Time Expense Reporting 1.0

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Abstract

The HR-XML Time Expense Reporting Workgroup has produced a simple, flexible definition of the elements required to express time and expense data. This document describes those elements, their expect usage, and the business processes meant to be supported.

Status of this Document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

Table of Contents

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1 Overview

1.1 *Objective*

The objective of the Time and Expense Reporting Workgroup is to provide a simple definition of the elements required to report time worked and expenses incurred. Future versions are expected to allow for more sophisticated definition of tasks and expenses, however, this initial definition is flexible enough to handle typical ways that time worked is expressed, plus a simple format for the representation of expenses.

Time worked is typically expressed in the following ways

- Time Events – Defined as a timestamp that marks the occurrence of a particular event. (ex. 8am began working)

- Time Intervals – Defined as an expression of time to be paid or billed at a particular rate on a specific date during which a particular type of work was done. The time might be expressed as a total quantity, for example, on 7/1/01 worked 4 hours at 20.00 USD, regular, billable-hours on Project A. Or time could be expressed as an interval, for example 8am to 1pm, during which a particular activity took place.

- Expenses Incurred – Defined as a reimbursable amount incurred while working on assignment or project. Includes Date, value and currency indicator and additional data   (ex. On 7/1/01 incurred 25.00 USD Non-Billable Meal Expense)

1.1.1   Domain Issues

The Internet, and companies' desire to use it's functionality to control outlays, achieve efficiencies, and more deeply understand their use of resources, has created an electronic timekeeping boom. Once, it was only time clock users who directly created entries into timekeeping systems. Most project workers used paper timecards for later data entry into project management systems. Similarly, the temporary services industry was dependent on mailed or faxed paper timecards to represent approved time for which to both pay their employees and bill their customers.

Widespread access to the Internet has provided the opportunity to eliminate the paper element of these transactions, providing data in an electronic format to be used as input to payroll or project management systems. New web-based applications specifically designed to enhance the recording and approving of time are seeing expanding use. The challenge presented is one of getting the data out of these new applications and into the existing payroll or project management systems in a timely and cost effective manner.

The main issues presented to the HR community by these new applications are:

- Legal requirements as to the gathering of payroll data and the timing of when control leaves one organization and is assumed by another.

- Technical issues presented by the varying elements and formats of output being presented to payroll and project management applications.

1.1.2 Business Reasons

An industry standard vocabulary to describe time reporting transactions provides the means for a single company to receive such transmissions from multiple sources without having to establish, engineer, and implement many separate translation mechanisms. The ability to quickly and cost effectively accept data from new sources allows the efficiencies promised by the Internet and its applications to be realized.

1.2 Design Requirements

The final design will be flexible enough to accept time reported in many formats and describe it in terms of projects, tasks, accounting codes, etc., to as many levels as deemed necessary by the involved parties. The design will be broad enough to be used globally, and will contain the elements required to express a simple expense reimbursement transaction.

1.3 Scope

The design supports a one-way transmission of data from an "electronic gatherer" or *sender* to an "electronic processor" or *receiver*. Naturally, a receiver of one transmission could then transform the data in some way, and transmit to another entity, becoming the sender in that second transaction.

For example: It is common practice for employees to enter Time and Expense data into automated collection systems. That data is processed and sent to another party for approval processing. The data may then be sent to 3rd party payroll and invoicing processing centers. Significant development and processing savings can be realized by each organization utilizing a standardized data exchange.

The Time and Expense Reporting specification allows for the capture and transmission of expense data of the type that typically would be reported on the timecard submitted by a temporary staffing agency employee or by an independent contractor. The specification is not intended as a generalized mechanism for the capture and reporting of business expenses, such as meal, travel, entertainment, or other similar business expenses. This type of generalized mechanism for transmitting expense data may be part of a future version of the specification.

1.3.1 Major Components

(Please see section 3.1.2 for a complete description of attributes and elements defined)

- A batch mechanism is represented by the top level element of TimeCards, which can contain one or more TimeCard. A TimeCard must be carried within a TimeCards element even if there is only one TimeCard.

- ID – an attribute to unique identify the data grouping. An ID attribute is allowed at each level of reporting TimeCards (batch), the TimeCard (individual record), and TimeInterval, TimeEvent, and Expense (line item) levels.

- Reported Resource – a full description of the individual or resource to which the time record applies.

