Integrating TimeControl® with Microsoft Project, Project Server and Project Online

An HMS Best Practices White Paper

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With the release of Microsoft Project Server in 2002, Microsoft launched Project into the enterprise project management software arena. Included with Project Server is a timesheet view, which allows team members to update the hours they have spent on individual tasks. When integrating Microsoft Project data into a corporate IT infrastructure has resulted in some organizations reviewing Project's timesheet data with the standards required for systems such as Payroll, HR, Project Costing, Billing or other corporate legacy systems. TimeControl is ideally suited for this type of requirement.

TimeControl is an enterprise timesheet system published by HMS Software which is designed to integrate with both scheduling systems such as Microsoft Project and corporate financial and control systems including most ERPs such as Microsoft Dynamics, SAP, PeopleSoft, and Oracle Financials. TimeControl was first released in 1994.

HMS Software was formed in 1984 as a firm specializing in the automation of project management environments. It has been a Microsoft Project Solution Provider since Microsoft created the designation in 1995 and is a Microsoft Certified Partner.

HMS has maintained a link between TimeControl and Microsoft Project since 1995 and with Project Server since 2002. TimeControl also includes a link to Project Online.

In 2006, HMS was recognized by Microsoft as a "First to Market Partner" for its work in integrating TimeControl and Microsoft Project Server.

The timesheet view within Project Server is ideally suited for organizations that require timesheet data primarily for the purpose of updating tasks defined within Microsoft Project. This paper will be of specific interest to organizations that have an interest in using project-based timesheet data for both project updating and financial purposes.

No, not all timesheets are created equal. There are many types of timesheets on the market today which fit into several categories of timesheets, each with their own purpose. We've outlined some of the most common categories here.

Time and Attendance

Time and Attendance timesheets are the most common types of timesheets on the market. They are typically delivered as part of the corporate human resources (HR) system or the corporate financial or ERP system. Time and Attendance systems focus primarily on how much time you have spent working for the organization during a particular period and whether or not you should be paid for this time. Often, these systems are intimately linked with the organization's payroll or Human Resources system. They usually allow for the entry of whether or not an employee worked, whether special pay is required for example for overtime, exception days such as holidays, vacation or, sick leave.
Time and Attendance timesheets are divided into two types of entry: Positive-Entry or By-Exception. A Positive-Entry system requires each employee to complete his or her timesheet for a given period. A By-Exception-entry system requires a timesheet only for recording absences with the reason for the absence.

Time and Billing

Time and Billing systems are the next most common type of timesheet to be found in an organization. These systems are designed for professionals such as lawyers, accountants, and consultants. The basic purpose of a time and billing system is to qualify any billable hours per client. The key element of each detail item is the client identifier. Most time and billing systems allow for a descriptive element. This is to ensure that there is enough information to justify an invoice for each period. Terms such as "project" and "task" are common in such systems but they are usually best thought of as qualifiers for an invoice rather than a pre-determined set of tasks each with a schedule, budget, and scope.
Time and Billing systems are often driven by per-client rates rather than per-employee, or per-project rate schemes.

Manufacturing time and motion

Time and motion studies date back to the earliest days of the assembly line. Time and motion studies were developed out of a desire to increase the throughput of work through a particular manufacturing process. Timesheet systems based in the manufacturing world are often driven by hardware such as laser bar-code scanners, magnetic card readers or other mechanical devices. In such a system, an employee on the shop floor might swipe their employee magnetic card across a reader when arriving at a workstation to begin work on a large unmovable module (e.g. an aircraft plane engine). Once they had completed work on this task, they would swipe their card again to indicate the work was complete. Hours in assembly would be tabulated and allow Finance to determine a true total cost of assembly.
Manufacturing Resource Planning (MRP) systems often include such functionality. What is usually missing from these paradigms is linking the data back to a project management system where a plan for the work was established. The link between project systems and manufacturing systems is a subject that warrants a white paper of its own and won't be

discussed in any detail here but it is sufficient to say that mixing these two paradigms requires an involved process.

Project-update timesheets

These days, almost every project scheduling system includes some kind of timesheet entry. These interfaces are designed to allow end-users to enter time against any activity. The data, once entered, is used to update the activity's resource progress. There is often some level of project-manager approval commonly referred to as line-item approval.

For many project management environments, this type of timesheet is all that is required. The timesheet view in Project Server's Web Access Client is such a system.

Project managers will get the task-to-date hours against the original plan and a close approximation of actual labor costs – certainly enough to produce budget vs. actual variance reports. However, these timesheets and the architecture used to produce them are rarely sufficient for financial purposes. It would be unfair to characterize this as a deficiency of these systems. The first thing to remember is that most project management systems such as Microsoft Project are, by their very nature, forward-looking analytical tools. For a planner, the actual-hours per task is only interesting to the degree it reveals the future. A planner, for example, might elect to delete a task from a project. Perhaps future plans have changed and no additional work will be done on that task. Or, perhaps the task will be replaced by two or three other tasks which have been now defined in more detail. No problem for the planner, they are only interested in what will happen in the future. For anyone interested in historical data, however, there may be more of a problem. In many project-update systems, the loss or change of an activity means the automatic removal of any data linked to that task. Even if data is not deleted, the financial controls such as post-period adjustments, financial approvals, and business rules compliance are rarely managed within such systems. Even simple functions such as determining if all timesheets have been entered are often not supported in such a system.

This makes project-update timesheets best suited when only the project data must be updated.

Enterprise timesheet systems

For some organizations, there is an interest in collecting time for both financial and project purposes. For this market there are a small number of timesheet systems designed to fill multiple purposes. TimeControl is such a system.

These timesheet systems are usually based on a project model, allowing data to be collected at the task level with an intent that the data will ultimately be returned to the project system as task progress. However, these systems also include the financial controls which allow their data to be accepted by the finance department and the facility to be integrated directly into the financial system. Enterprise-wide timesheets can be implemented for individual departments, for small to medium sized business or in a large-scale organization. These timesheet systems are appropriate for project-oriented businesses where there is a need to determine not only how much time has been spent but what that time was spent on.

Because these enterprise systems include both the ability to link to a project-management system such as Microsoft Project and the financial controls which allows the Finance system to accept their data, they can be used to fulfill the needs of time and attendance, time and billing and project-update requirements at the same time.

Summary

For organizations that only require tracking the total quantity of time spent, and an indication of why any absences occurred, time and attendance timesheet systems are the most appropriate. They will already be integrated into the ERP, HR and/or Finance systems and will be a natural extension of that functionality to all users.

