL FEATURE	Ready Software or SDK	FUNCTIONALITY		Report	Export Format	Web-based Application	Database Engine	COMPATIBILITY		Language	Price
		Time Attendance	Door Access					Hardware	OS/Browser		
<b>WINDOWS APPLICATION</b>											
	Ready Software	✓	✓	30	Csv, txt and xls	✗ Only TCMS V2 Viewer module	Native Foxpro Database	All FingerTec hardware, except H3i, s-Kadex & Ingressus controller	Windows XP, Server 2003, Server 2008, Windows Vista, Windows 7, Windows 8	English, Arabic, Arabic (Kuwait), Chinese Traditional / Simplified, Persian, French, German, Indonesian, Italian, Korean, Lithuanian, Malay, Polish, Portuguese, Portuguese (Brazil), Russian, Spanish, Thai, Turkish, Vietnamese	Bundled with hardware terminals
	Ready Software	✓	✓	19	Csv, txt and xls	✗	MySQL	All FingerTec hardware & Ingressus controller except H3i & s-Kadex		English, Arabic, Chinese Traditional / Simplified, Indonesian, Spanish, Thai	
	Ready Software	Payroll Software (Malaysia Market), TCMS V2 Compatible		18	✗	✗	Native Foxpro Database	N/A		English, Malay, Chinese Simplified	Payable
<b>CLOUD-BASED APPLICATION</b>											
	Ready System	✓	✗	31	Csv, txt and xls	✓	MySQL	Face ID 2/3/4/4d, AC900, R2, R2/R2c, H2i, Kadex, AC100C, TA100C, TA100TC, TA200 Plus, i-Kiosk 100 Plus, Q2i	Safari, Chrome, Firefox, Internet Explorer, Android and iOS Apps	English, Arabic, Chinese Traditional / Simplified, Indonesian, Spanish	Subscription
	Ready System	Cloud Surveillance, Video Surveillance as a Service (VSaaS)		1	zipped jpg	✓	MySQL	All IP Cameras that support FTP features.		English	Subscription
<b>SOFTWARE TOOLS</b>											
	Ready Software	To manage and edit user, fingerprint, log and reader information		✗	Txt, xls xml, html	✗	MS Access/ MSSQL	All FingerTec hardware, except H3i, s-Kadex & Ingressus controller	Windows XP, Server 2003, Server 2008, Windows Vista, Windows 7, Windows 8	English	Bundled with hardware terminals
	Ready Software	To manage user data and fingerprint information		✗	✗	✗	MS Access	OFIS scanner, Mifare card writer		English	
	Ready Software	Single Sign On PC Login Security		✗	✗	✗	✗	OFIS scanner		Windows 2000, XP, Vista, Windows 7, Windows 8	English, Chinese Traditional / Simplified, Japanese
<b>SDK (<a href="http://www.fingertec.com/developerprogram">www.fingertec.com/developerprogram</a>)</b>											
	SDK : To integrate FingerTec terminals to any third party system	✓	✓	N/A	N/A	✗	N/A	All models except Keylock, OFIS, H3i, s-Kadex & Ingressus	Windows XP, Server 2003, Server 2008, Windows Vista, Windows 7, Windows 8	N/A	Free for developers
	SDK : Online web-based platform to consolidate and centralize the db for time attendance	✓	✗	✗	✗	✓	MySQL	Face ID 2/3/4/4d, AC900, R2, R2/R2c, H2i, Kadex, AC100C, TA100C, TA100TC, TA200 Plus, i-Kiosk 100 Plus, Q2i	Windows XP, Server 2003, Server 2008, Vista, Windows 7, Windows 8, Safari, Chrome, Firefox, Internet Explorer	English, Malay, Chinese Simplified, Spanish	Payable
	SDK: To integrate OFIS scanner with any solutions	N/A	N/A	✗	✗	✓	✗	OFIS scanner	Windows XP, Server 2003, Server 2008, Vista, Windows 7, Windows 8	English	Free for developers
	SDK: To integrate Ingressus with third party access control software	✓	✗	✗	✗	✗	✗	Ingressus controller	Windows XP, Server 2003, Server 2008, Vista, Windows 7, Windows 8	English	Free for developers

✓ = Available | ✗ = Not available | N/A = Not applicable | Online update is available for all FingerTec software.

# FING@RTEC



## 2014 Global Exhibition Schedule

Check our latest exhibition updates at <http://info.fingertec.com/exhibition2014>