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# Time & Access System

*An RFID based technology*

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## OpenWorks **TIME**

*Technical Specification V1.0.2*

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## About KCP Technologies Limited

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### Introduction

KCP Technologies Limited is a KPMG certified ISO 9001:2000 Company. This ensures customer satisfaction in terms of specifications, schedules, costs, product delivery and performance. KCP Technologies Limited is a part of the KCP Group. The KCP Group is a diversified 80 million US\$ business group with interests in Heavy Engineering, Sugar, Cement, Hydel Power, Information Technology and Biotechnology.

### Quality Policy

“We are committed to building customer relationships by providing IT solutions using innovative technologies and adding continuous value to their business process through continual improvement of our internal process.”

KCP Technologies Limited is an authorized Reseller & support Center for all the Database Life Cycle Management Tools. We provide services like Software Development & Engineering Technical services. We have partnership with global companies like **Oracle, IBM, Embarcadero Inc. and Lumigent**. We believe that progress at KCP Technologies is based on our customer's success and our employees' growth. We value our relationship with our clients because we believe that we succeed or fail together.



## RFID Technology

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Radio Frequency Identification (RFID) is an Identification technology that belongs to the family of Automatic Identification and Data Capture (AIDC). It is primarily used for contact less way of automatic data collection about a product, place, time or transaction, where an RFID Reader reads information from a Tag.

Texas Instruments Radio Frequency Identification (TI-RFID™) Systems is an industry leader in Radio Frequency Identification (RFID) technology and the world's largest integrated manufacturer of RFID tags, smart labels and reader systems.

With more than 400 million tags manufactured, TI-RFID technology is used in a broad range of applications worldwide including access control, automotive, document tracking, livestock, product authentication, retail, sports timing, supply chain, ticketing and wireless payment.

The commercial use of RFid appeared in the form of Electronic Article surveillance (EAS) in the mid 1960's, and then the application was extended to the areas of Access control, Animal tracking, Vehicle tracking and Factory Automation applications.

With the growing applications of RFID into the Supply Chain Automation, Material Handling System, Warehouse Management System, etc. the need for the demand from the manufacturers to develop systems that support various decision support systems enable large corporate companies to foray into the RFid arena.

Thus RFid technology can be taken as the next evolutionary step in the Automatic Identification technology. It integrates the digital world with the physical world by seamlessly connecting the objects of the physical world.



## **RFID System Components**

RFID systems have several basic components or technical characteristics that define them. Some of the components that constitutes a RFID system includes

1. Transponder or Tag
2. Reader or Interrogator
3. Antenna
4. Software

### **Transponder**

The transponder consists of a microchip attached to an antenna and is placed in the object or entity to be located. These tags generally are of passive form, which don't have any power source or batteries into it. Based on the memory design the tag can be of various type like RO (Read Only), RW (Read/Writable), etc.

### **Reader**

The reader is a device that does the communication from and to the transponders through radio waves. Some readers have the antenna integrated into it and others have provisions to connect external antennas for increased read range.

### **Antenna**

The Antenna forms a part of the RFID reader and it takes a variety of shapes. The antenna is used to transmit and receive the radio waves in the form of RF signal between the reader and the tag along with the data.

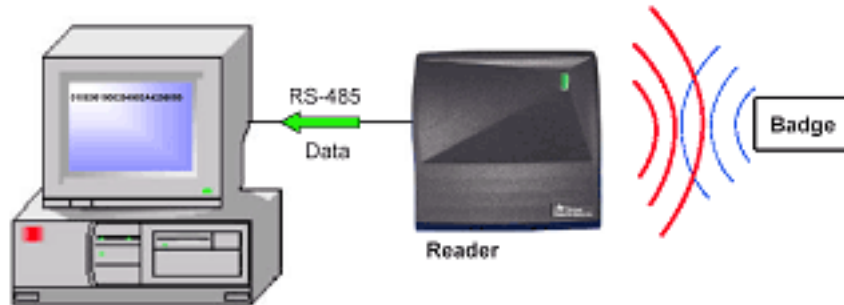
### **Software**

The software acts as a middleware between the RFID systems and the Enterprise applications. The data captured by the reader is converted into a format that is perceivable by the system. OpenWorks series of software acts as a middleware between hosts of applications.



## Solution Description

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### RFID Technologies

- ISO 15693 (Identify, View, Program & Lock) (For Vicinity Applications)
- ISO 14443 Type A (For Proximity Applications)

### Interface

- Open Protocol: Universal 26 to 64 bit wiegand format and RS 485
- RS 485 Point-to-Point and Multi-drop protocol
- Baud rates available: 9600, 19200, 38400 (default)
- Field upgradeable through the RS 485 interface
- Wiring and protocol are compatible with most existing access control panels and control board solutions.