For organizations that are professional in nature and must bill their work but who have no requirement to link that data back to a project management system such as Microsoft Project, a time and billing timesheet system required. It will need to support many rates for each resource. This will allow invoicing to be completed in the most effective manner possible.

For organizations who are using Microsoft Project and wish only to update the resource progress data with actual hours but will have no requirement to use that data for financial purposes such as payroll, billing, identifying leave, project costing or any other auditable purpose, the timesheet view in Project Server or Project Online may be sufficient. This view will allow task data to be updated directly and provides a project-owner approval line-by-line but is unlikely to serve as an auditable source of effort or costs.

For organizations that must capture time in order to update both the project management system and a financial, HR or ERP system, then a multi-function timesheet system such as TimeControl may be most appropriate. For Microsoft Project environments, TimeControl can be integrated directly into the Project Server or Project Online interface and displaces the Project timesheet view with no interruption to the client and provides added value by ensuring that data be used both for financial purposes as well as updating the project data in Project Server.

If software doesn't answer your specific business challenge, then the functionality included isn't relevant. At HMS we think of our deployments as business scenarios; challenges that must be met by specific functionality in order to make the organization more effective. This list of possible scenarios demonstrates some of the business challenges that can be met by TimeControl.

For comparison purposes, we've included one of the scenarios that can be met also by a default Project Server deployment using the timesheet that is natively available in Project Server. The Microsoft Project team refers to this as Scenario 0.

While this list of scenarios is not exhaustive, it does reflect some of the more common requests that we receive when looking at integrated TimeControl and Microsoft Project deployments

Scenario 1 – Project Server default

For organizations who wish to capture task effort and total work separately and then distribute the associated timesheet to a supervisory structure and then separately distribute the associated assignment progress to the project managers, the Project Server timesheet environment is ideally suited. This system will allow progress on tasks to be updated on a different schedule (e.g. daily) from the timesheet updates (e.g. weekly).

Scenario 2 – Mixed Environment

For some organizations, deploying a single instance of Microsoft Project Sever is not the ideal situation. These organizations may decide to deploy a mixture of project solutions for their needs. Perhaps they require several Project Server installations to serve a geographically or organizational diverse clientele. Or, perhaps they have decided to deploy Project Server for some users and Project Standard for others. Or, perhaps the organization must maintain some projects in an older version of Project Server and others in the most current version.

If the organization still wishes to deploy a timesheet for all users, the timesheet inside one of the Project Server installations will be unable to service all user types. TimeControl is designed to integrate simultaneously with multiple project management sources including Project Server, Project Online and Project Standard (or Professional).

Scenario 3 – Time and Expenses

Some organizations will wish to deploy a timesheet that is also capable of capturing non-labor expenses. These might include travel expenses for consultants or material or equipment costs associated with completing the work at hand. The Project Server timesheet does not capture non-labor resources but this can be accomplished with TimeControl. The timesheet data will go to payroll, project billing and Project Standard and/or Project Server. The non-labor or expense resource information can be transferred to both the Finance system and Project Standard and/or Project Server.

Scenario 4 – TimeControl / ERP Deployment

Some organizations plan to use both Microsoft Project and their ERP Finance system in an integrated environment. In this case, TimeControl can provide both systems with the data it needs. For some organizations this is a requirement to meet government requirements such as Sarbanes-Oxley or DCAA (Defense Contract Audit Agency) or FMLA or European Work Rules compliance.

For the Finance system, TimeControl provides auditable labor results and costs which will always match the project data. This is because TimeControl's Matrix Approval Process uses the same data for both Project and Financial requirements. For Project, TimeControl sends only that data which is related to tasks and assignments including the hours, the costs and the progress.

Scenario 5 – Complex Rates

In some organizations, the actual cost rate varies dramatically for each element of work. While rate codes can be applied by Project Server, calculation or looking up a particular rate value is not. TimeControl includes extensive rate functionality which allows the tracking of rate values for an unlimited number of rate selections with both internal and external rate values tracked. End users can enter a customizable list of selections which can be then matched to proper rate codes.

For example, the client may have identified some of its resources which have highly complex rate structures. Some users might be unionized in which case the rates are determined by the conditions of work for that employee on particular tasks on particular days. In the example of some workers there might be a shift a premium for being on stand-by, a premium for working at night, a premium for working in a remote location and a separate premium for being a team leader. These premiums might apply only for certain tasks or for an entire shift. Each employee on a given day might have as many as 20 or 30 different rates represented on their timesheet.

Scenario 6 – Banked or Flex time

Some clients describe a policy where employees are allowed to bank overtime and withdraw time from the overtime bank to take time off. The rules might allow for a certain number of days of overtime that can be banked and other rules that indicate that no one can remove time from the bank for time off unless they have sufficient time in the bank to allow for it. This policy might apply to some employees or to all employees. TimeControl's Validation Rules structure allows for such business rules to be defined within a menu system which makes this type of structure self-managing.

Scenario 7 – Automated Validation Rules

Most timesheet deployments require that both accuracy rules and business rules be applied to a timesheet. TimeControl's automated validation rules system includes this functionality. This effectively distributes the approval process to the place where errors are most effectively corrected – the end user.

Validation Rules can include simple rules such as "no more than 24 hours work per day" or "No holiday time booked on weekends". Rules can be applied to all users or only to select users.

For example, only salaried staff might have a rule which indicates "Exactly 40 hours of regular time per week – all other time must be overtime or banked time".

Validation Rules can also include business rules such as "no overtime unless you have banked sufficient regular time" or "use the ACME billing rates when working on tasks for ACME projects". Rules can have a warning or an error condition.

There are many benefits to using TimeControl as it has been created from its inception as a multi-function timesheet and is widely regarded in the industry as the most flexible timesheet application available. Specifically when considered as an alternative to the Microsoft Project Server timesheet functionality however, there are some features of TimeControl that may be of particular interest:

Auditable timesheet data

TimeControl's records are often used for Payroll, HR and Finance and must maintain a complete auditable record both for timesheet entry and any adjustments.

Matrix Approvals

HMS invented a process where both project management and finance could both approve timesheet data. This process has stood the test of time since the early 1980s and is one of the most popular aspects to TimeControl.
For more information, go to: TimeControl.com/use-cases/matrix-approvals.

Rates

TimeControl's rate functionality is extensive. We support an unlimited number of rates per employee, per charge and per project. Rates can be associated to resources, employees, or projects. Extended Rate functionality supports triggering rates based on line item entries including premiums and other rate changes.
For more information, go to: TimeControl.com/features/rates.