- Reported Time – a repeatable segment for the description of time worked or expense incurred. Includes sub-elements:

  - Period Start Date – typically a week starting date. (Flexible to include any period of time)

  - Period End Date – typically a week ending date. (Flexible to include any period of time)

  - Reported Person Assignment – element describing the work assignment being reported.

  - Time Interval – Repeatable grouping to describe time worked. Includes, among others, attributes of ID, and Type, and elements for StartDateTime, EndDateTime, Rate amount(s), Currency, Duration, Time unit of measure, Additional data (further describes type of work such as 'Overtime', 'Vacation', 'lunch', etc.), Comments, and Approval info.

  - Time Event – Repeatable group element describing a time event. Includes among others, elements for EventDateTime, Additional data (further describes the event such as project milestones, punch clock events, etc.), Comments, and Approval info.

  - Expense Info – Repeatable group element describing expenses incurred. Includes elements ID, Type, ExpenseDate, Amount, Currency, Additional data (further describes the expense such as 'Meals', 'Rental Car', 'Parking', etc.), Comments, and Approval info.

- Submitter Info – a description of the person or system who created the time record, may be different from the Individual.

- Approval Info – a description of the person who approved the time record as a whole, as well as when that approval was given. Note: the opportunity is available to provide approval data at each level of the timecard record, ex. for each interval, for the period, and for the record as a whole.

1.3.2 Items Within the Design Scope

There are three major reporting types that are covered by the design:

1) Timestamped Event –Used to mark the occurrence of a particular event.

- Example 1: punching on a punchclock machine;
- Example 2: achievement of a milestone for a project.

2) Time Intervals – Activity expressed as an amount and unit of time as taking place on a particular date(s).

- Example 1: 2001-09-20Z-03, (start date)
    - 2001-09-21Z-03, (end date)
    - P4H, (ISO standard data structure conveying 4 hours) (quantity)
    - Assignment=A, (assignment identifier)
    - Activity=Coding; (activity identifier)
- Example 2: 2001-08-15Z-09, (start date)
    - 2001-08-15Z-09, (end date)
    - P1D, (1 day) (quantity)
    - Activity=Holiday. (activity identifier)

Or Activity expressed as having taken place during a time range as expressed by date and time stamps.

- Example 3: 2001-09-20T09:00Z-03, (start date and time)
  2001-09-20T11:00Z-03, (end date and time)
  Assignment=A, (assignment identifier)
  Activity=Coding (activity identifier)

This section may also be used to express piecework or flat rate items.

- Example 4: 2001-08-11Z-09, (start date)
  2001-08-11Z-09, (end date)
  150 UNIT, (quantity)
  Activity=Envelop Making; (activity identifier)

- Example 5: 2001-08-02Z-08, (start date)
  2001-08-02Z-08, (end date)
  50.00 USD, (quantity)
  Description=Bonus. (description)

Finally, the piecework element can also be used to describe non-traditional time units.

- Example 6: 2001-08-11Z-09, (start date)
  1 MANDAY (quantity)

3) Expenses – Expression of outlays. Amount, Currency, and multiple descriptors are provided.

- Example 1: Amount=15.10 (amount)
        Currency=CAD, (currency)
        Assignment=A, (assignment identifier)
        Description=Mileage. (expense description)

1.3.3   Items Outside of Design Scope

1) Responses to transmitted records beyond protocol-level acknowledgement.

2) The onus remains upon the implementers to agree upon the business rules around the use of the passed data as well as its validation (ex. Valid project numbers or cost center ids)

3) Standardization of expense or time classifications or codes.

4) Methods of transmitting or processing modified or cancelled records, beyond an envelope-level indicator of Action and Status Codes.

2   Supported Business Processes

2.1   Introduction and Actors

The recording and posting of time and expense data can be modeled via 2 major business processes.

- The first process reflects the situation that the time and expense data is recorded in a *Time Capturing Device* with limited time management business logic. The time capturing device mainly serves to record the actual time and expense data of an employee as it occurred in real working life. Limited business logic means that this time & expense data is not yet evaluated by all the relevant legal, union or company specific rules. We therefore talk about "raw" time data in this context and call this business process *Posting of Raw Time and Expense Data*. It posts the data to a more dedicated *Time & Attendance Application*.