### Other specifications:

- Plug 'n' play capability
- Self testing diagnostics
- High reliability and long life in both indoor and outdoor situations



## RFID Hardware

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### Key Features

Universal Wiegand Support

RS 485 Support

Read/Write capability

ISO/IEC 15693 Compliance

Simultaneous Multi-card reading

Superior Read Range



Texas Instruments RFID line of 13.56MHz. readers provides a new level of performance, speed and accuracy for the access control market. A superior read range and faster data transfer range make the system ideal for any building or venue where it is vital to ensure safe, fast and secure access.

The S6400 family is based on ISO/IEC 15693 vicinity card standards, which means interoperability across all systems; 2000-bit memory read capacity and multiple badge identification. Up to 10 badges can be read simultaneously by a single reader, creating faster throughput and eliminating read interference common when two or more conventional proximity cards are in the same read field.

Available in either a wall plate or mullion option, the two-piece reader package is easy to install in new or retrofit applications, and its attractive design fits any setting.

TI's 13.56 MHz 2000-bit memory and in-the-field programmability means users can add and update vital information like time stamps or employee authorization codes, certification or emergency medical histories.



## OpenWorks TIME

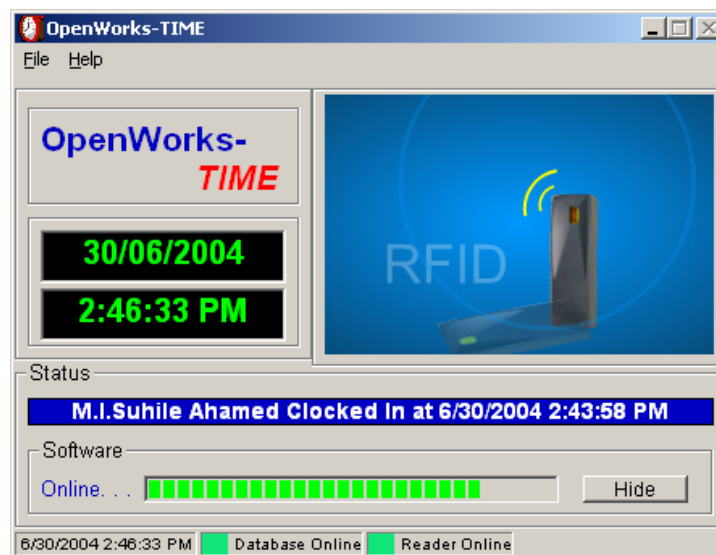
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### OpenWorks TIME

A Comprehensive web based, client-server or desktop solution to Read, Track and Monitor all the employee activities and offer seamless data transport to produce a detailed reporting based on various filtering levels.

#### Benefits

- Automatic registration of Clocked In/Out and Movement In/Out of the employees
- Precise stamping of Employee ID, Date and Time of the day
- Easy maintenance of leave record of the employees
- Extensible to other areas such as Payroll, Project Resource Tracking, etc.
- Audio/ Visual User authentication
- Facility for integrating with most common database options
- Door Lock Integration for perimeter restriction
- Web based reports for easy monitoring – no more paper timesheets



