

# ESS-TNA Integration with Bosch Access Control System



The basic function of time and attendance system is to process the access grant logs to generate the attendance reports as per the organizational standards. It automates day-to-day activities by performing administrative tasks such as tracking work hour, calculates benefits accrued, time and expense entry, generating reports, and provides valuable information making business more efficient.

**ESS-TNA** is a web based comprehensive Time and attendance management system designed to provide a user-friendly environment in order to configure the TNA terminals, and define various features of time and attendance.

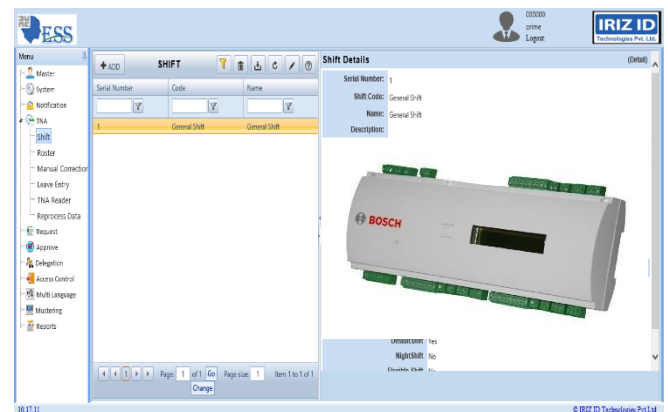
## OBJECTIVE:

The vital goal of integrating Time and Attendance system with third party application is to simplify the process flow, data normalization and de-duplication, process automation, ease of access, avoid overhead in manual process, human intervention and errors, easy to use and maintain the system.

The flexible and simplified architecture of **ESS-TNA** proves its scalability to integrate with third party system by introducing new integration layers without disturbing the core business process.

## ESS-TNA Integration with BOSCH ACS System:

Bosch is one of the leading manufacturers and solution providers for Access Control and Security solution products, there are three different flavors of ACS software BOSCH offers, namely BIS, APE and AEC, BIS and APE works on AMC controller, and AEC is an Access control panel with embedded management software.



## FEATURES:

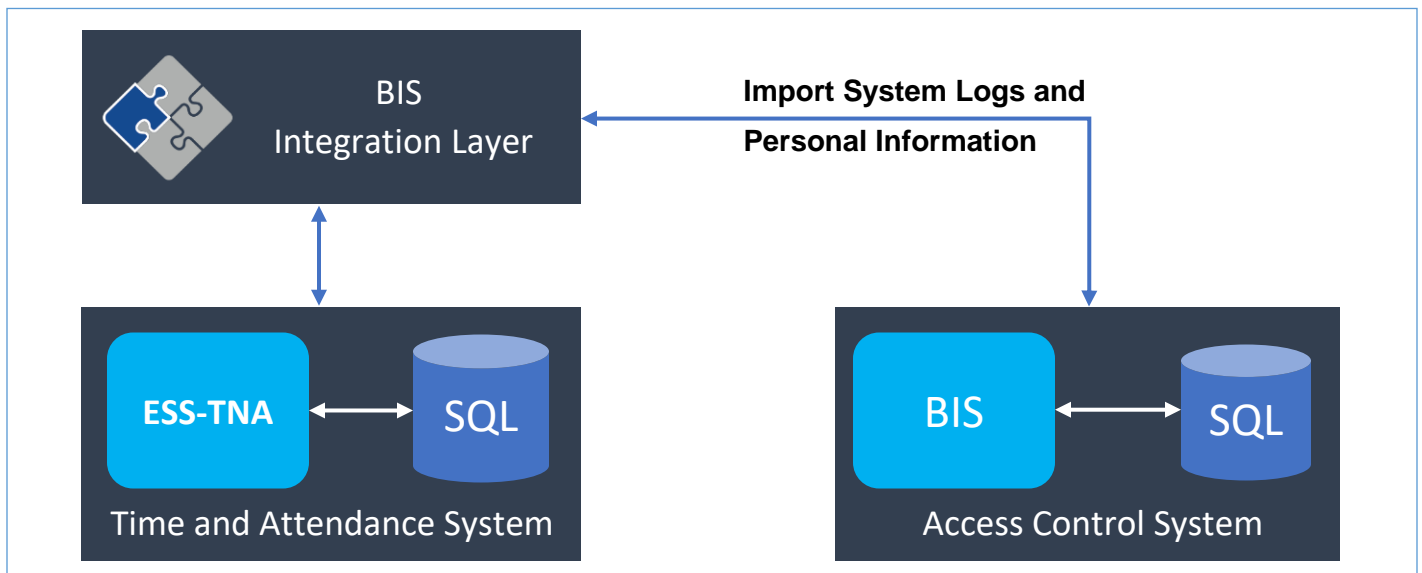
- User Access Level
- E-mail Notification
- Approve Forms
- Delegation
- Reprocess Data
- Shift Management
- Roster Management
- Over Time Calculation
- Leave Calculation
- Missing Punches / Manual Punches
- Reports

Many More...

## BIS Integration:

ESS-TNA is successfully integrated with BIS, to import the attendance logs and processes the logs imported from BIS to generate the Time and Attendance reports.

Demo Link: <http://106.51.36.165/ESSTNABOSCHIntegration/HomePage.aspx>



## INTEGRATION METHODS:

**Software Integration:** There are three major different types of Software integration as listed below.

- Software Integration to import master information (Personal details) from third party software (Ex: HR system)
- Software Integration to export the processed attendance information to payroll or HR system.