Automated Validation Rules

You can create an unlimited number of automated business validations within TimeControl. This can catch simple errors such as "No sick leave on weekends" or "no more than 24 hours charged in a single day" or business process errors such as "no overtime unless you've completed 40 hours or regular time".

Expense Reporting

TimeControl allows users to enter non-labor costs such as expense reports as part of their timesheet.

Missing Timesheet notification

TimeControl can send automatic emails to those whose timesheets are still missing or to supervisors who have not completed their approvals.
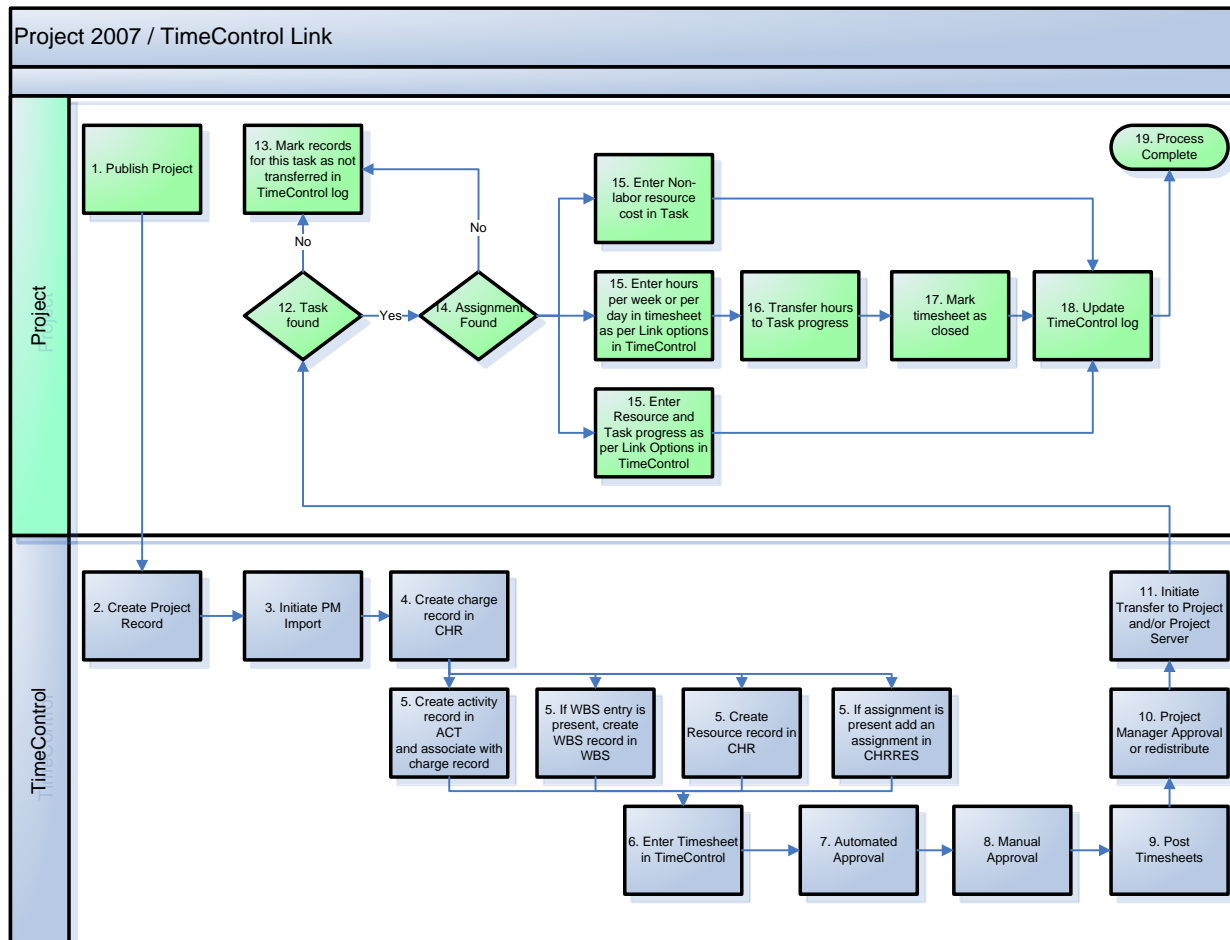
Free TimeControl Mobile App

TimeControl includes a free Mobile App available from the Apple App store for iOS devices and Google Play for Android devices. Timesheets can be created, edited and approved through the App.

DCAA, Sarbanes-Oxley Compliance

TimeControl supports DCAA, SOX and many other auditable compliance requirements.

The Interface that links data between the two systems is extremely flexible and able to be scheduled for the movement of pertinent data in both directions. Because of the unlimited number of ways the interface can be defined, there is no one workflow that can be established for integration of the two products. As a guide, we have outlined below a typical flow of data between TimeControl and Project Server.

Project 2007 / TimeControl Link

Project

- 1. Publish Project
- 13. Mark records for this task as not transferred in TimeControl log
- 12. Task found
- 14. Assignment Found — Yes
- No → 13
- No → 14
- 15. Enter Non-labor resource cost in Task
- 15. Enter hours per week or per day in timesheet as per Link options in TimeControl
- 16. Transfer hours to Task progress
- 17. Mark timesheet as closed
- 18. Update TimeControl log
- 15. Enter Resource and Task progress as per Link Options in TimeControl
- 19. Process Complete

TimeControl

- 2. Create Project Record
- 3. Initiate PM Import
- 4. Create charge record in CHR
- 5. Create activity record in ACT and associate with charge record
- 5. If WBS entry is present, create WBS record in WBS
- 5. Create Resource record in CHR
- 5. If assignment is present add an assignment in CHRRES
- 6. Enter Timesheet in TimeControl
- 7. Automated Approval
- 8. Manual Approval
- 9. Post Timesheets
- 10. Project Manager Approval or redistribute
- 11. Initiate Transfer to Project and/or Project Server

To support a single timesheet such as TimeControl being used for auditable purposes, approvals must be complete before the data returns to Project. The approval functionality within Project cannot be used to accept and reject data. Data that would be rejected by Project would have nowhere in the approval process to go. It would become orphaned and the summary of approved hours in TimeControl and accepted hours in Project would not be able to balance again.

Similarly, the timesheet entry and the task update entry in Project cannot be used for updating data. If some data is updated in TimeControl and some data is updated in Project, the likelihood that the data will become out of balance approaches 100%.

TimeControl has a remarkable range of functionality surrounding approvals. You'll find more at: TimeControl.com/use-cases/matrix-approvals.