- The second process reflects the situation where the time and expense data is consolidated in a Time & Attendance Application and is posted to one or multiple *Final Consumer Applications*. The final consumer applications are using time & expense data as an input in order to trigger more specific and sophisticated business processes such as payroll or billing. The final consumer applications do not create timecards themselves. The final consumer applications are often only interested in parts of the time and expense data or in condensed views of the time and expense data. Since the consumer applications do not modify the personnel time and expense data themselves they expect to receive these data in a processed and approved way. We therefore call this business process *Posting of Processed Time and Expense Data*.

It is an important fact of the proposed design that the data transfer in these two major business processes of posting personnel time and expense data can be covered with the *same* schema, the schema for the *Timecard*.

The three participating actors will be characterized in more detail.

2.1.1   Overview Activity Diagram
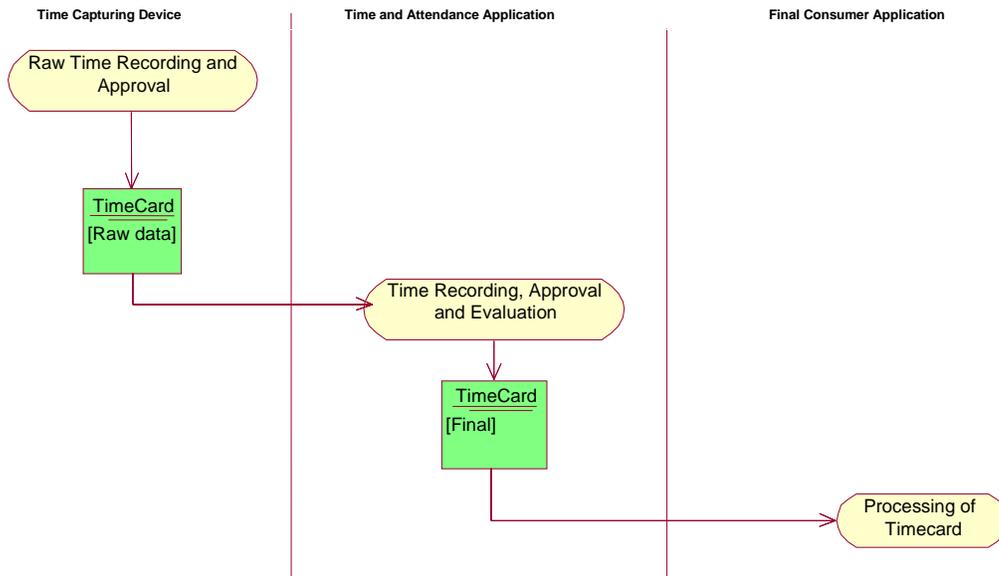
2.1.2   Actor: Time Capturing Device

The actor Time Capturing Device represents the different realizations of electronic time sheets with only limited time management business logic.

Typical technical realizations of such electronic time sheets may be Excel sheets, browser based time sheets, PDA time capturing applications, but also the long known clock-in/clock-out time clock terminals.

These time sheet applications are the electronic analogues to the formerly used paper sheets. They have their own database(s) but only limited time management business logic. This means that we do not expect that these smaller applications can do the complete validations and calculations of all legal, union or company specific rules that are related to personnel time data. We therefore call this actor Time Capturing *Device* in order to differentiate clearly from the second actor, a dedicated Time & Attendance Application.

It is very typical that such time sheet solutions are developed in-house with company specific user interfaces and very specific validations but of course there are also time sheet applications included in product suites of time management vendors.

2.1.3 Actor: Time & Attendance Application

The major characteristic of a dedicated Time & Attendance Application is that such an application covers the complete functionality in order to do the full validations and calculations of all legal, union or company specific rules that are related to personnel time data. We summarize this validation and calculation functionality as *Time Evaluation* functionality.

It is also typical that such a Time & Attendance Application offers time recording applications, too. In comparison to the Time Capturing Devices mentioned above, the user interfaces are more sophisticated and are designed in order to guarantee a complete and efficient *Time Administration* for the different departments of a company.

Of course, this Time & Attendance Application has its own database(s). It is very common that Time & Attendance Applications support external interfaces for importing time data out of external databases.

Time & Attendance Application may

- create new "raw" time data and change them via Time Administration user interfaces

- change time data that is imported from external sources

- add time data that is automatically calculated in Time Evaluation

- enrich time data via automated Time Evaluation.

Thus this actor creates timecards and he may read timecards.

2.1.4 Actor: Final Consumer Application

The Consumer Application represents all categories of applications that base (parts of) their business processes on personnel time data. It reads Timecards but does not create Timecards.