*Note: Clint to share the complete details of integration including database detail.*

- Software Integration to Import the Attendance logs from third party Access control system to TNASoft to process the logs and generate the sophisticated reports.

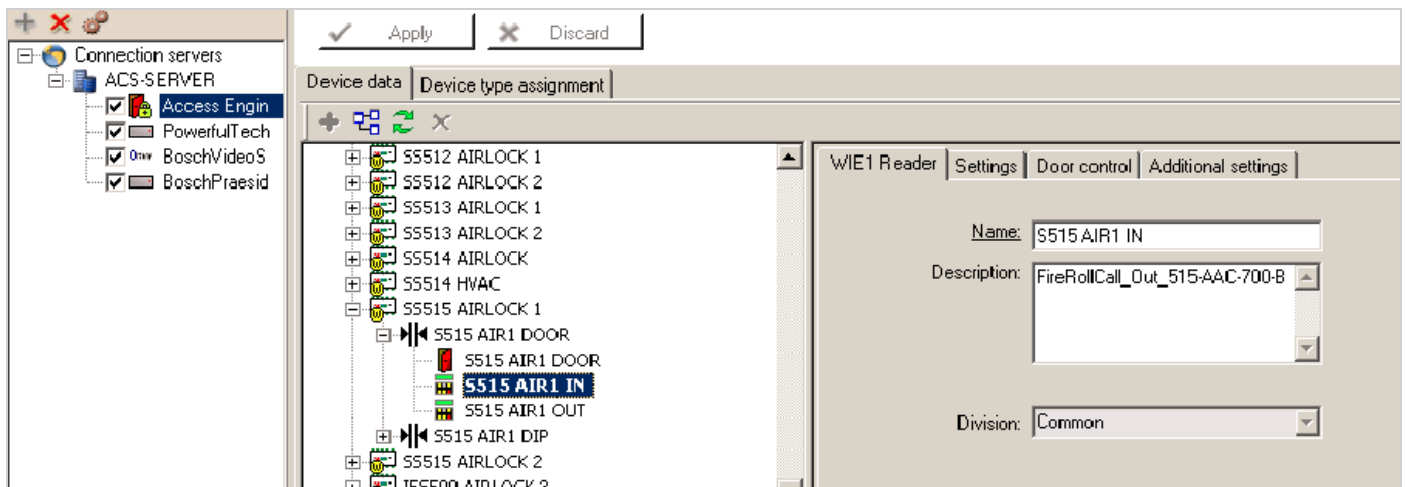
**Hardware Integration:** Time and attendance terminals or Access control readers are the important components in Attendance system thus indeed used to record the transaction of events occurred (Such as Punch-In/Punch-Out etc.).

Off the shelf TNASoft is Integrated with Well recognized brands such as HID, ZK Teco, KJ Technologies, Trust One, Ingersoll Rand (Schlage) and ATS etc.

**Note:** TNASoft is successfully integrated with well recognized ACS systems including all the three types of access control System from BOSCH (BIS, APE and AEC), G4S, ZK-Teco and etc.

**BIS Integration Layer (BISTrans):** BISTrans is an executable file runs in any windows platform higher than Windows-XP, and it performs the following operations.

- Reads Attendance logs from the ACS events occurred in real time
- Transfers the logs read from BIS to TNASoft to process and generate the Reports
- It shall be configured to read the logs in real time or periodically (Ex: Every 5min)
- It also imports master information (personal details) for every new occurrence of the employee record in BIS
- It cannot write Data to BIS (It is Read only)
- To determine the attendance logs and punch type (Punch In/Punch Out) reader's description shall contain some fixed context of text  
Reader\_IN: Reader used for Punch In  
Reader\_OUT: Reader used for Punch Out



- System architecture and process to integrate with APE and AEC remains same, except following deviations
- Importing master information from APE and AEC is not supported due to some technical restrictions
- The Attendance logs shall be processed one day later than current date (Yesterday's logs shall be processed today, and today's logs tomorrow)
- The attendance calculation such as Total working hour, over time calculation shall be based on FILO transaction (First In and Last Out punches)

## SYSTEM SPECIFICATION AND LICENSING:

The host application is available in two versions windows desktop version and web version; both the versions use MS SQL as backend and C# .NET/C# ASP.NET as frontend respectively. It is PC based license, each key works for one PC.

### PREREQUISITES FOR WINDOWS APPLICATION

Prerequisites	Recommended	Minimum
Processor	2 GHZ	1 GHZ
RAM	4 GB	2 GB
OS	WIN-7 or Higher (32/64 bit)	WIN-XP-SP3
OS-Server	WIN- 2008 Higher (32/64 bit)	WIN-2008
Database	MS-SQL-2008 Higher (32/64 bit)	MS-SQL-2005
Disc space	500-GB	40-GB

### PREREQUISITES FOR WEB APPLICATION

Prerequisites	Recommended	Minimum
Processor	2 GHZ	1 GHZ
RAM	8 GB	4 GB
OS	WIN-7 or Higher (32/64 bit)	WIN-7
OS-Server	WIN- 2008 Higher (32/64 bit)	WIN-2008
Database	MS-SQL-2008 Higher (32/64 bit)	MS-SQL-2005
Disc space	500-GB	40-GB
Web Server	IIS-7 or Higher	
Web Browser	IE-9 or Higher	



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