Project Table

The Project Table shows a record for each project in TimeControl. If you are using Project Server on Premises, this table can be populated automatically using the OnPublish.DLL provided by HMS and further described in the TimeControl Install Guide.

The Project Table's Transfer Options allows an Interface Definition to be selected that ties the project to a specific project in Project, Project Server or Project Online. Data
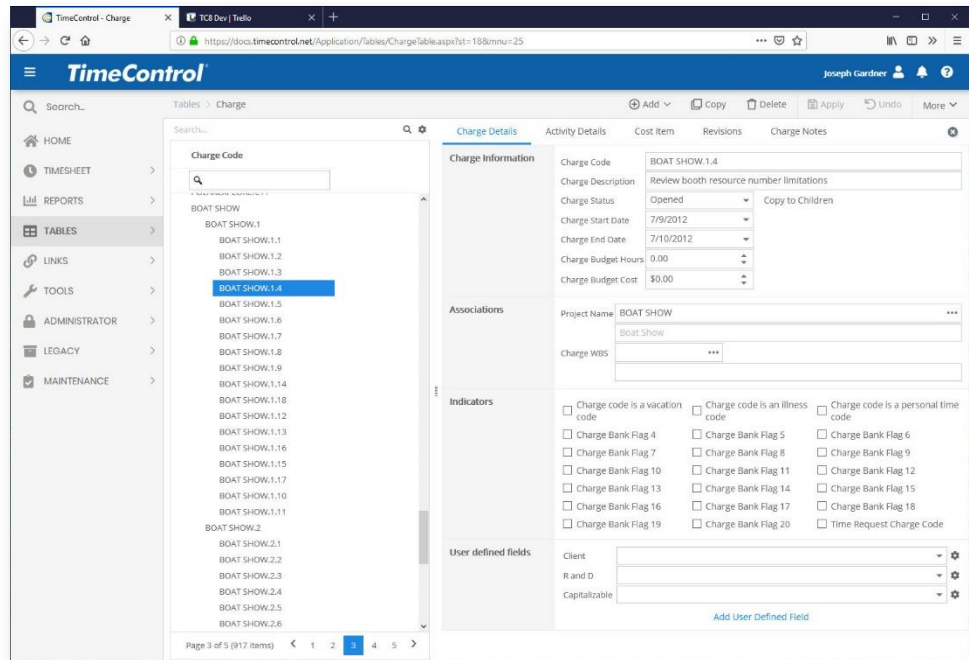

can then move back and forth between TimeControl and Project either on demand or on a schedule. User Defined Fields in the Project table can be linked to Project-level Enterprise or other fields and the values of those fields will then be transferred automatically to TimeControl.
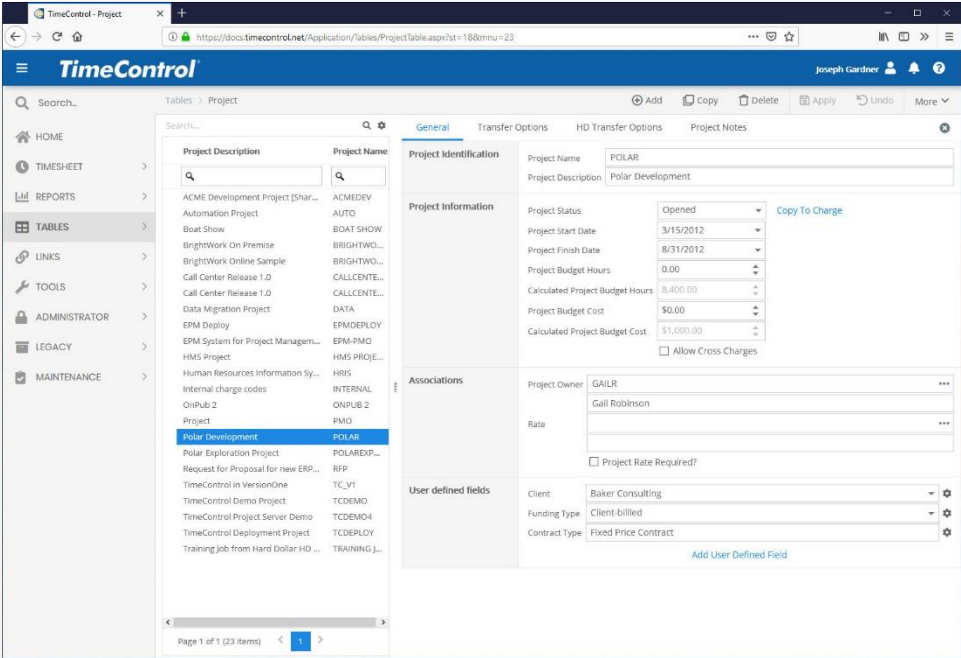
Charge Table

The Charge Table contains the selection of data used for each line of the timesheet. When linked to Project, this table is populated directly from the project records. Typically one TimeControl Charge Table record is created per task. The configuration can support multiple levels of hierarchy and other coding structures as may be desired during transfer to make the list understandable and easy to access for end users. When populated from Project, the Project


association will be created on the Charge Details tab and an Active record will be found in the Activity Details tab. There is never more than one Activity per Charge record.

This table also includes any non-project or overhead codes.

User defined fields in Project can be transferred here as part of the link process based on the configuration of the Interface Definition.

Activity Table

The Activity Table includes information directly transferred from the Project data. It is found in the Activity Details tab of the Charge Code Table. Activity records are not editable with the exception of the Sum-To-Task information and the Activity Estimate to Complete which is distinct from the Assignment Estimate to Complete.