### OpenWorks TIME

Tray ICON enables the application status monitoring an easy job

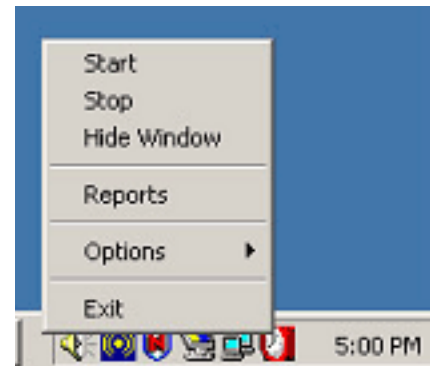






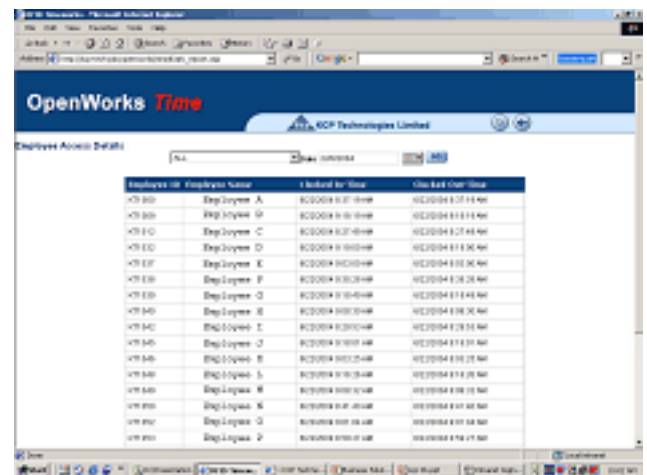
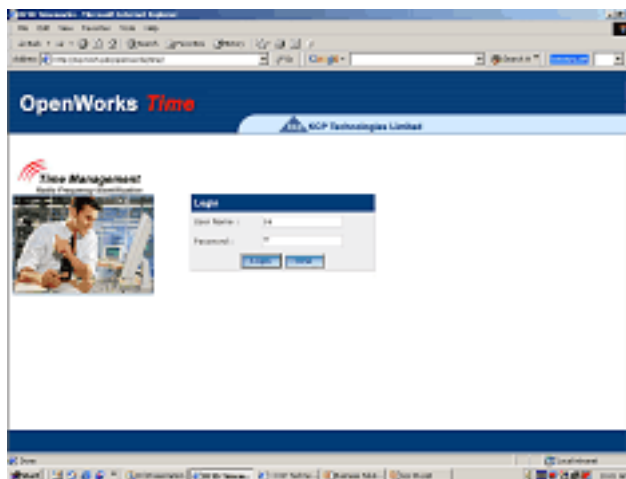
## Tray Menu

Right clicking the system tray icon enables a host of functions like starting/stopping the scanning process, Hiding the main application window, viewing the reports, and other options like accessing the database.



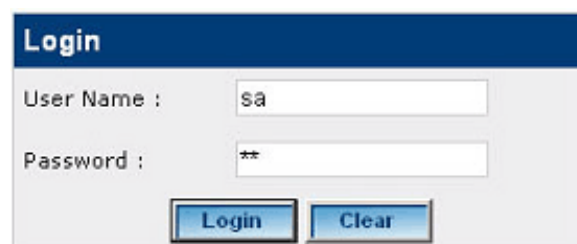
## Web based Reports

The web-based reports of the OpenWorks TIME enable to run the reporting part on any web server and enable the employees and the HR personnel to monitor the activities of the employees in real time throughout the network.



## The Login Screen

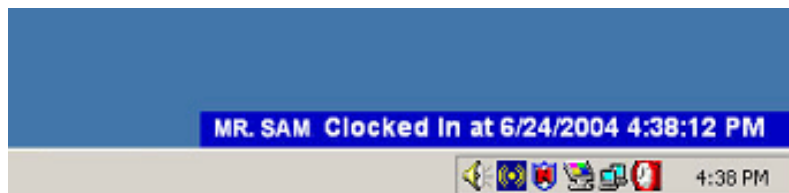
The login screen enables the user/administrator to log into the system with the username and password and enables the user/administrator to monitor the web based reports.





## Tray Event Pop-up

The tray event pop up is a fascinating feature that allows the administrator to monitor the scanning and movement of the employees in real-time at the system tray icon. In the event of any scanning attempt by a user not in the database list, the system will give a pop-up of the invalid user with a long beep.



## Reports

- Daily Reports, Weekly Reports, Monthly Reports, etc.
- Late Attendance Report, Early Goers Report, Man Hour Metrics, etc.
- Manual Adjustment proxy entry, Holiday entry, Leave entry, etc.

OpenWorks Time																																				
KCP Technologies Limited																																				
September															2004															Submit						
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Employee	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	No.Of Days	CL	EL	DL	Pay Days	Rem
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Adjustment Entry Screen

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## Scope for expandability

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- Identity
- Time
- Perimeter Access
- Payroll
- Visitor
- Time Sheet (Project Resource Tracking)
- Library Management
- File
- PC Login
- Canteen Resource Management
- Car park Management
- Vending Machine Management
- Document Management
- Asset Tracking
- Vehicle Tracking



## Conclusion

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Whether you're equipping a new facility with the latest in security or upgrading your existing legacy time & access system, contact less 13.56 MHz RFID technology functionality at a price point comparable to traditional proximity solutions. The industry currently demands higher levels of security with a single-card solution.

Texas Instruments, USA established as a worldwide business in 1991, becoming the first multinational semiconductor company to develop and market RFID systems. Combining competencies in semiconductors, microelectronics packaging and computer systems with an open platform design approach and manufacturing know-how, TI-RFid is opening the market for rapid implementation of low-cost RFID solutions.

The 13.56 MHz ISO 15693 based technology is a reality now with features like higher levels of security for access control, time and attendance and authorization, to asset tracking, vehicle access and even cashless purchases in the cafeteria or at the vending machine.

These systems enable accurate data collection at various levels and eliminate the inaccuracies that are caused by most traditional systems. The seamless data transport capability enables to expand it to areas like Payroll, Project Resource Tracking (Project Timesheet), Human Resource Management, Financial Management, etc. with utmost accuracy and in real time.

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