Knowledge Base Article

ISONAS Crystal Matrix
Time & Attendance Support

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1: INTRODUCTION

The ISONAS Access Control System can be used to capture and export Time and Attendance data. There are two methods available to capture the Attendance data. Either method can generate both printable reports, and data files which can easily be imported into other applications.

1.1: METHOD 1 — FIRST & LAST ACTIVITY DURING A DAY:

When this data capture/reporting method is used, the Crystal Matrix software will review the historical data, and generate data based on the 1st time a person used their credentials during a calendar day, and the last time that person’s credentials were used.

Advantages:
1. Convenience: Employees can use any reader-controller in the system to clock in/out.
2. Easy to implement: Does not require certain readers to be designated “In” or “Out”

Disadvantages:
1. Shifts that span Midnight are not reported as desired.
2. Does not handle “Split Shift” work schedules. An example of a Split Shift would be an employee who works 07:00 – 10:00 and then 14:00 – 19:00 in a single day.

1.2: METHOD 2 -- BADGING IN & OUT AT SELECTED READERS:

When this data capture/reporting method is used, selected reader-controller(s) are used to “clock in” at the beginning of the employee’s shift, and then at the end of their work, selected “out” reader-controller(s) are used to “clock out”.

When the Attendance Reports are run, the elapsed times between “clock in” and “clock out” events are reported.

Advantages:
1. Employee’s time records correctly account for multiple shifts during a day, or shifts that span midnight

Disadvantages:
1. The installation’s project planning must account for some readers to be designated as “In” and “Out” readers.
2. Some installations need to have dedicated readers for the “clock in” and “clock out” functions.
2: IMPLEMENTATION

2.1: FIRST & LAST ACTIVITY METHOD:

2.1.1: CONFIGURATION:

There is no special system configuration required to use this method of attendance reporting.

2.1.2: REPORTING:

Access the Attendance Report selection screen from the Administration application.

When the Attendance Report selection window appears, enter the following:

- Time Interval of interest
- Selection of personnel of interest (All, selected Group, or selected Person)
- All doors

Click on the “Report” button.
If data is to be exported to another system, answer “Yes” to create the ASCII data output file.

The system’s default handling of the output file can be configured thru the Administrator’s Main Menu → Files/Reports → ASCII Output options selection.

The printable attendance report appears:

![Attendance Report Image]
Once the printable report window is closed, the ASCII report is created and displayed.

The default name of the text file is `report.txt`, and it will be found in the LiveDB subdirectory. From this screen, it can be saved to any location you wish.

The data is grouped on a daily basis, and the field included are:

- The Person's "Unique ID"
- The Person's Name
- The Starting time for that day
- The Ending time for that day
- The Elapsed time worked for that day.
2.2: BADGE “IN” & “OUT” METHOD:

2.2.1: CONFIGURATION:

The access control system will be configured to identify those reader-controllers that are used to “clock-in” and “clock-out” personnel.

This is done on the “Door Detail” window.

![Configuration window]

A reader-controller can be:

An “In” reader, where people clock-in at the start their shift

An “Out” reader, where people clock-out at the end of their shift

A “Toggle” reader, where a person’s 1st card presentation “clocks them in”, and the next card presentation will “clock them out”.

Any activity recorded at an “Unspecified” reader is ignored by the Time and Attendance features of the access control system.

Some installations are physically designed to have doors which are specifically used when their employees are entering for work, and likewise doors that are used when the employee are finished. For these sites, the reader-controller’s used to generate Time and Attendance data may also control the associated doors.

Other sites will install dedicated reader-controllers at “timeclock stations” where the employee’s clock-in and clock-out. This is advantageous if the employees can enter and leave the facility during their normal work-shift.
2.2.2: REPORTING:

Access the Attendance Report selection screen from the Administration application.

This report can also be accessed thru the Monitor Application’s menu.

When the Attendance Report selection window appears, enter the following:
- Time Interval of interest
- Selection of personnel of interest (All, selected Group, or selected Person)
- IN-OUT doors
Click on the “Review” button.
2.2.2.1 ATTENDANCE DATA REVIEW:

When the Badging In/Out Time Accounting method is used, the system expects there to be a matching number of “badge in” and “badge out” activities. And it expects those activities to alternate.

If a user forgets to badge in-or-out, or accidently badges in-or-out twice, a manual correction to their time history entries is required.

The Review Attendance window will highlight any people who have inconsistent attendance history records.

![Review Attendance Window]

In our example shown, Peggy Almond’s entry is highlighted in yellow, indicating that her attendance records have an inconsistency.
Selecting her record, the details are shown on the right of the window. A quick review shows that she badged-in twice on the morning of June 12th.

One of the June 12th entries is selected, and the delete button is used.
Since we are making a change to the Time Attendance records, a pop-up window appears where a description of the change can be documented.

These comments can later be reviewed from the Review Attendance Window, by selecting the “View Log” button.

The “View Log” option is only available when the Review Attendance window is accessed thru the Administrator application.

Once Peggy Almond’s records are corrected, her entry is no longer highlighted.
2.2.2.2 ATTENDANCE REPORT GENERATION:

The Attendance data can be reported in two forms. One is a summary format, which includes one line per person, and the other is a more detailed format, which generates a page of data for each person.

The data can be exported to a Comma-Separated-Value text file (CSV file). The default file name is TimeData.CSV, but that name can be modified in the field shown.

From the Review Attendance window, selecting the “Print Summary”, generates the summary report.

The generated CSV file is shown below:

There is one line of data for each person, and the columns are:
- The Person’s “Unique ID”
- The total number of regular hours worked in the selected time period.
- The total number of overtime hours worked in the selected time period.
- The grand total number of hours worked in the selected time period.
- The total number of Saturday hours worked in the selected time period.
- The total number of Sunday hours worked in the selected time period.
- The total number of Holiday hours worked in the selected time period.
The “Print” or “Print All” buttons, generates the Attendance Detail report.

“Print” will generate a report for the single person selected on the review form, and “Print All” will generate a report that includes everyone shown on the review form.

The printable report has one page per person, and is shown below. There is an entry for each time the employee entered and left the facility.

The generated CSV file is shown below:
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