Whenever TimeControl links to a project it updates this record. This record is only created when a TimeControl Charge has been created from the import of tasks from the project management system.
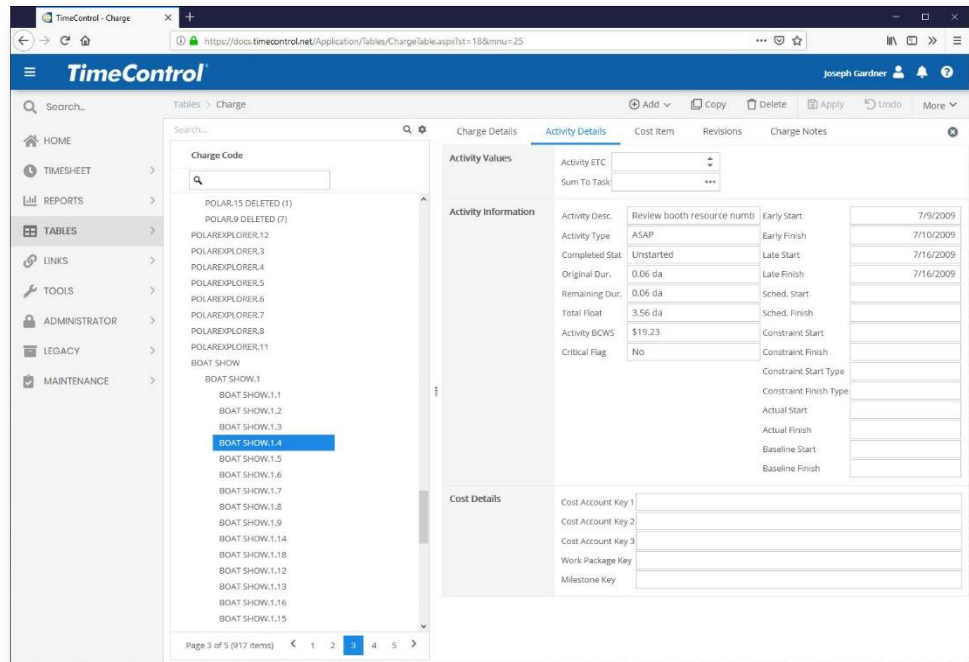
Employee Table

TimeControl's Employee table determines who can enter a timesheet. Because TimeControl distinguishes between users, employees and resources, this does not define the resource in Project that hours are transferred to. In the Employee Resource area, TimeControl asks what resource code from Project this employee is a part of. This can be a specific resource such as an employee name but it could equally be a generic resource such as a team or a group of a certain skill. There are advantages and disadvantages of both approaches. TimeControl also supports the concept of line-item resources where an employee filling in their timesheet can define what resource they were representing for that line of the timesheet. This allows a single person on one timesheet to be one kind of resource for one timesheet line and a different resource on another.

Employees are defined directly in TimeControl.
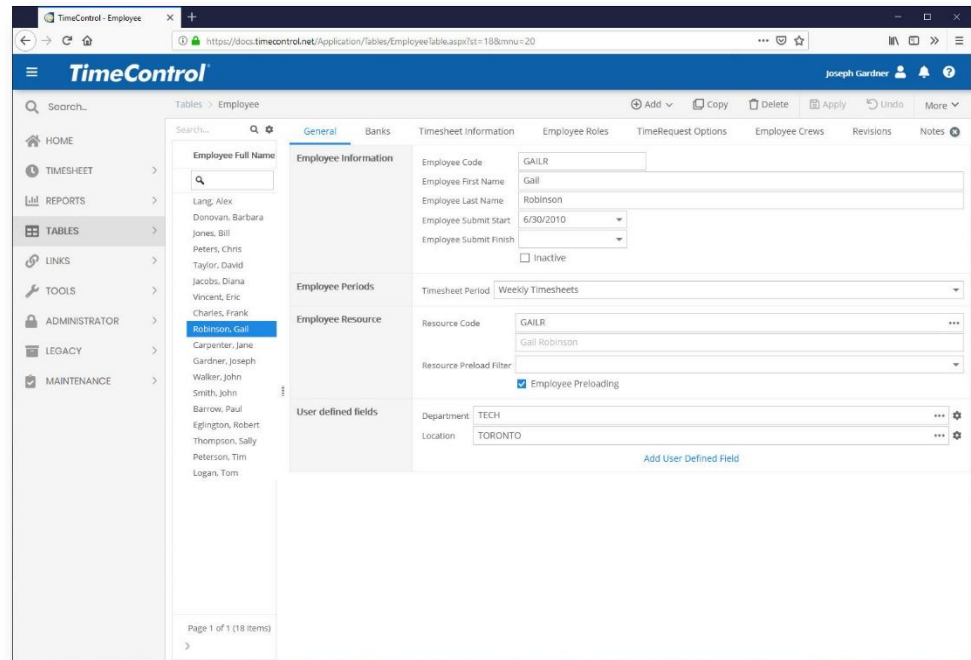
Resource Table

The Resource Table includes resource records from Project. It can be manually created within TimeControl or automatically populated when TimeControl links to Project. Labor, Material and Cost resource types are supported. Once this table has been populated, the Employee Table should have a Resource Table record associated to each Employee record.

Note: If there is no resource associated to an Employee's record, then when that Employee's timesheet is posted, its hours will not be sent back to Project.
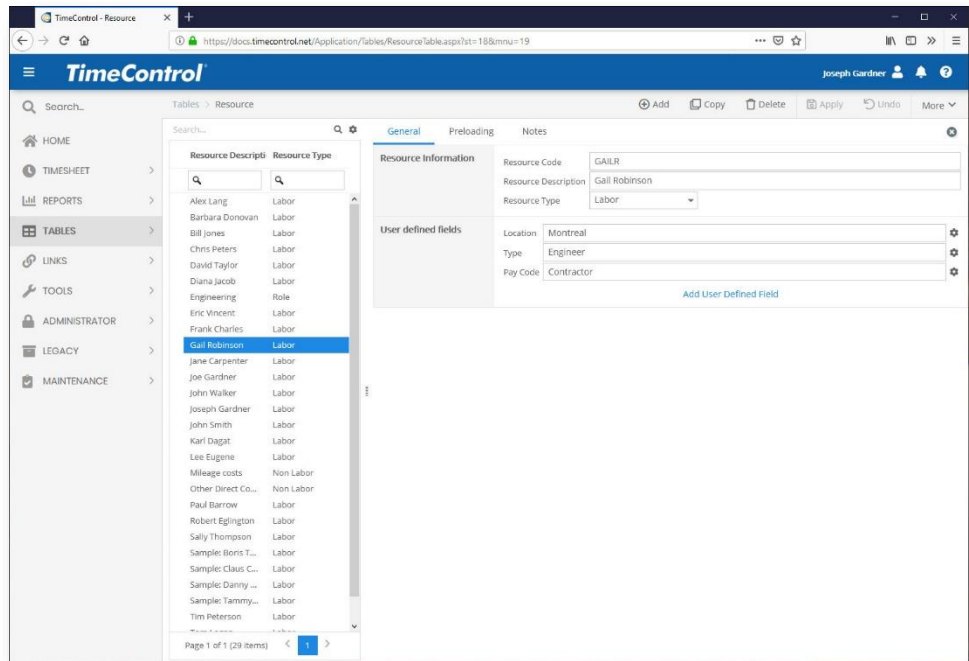
Assignments Table

TimeControl's Assignment table is used to pre-populate the employee's timesheet with charges that were expected. The pre-loading list comes from three sources:

1. This assignment table
2. Personal Pre-loads found in the My Account area of TimeControl
3. Holidays and approved time off defined in the TimeRequest module.

