

Time & Attendance  
**White Papers**

Topic  
Deploying a Time and Attendance Solution

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# **Overview of Time and Attendance Software**

Time tracking is one of the most time consuming and costly overhead functions in many organizations and businesses. Most do not realize that time tracking can be automated or that significant savings can be seen by analyzing their organizations approach to tracking time. Furthermore, the right type of time and attendance system is critical to yielding the best results. This white paper reviews the issues involved with deploying time and attendance software via Web-based solution.

## **Choosing the Right Time and Attendance Software Solution**

Selecting the right system to automate your time tracking needs can be an intimidating task. There are many factors to consider besides whether the system is designed for the web. Issues such as the types of calculations the system performs, the ways that data can be collected, the technology and how the data is interfaced with other systems are all important considerations in choosing the right time and attendance solution for your organization.

## **The High Cost of Software Deployment**

If you've ever been involved with developing traditional software or even managed a software distribution, you've come to realize the high cost of deploying software to desktop computers. Time and attendance software, because of the need for wide distribution presents an especially challenging problem. The traditional approach of installing software on desktops has the following problems involved:

- The software must be installed on each desktop. Unless an automated system or networked-based installation is used, an administrator must manually install

the software on each machine. This requires the skills and resources of a competent network administrator:

- Software upgrades are problematic. Software that changes frequently must be reinstalled on each desktop.
- Network-based installations can be difficult to upgrade especially if users are running the software on a 24x7 basis.
- Conflicts between older versions of the software are very common. Installing a new package or version can prevent another application from running.
- Desktop installation can require substantial resources on each machine in terms of disk space, memory, processing power, etc.
- Desktop operating systems are subject to errant modifications by viruses, malware or the end user that can cause the software to become corrupt and fail to operate.
- Traditional PC-based software requires an additional database layer of software to be installed on each desktop. Moreover, this type of software requires each end user to make a separate connection to the database, which has a detrimental affect on the scalability of the software.

Industry vendors such as Microsoft have announced various solutions to help resolve some of these problems. However each of these solutions brings an additional layer of complexity and cost. Managers must then consider the total cost of ownership of not only all hardware and software related to the time and attendance solution, but all the in-direct overhead involved with simply maintaining the software.

## **The Solution to Time and Attendance Software Deployment**

PC-based time and attendance software faces all of the potential problems above when deployed. Because the software touches most if not all employees, the costs involved are typically quite large.

The solution to all of the above problems lies in using Web-based technologies and the intranet. With web-based solutions, each end user accesses the time and

attendance software through a web browser from any desktop with internet access. Because all desktops whether PC or Mac now come standard with some kind of internet browser, each desktop already has the tools needed to access a variety of Web-based solutions.

These Web-based applications are traditionally split into two major components, a front-end and back-end. The front-end or user interface component executes within the browser, either as HTML, or JavaScript. The back-end, the portion that resides on the server, does all the heavy lifting. It can be developed and executed in a variety of ways, but open based technologies such as PHP and MySQL are the most common foundations that back-end solutions are built upon.

This approach has many advantages. The front-end handles the data presentation and user interface. This model means that the desktop doesn't require any database or programming to be installed in order for proper execution. Typically the only requirement is a compatible browser.

The server side or back-end also has many advantages over a traditional desktop solution. Typically the server side utilizes a multi-threaded design to maximize performance on a multi-processor server. The server side can typically split up resources by utilizing an application and database server in order to maximize on high availability and scalability required to support thousands of users.

This multi-tiered web-based design is ideally suited for time and attendance software. Time and attendance software that is widely distributed throughout an organization needs to run on a variety of desktops. The time and attendance software needs to support a very large user population. This is especially true in environments where a lot of employees may access the time and attendance software in a short period of time (such as in the morning or evenings).

## **Summary**

When choosing time and attendance software, carefully consider how the software is

going to be deployed. PC-based time and attendance software may work fine in smaller installations where only a desktop or two may need the software to be installed. However a larger installation of time and attendance software is best handled by a web-based solution that runs over the intranet.

Look for a time and attendance solution that has an approach that fits with your desktop and browser standards. Also make sure that the time and attendance software uses a back-end design that will scale to your requirements.