

The Challenge

Coca-Cola Bottling Company United, Inc. (CCBCU) expressed an interest in transitioning from its existing time collection system to a solution that can connect its numerous existing time clocks directly to its SAP payroll system. CCBCU is also participating as part of The Coca-Cola Company's efforts to combine multiple SAP environments into a "North American" standard. The new solution for CCBCU needs a way to not only support the new SAP requirements but also the existing legacy SAP requirements for period of time. This interface would require two way communications with the clocks to update them with employee information and to collect the punches in a real time manner. The punches would then be sent to the correct SAP system based on employee data. A custom format has been specified for the posting to SAP that is different from the standard SAP IDOC via ALE typically used for punch uploading. This interface requires the punch files to be sent to a secure location via SFTP. Also, the clocks should continue to function even if they were offline for any reason just as they did with the previous system being replaced.



A second requirement is to interface both SAP environments to a newly installed "off the shelf" telephone time entry system. The punches need to be collected periodically from the "TTE" system and sent to SAP in the same format as the above interface. For a period of time, the legacy AS/400 based system must also be supported with punches collected by the TTE for certain employees. Therefore there must also be an interface to send these punches to the legacy system.

Lastly, the interface specified to load employees on the clocks has to support multiple SAP systems and multiple plants. The format provided is not the standard SAP IDOC "Mini-master" typically received via ALE, but a simple flat file. The file must be parsed and each employee record sent to the correct clocks based on organizational values.

The Solution

The PDC Gateway interface platform was chosen by CCBCU as the interface tool. This system offers the flexibility required to gather the data from SAP from IDOCs or in this case from flat file exports. The master data updates to the clocks are driven completely by SAP either as scheduled updates or as manual on demand downloads. The included graphical mapping tool was used to map the data from the inbound file to the interface's internal database tables and then on to the clock's required XML post format. This tool provides "drag and drop" functionality that includes field level C# or VB.NET scripting to modify mapped values. These maps are easily modified to support future changes for additional plants or other logic.

The interface GUI also provides a user friendly clock management screen. This tool includes a tree based view of the clocks separated into groups. Each group can represent a plant or any other required division. Clocks can be added, removed or moved between groups using mouse actions. Menus provided at each clock node can perform all of the required clock maintenance functions such as initialization, report queries, time set, reboot device, and many others.

Punches are collected in real time by one or more collection services for clocks that support online collection. Older clocks are also supported with batch collection but were not required in this instance. The punches are added to the interface's punch table where they are periodically formatted into the required file and sent to the SFTP location for the correct SAP system. Again, this interface is easily modified as needed with the graphical mapping system.

Lastly, the telephone time entry system interface was added to format the punch data from the provided format to the required output file that matched the above clock interface. This interface also supports both SAP systems by separating the punches and sending to the correct SFTP location. Legacy punches are sent to the CCBCU IBM iSeries (AS/400) system using a clock emulator service. The punches are sent to the legacy system just like a clock would send them.

Overall the interface provided by the PDC Gateway allows CCBCU to maintain its large inventory of existing clocks while improving the capability of acquiring the employee punches needed by their multiple SAP environments. The interfaces are easily modified as the requirements change during their planned SAP consolidation.