The assignment area allows assignments to be added manually or populated automatically from Project. If assignments are added here, they will not be automatically transferred into Project as assignments.

User Defined Fields

TimeControl can move data from user defined fields in Project to user-defined-fields in the TimeControl Charge table. There is no limit to the number of fields that can be defined and then linked with Project or other external systems.

The Interface definition

Use Interface Definitions in the Links menu to define which Project fields you wish to link to MS Project. You can have multiple Links definitions for Project to account for different interfaces for different categories of projects.

In Project Server, you are able to select from any Project field or Project Server Enterprise field. You must ensure that the field type selected in Project matches the field type selected in TimeControl.

There is one specific field link in the Interface Definition for which the data types do not need to match.

The CHR_STATUS field in the Charge field represents the Charge Status field. This field has three possible values: Unopened, Open and, Closed. If this field is tied to a percent complete field in Project (Such as % Complete or Physical % Complete, then the field will behave as follows:

- ❑ If the field is 0%, TimeControl will change the status to "Unopened".
- ❑ If the field is between 1% and 99%, TimeControl will change the status to "Open"
- ❑ If the field is 100%, TimeControl will change the status to "Closed"

If you have created charge filters to disallow the display or selection of closed charges, this is an easy way to maintain that list without administration.

Linking Resources to Employees

TimeControl has been designed to distinguish between Project Resource Codes and Employees. This allows a project manager to define their project resource management at a skill or resource category level and still have employees fill in individual timesheets.

This is managed in TimeControl by distinct User and Employee Tables. For data to transfer correctly from TimeControl to the appropriate Project assignments, the Employee record must
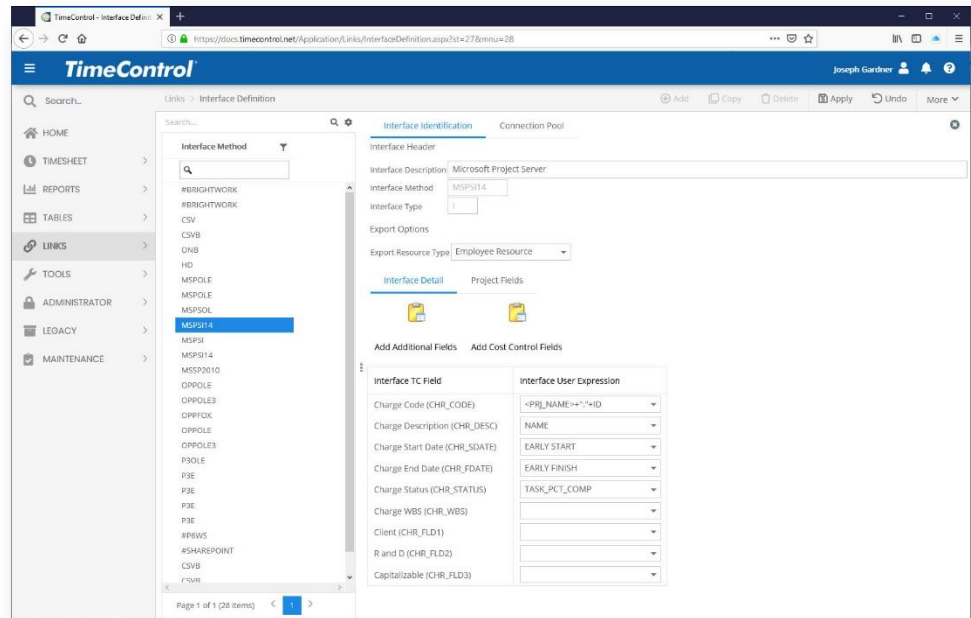
be linked to a Resource record. This is typically done one time. For organizations where the Employee code is the Resource code, the data is typically linked immediately during the import of new employees during implementation.

Project will optionally create a unique resource record in TimeControl for every resource definition it finds in Project files which are being transferred. These records can then be linked to the appropriate employees in the Employee Table.

Administrators can decide to create a system with one Employee to one Resource or many Employees to one Resource.

Pre-populating timesheet with assignments

Some Administrators will wish to have timesheets pre-loaded with the tasks that are appropriate to that employee for a particular time frame. This is easily accomplished in TimeControl.

First, turn on Pre-populating in the Administration Preferences screen for as many employees as you wish to have their timesheets pre-populated.
At the bottom of this screen is a drop-down selection to optionally select a filter to identify which charges will be

loaded into the timesheet. This filter must be built on the Charge Table. You might select a date range or only charges which are not marked closed or unopened or only Administrative charges. The selection is completely flexible.

During transfer of data from Project, TimeControl loads each assignment for a resource to a task in the CHRRES table. The results of this import can be seen and then adjusted in the Resource Table in the Preload Charges tab.

Administrators can manually add to or remove from this list as desired. When the timesheet is preloaded, the Charge Filter identified in the Administration Preferences screen will still be honored.
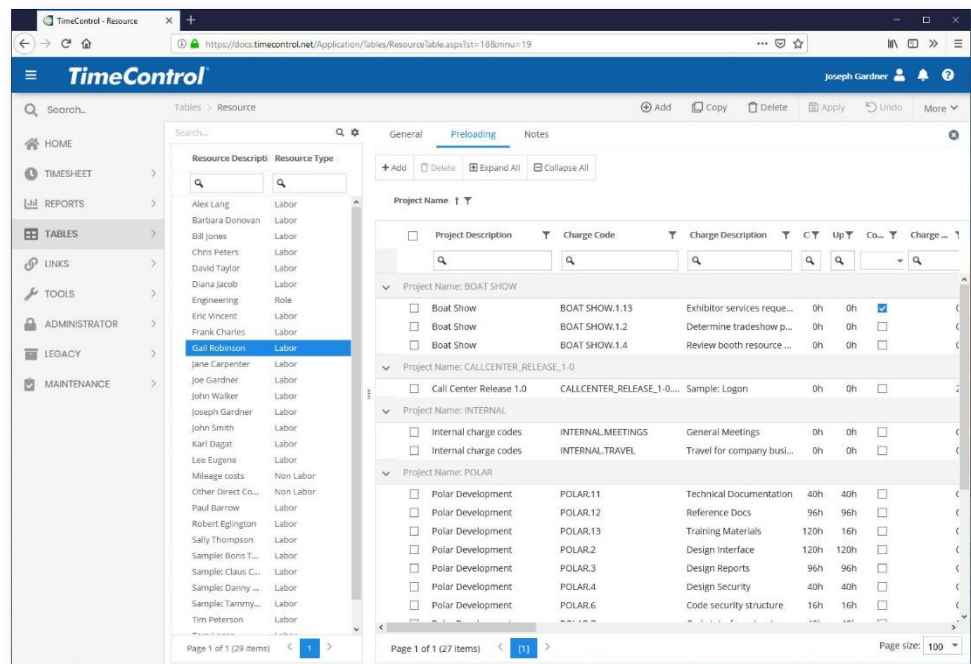
# Filtering projects/charges on the timesheet to show only certain items

For each employee, the projects and charges which are selectable can be restricted. This is done in the Employee Table by selecting a project filter and charge filter.

A common definition might, for example, disallow the display or selection of projects or charges which have been marked as closed or charges which are scheduled far into the future or projects from other divisions or geographic areas.
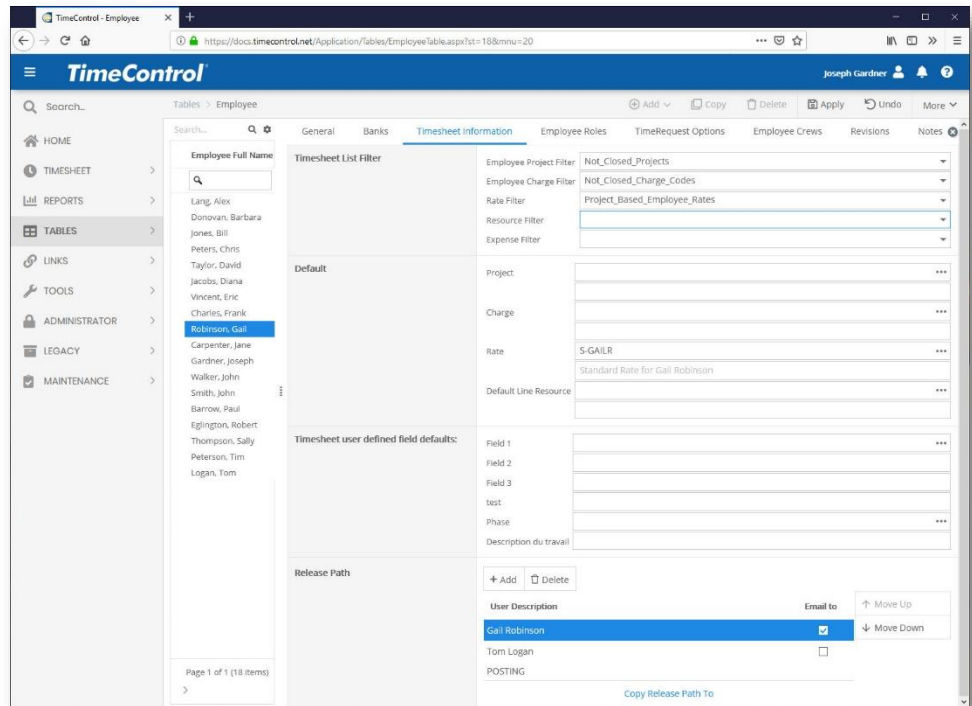
Some organizations wish to restrict the charges which can be selected to only include those charges to which the employee has been assigned. This too is possible in TimeControl by ensuring that the filter selected allows only those charges which appear in the CHRRES table. This would match how Project Server allows timesheets to be created. An example of such a charge filter is available on the TimeControl Support website at www.timecontrol.com/support. In this case, you may experience increased overhead of managing which charges are open to which users. During timesheet entry period each week, Administrators may get a number of calls from users who are unable to access charges to which they were not assigned but on which they worked.

Settings in Microsoft Project Server and Project Online

Microsoft Project Server and Project Online are powerful Project Management platforms with many security and functionality options. Some options in Project must be activated or deactivated in order to ensure that data between the two systems flows properly and can be reconciled from one system to another.

➢ Deactivate Project Server timesheet and resource tracking functions. Hours should never been updated from Project Server if you are integrated to TimeControl. If some users are updating timesheets in Project and others are updating timesheets in TimeControl, the likelihood of hours becoming out of sync and unauditable approaches 100%.

➢ Remove the Timesheet notifications from the Home Page notification area

➢ Remove or restrict the ability to delete tasks. Deleting tasks in Project Server can result in the hours that have been already transferred to them disappearing from Project. TimeControl will retain the auditable records but the totals of hours in TimeControl and Project will no longer balance. Instead, change the status of a task to closed.

➢ Do not delete a task in Project once the initial link to TimeControl has been created. Instead, change the duration to 0 and status to indicate the task has been closed. Deleting a task will likely cause the project summary data to be out of sync with TimeControl and the error cannot be corrected.

➢ HMS recommends turning off Server / PC automatic updates on any computer used to transfer data from TimeControl to Microsoft Project or vice versa. In some cases, data can be lost when a PC updated occurs and an automatic reboot of that machine occurs during the TimeControl to Project transfer process.

➢ Put in place a process that disallows Project Managers to take .mpp files off line and later restore them into Project Server unless specific guidelines are followed, such as notification to person transferring actuals so that that specific project is skipped in the export process until the project plan has been returned to Project Server. TimeControl could update a project that is offline then find the data overwritten by the restore process in Project Server.

➢ Put in place a process which disallows Project Managers to clear actuals or add actuals to the project plans, unless these actuals are not tracked in TimeControl.

Once data has been transferred from TimeControl to Microsoft Project and/or Project Server, there are several actions which must be avoided if you are to keep the totals in both systems synchronized. There are some clients who are not concerned that the two systems be synchronized, as they will always use the TimeControl data as the auditable source. Others however, may decide that reports will be generated from both systems for different purposes and that these reports must always balance exactly. If this is the case, then there are several situations to avoid:

➢ Restoring Project Plans after actuals have been transferred from TimeControl
➢ Resending of Batches of timesheets from TimeControl which results in duplication or doubling of data
➢ Deletion of tasks in Microsoft Project which result in data in TimeControl having no place to return to
➢ Making a charge code in TimeControl or a Task in Project which already has actuals associated to it a parent activity. This can result in the task to losing its actuals
➢ Potential manual intervention by the Project Managers within Project Desktop, Server of Online which may include clearing and adding of actuals in the project plans
➢ Changing resources from generic to specific after actuals have been posted to the generic resources
➢ The practice of copying, pasting then deleting the original tasks and renaming or renumbering the new tasks does <u>not</u> create the same tasks in Project. It effectively wipes out any actuals of the deleted tasks and makes the tasks that have been copied empty. Actuals are not copied in a copy/paste.
➢ Cutting & pasting tasks within a project could cause a problem with the GUID (Guaranteed Unique ID)
➢ The TimeControl transfer log should be printed and stored electronically or physically on a regular basis.
➢ Each project should be spot checked to ensure the actuals were transferred correctly at that moment. This information should be recorded in the same logs, so that you can more readily fix issues as they arise.
➢ If an actual error occurs, call HMS Support immediately so that we can record the incident and try to determine the cause at that moment when the issue is fresh.
➢ When it becomes necessary for a project to be restored into project server, a process should be in place that identifies what batches of TimeControl data were sent since that project was backed up, and then those specific batches should be transferred at your earliest convenience to resynchronize your data.
➢ Tasks in Microsoft Project should not be deleted once actuals have been charged to them or your data is likely to never balance. Ideally these tasks should be closed in both Project and TimeControl so no new charges are set against them and any existing actuals should be transferred. If it is necessary that the time spent be transferred to another task then a debit credit should be performed and the new actuals transferred back to Project.
➢ If you get an error indicating that the connection to Project Server has been lost only the last project will not have been transferred correctly and the batch will not be affected, so you may just restart the process again.

Moving data to and from Project Standard/Pro to TimeControl

TimeControl uses Microsoft's Interop technology to move data from Microsoft Project to TimeControl. This link goes from the TimeControl client station through Microsoft Project to the MPP file referenced. This means that to move data between TimeControl and Microsoft Project Pro, there must be several elements in place:

1. The user effecting the link must have the rights to the MPP file.
2. The MPP file cannot be currently opened by someone else
3. The user effecting the link must have Microsoft Project installed.
4. There must be an interface definition in TimeControl created for Microsoft Project
5. There must be a project record created in TimeControl for the project which references the correct Interface Definition and the full path to the MPP file.

There are numerous options on what data can be moved back and forth between Project and TimeControl which are detailed in the TimeControl Reference Guide.

TimeControl uses Microsoft's PSI technology to move data between Microsoft Project Server or Microsoft Project Online and TimeControl. This link goes from the TimeControl Server directly to the Microsoft Project Server or Project Online servers. To move data between TimeControl and Microsoft Project Server or Online, there must be several elements in place:

1. The project cannot be checked out of Project Server or Project Online
2. The user defined in the TimeControl Interface Definition must have administrative rights over any projects that will be written to.
3. There must be an interface definition in TimeControl created for Microsoft Project Server and/or Project Online
4. There must be a project record created in TimeControl for the project which references the correct Interface Definition and the project name.

There are numerous options on what data can be moved back and forth between Project Server or Project Online and TimeControl which are detailed in the TimeControl Reference Guide.

Some administrators prefer the TimeControl interface to be very distinct from Project, others prefer that the interface be embedded within the Web Access interface. Instructions on embedding the interface are included in the TimeControl Installation Guide or HMS technical support can assist with making the interface available in this way.

TimeControl does support single-sign-on so the movement between Project Server or Project Online functionality and TimeControl will be seamless.

What if I delete an employee in TimeControl?

If an employee is deleted in TimeControl, the history of hours for that employee will be maintained forever but further timesheets will not be able to be added.

What if I delete a resource in TimeControl?

If an administrator attempts to delete a resource code to which an employee is tied an error message will appear and this action will not be allowed. This is to ensure referential integrity of any data moving back to Project. An employee can be reassigned to another resource code should the Administrator choose. A resource in TimeControl which is deleted will have no effect on Project

What if I delete a resource in Project?

If a resource is deleted in Project, the Assignments for that resource and the history for that resource may be deleted under some circumstances. TimeControl will continue to maintain the history of hours charged to retain auditability.

What if I delete a charge in TimeControl?

If an administrator attempts to delete a charge in TimeControl which is currently listed in the unposted timesheets of users, it will be disallowed. If there are no outstanding timesheets with this charge the record may be deleted but a history of the charge is maintained in the CHRHIS (Charge History) table to retain auditability.

What if I delete a task in Project?

If a task is deleted in Project, the definitions, assignments, and history of that task may be deleted in some circumstances. TimeControl will continue to maintain a history of the hours charged to this task to retain Auditability.

Where can I find more information?

There are so many Microsoft oriented resources available from HMS, we've created a portal for them. A good starting point is: Microsoft.TimeControl.com.

HMS Software, a division of Montreal, Canada-based Heuristic Management Systems Inc., is a leading provider of enterprise timesheet and project management systems.

Founded in 1984, HMS Software's expertise in implementing enterprise project-management and enterprise timesheet systems is recognized worldwide by some of the world's best known organizations. HMS's signature product, TimeControl, an enterprise timekeeping system designed to serve the needs of both Finance and Project Management, is distributed worldwide through an extensive list of distributors and dealers located on every continent with representatives in the US, the UK, Australia, Mexico, Europe, Asia, South Africa and the Middle East.

HMS Software's client list includes some of the world's leading corporations in the telecommunications, IT, finance, engineering, defense/aerospace and government sectors including such organizations as Acergy, Aecon Construction, Alcan, the Atlanta Airport, Akzo Nobel, The Canadian Business Development Bank, The City of Montreal, EDS, Ericsson, General Motors, the Government of Saskatchewan, John Deere, Kelly Services, The UK's National Health Service, Standard Life, UPS, Volvo Novabus and hundreds of others. HMS maintains offices in Montreal, Quebec and Toronto, Ontario.

For more information about HMS, please visit www.hms.ca.

To contact HMS Software about TimeControl, please contact info@hms.ca.

TimeControl

First published by HMS in 1994, TimeControl has been adopted hundreds of clients and over 150,000 users around the world. TimeControl is designed to serve the needs of both project and finance simultaneously. It allows an organization to use a single timesheet for project tracking, time and attendance, time and billing, HR tracking, R&D Tax Credits, DCAA and project costing instead of having to deploy many timesheets to serve these needs. TimeControl is available for purchase for an on-premises implementation or as a subscription as service. TimeControl's architecture is flexible and extensive supporting numerous databases such as Oracle, Microsoft SQL Server and MySQL, multiple browsers such as Internet Explorer, Firefox, Safari and Chrome and even includes a mobile interface for Smartphones

For more information about TimeControl please visit: www.timecontrol.com.

To contact HMS Software about TimeControl, please contact info@hms.ca.