Typical examples are:

- Payroll – (note that almost all payroll systems also include a limited time & attendance functionality, typically for negative time).

- Controlling: Activity Reporting / Actual Costing

- Sales & Distribution: Billing Process

- Project System: Project Progress Controlling

- Data Warehouse Systems: Time & Labor Reporting, Expense Reporting

2.2 Process: Posting of Raw Time Data

The Business Process "posting of raw time data" is a process between the actor "Time Capturing Device" (sender of the timecard) and the actor "Time & Attendance Application" (receiver of the timecard).

2.2.1 Activity Diagram
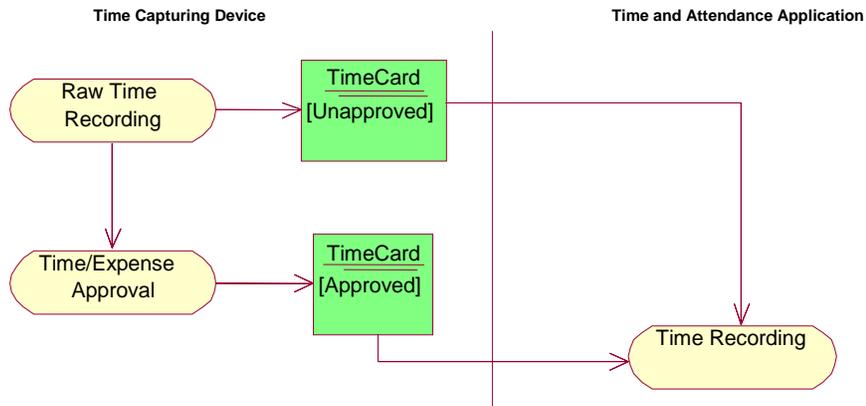
2.2.2 Users

The typical users who trigger the business process are

- For recording the time & expense data of an employee: The employee himself (Time & Expense Reporting is one of the most used employee self service scenarios). In special cases, other users such as team leads, project leads or administrators may record the employee's time & expense data as a deputy.

- For triggering the data transfer to the receiving Time & Attendance Application: the user who recorded the time data or an administrator.

2.2.3 Business Goal and Process

Business goal: the user should specify for a specific period of time *when, how long, what type, what task* he worked or when he or she was absent.

Depending on the industry or the specific business requirements of the company, it may also be necessary to record *where* the work has been performed, *what cost* distribution is valid, which *expenses* occurred, whether the work is *billable* or not, etc. Even information on piece work may be needed.

Depending on the industry or the specific business processes of the company, the task may be described as a job code, a project number, or an order number.

Depending on the business practices of the company, the time recording may be done in a positive or negative way (recording all actuals or recording only the deviations from the schedule).

At this process level, the time data recorded are *"raw"* in the sense that they contain just the pure real facts. In this level, no automatically evaluated times or derived classifications such as night shift bonus are included.

The time specification itself can be done in different fashions, depending on the business processes in the company:

- As a *time event:* this is a single timestamp that indicates the point in time (date and time) when information that is relevant to describe the work performed becomes valid (ex. starting point of work or break).

- As a *time interval:* this represents the techniques that describe time elapsed. Time elapsed can be specified by

    o Begin date & begin time with end date & end time

    o Begin date & end date (if the receiving application(s) do not require time). Begin date & end date may be the same to mark that activity occurred on a particular day.

In the case of time event based recording, the duration of the work is only calculated in the time & attendance application after forming time pairs out of the single time events. In the case of time intervals, the duration may be recorded by the user directly or may also be calculated in the time & attendance application by comparing the work schedule, calculating breaks etc.

It is characteristic that the time & expense recording in this business process is performed close in time to the actual performance of the work. For example, the transfer of data to the Time & Attendance system is done once per day or once per week. But it also may happen, that it makes sense to transfer the time data multiple times per day. Especially in the case of time events, the Time & Attendance application may need this data immediately after recording.

An approval step on the Time Capturing Device is not a very typical scenario, but it can be supported if needed. It is more common that the approval step is done in the receiving Time & Attendance application.

Here the typical users would be Time Administrators (Clerks), Team Leads, Project Leads or Line Managers. The Time & Attendance application offers a more sophisticated user interface to let these user types efficiently check, approve, add and enrich the employee's time data.

2.2.4 Examples for Raw Timecards

Example Timecard 1: This is an example where begin and end times are not needed, but where the elapsed time (the duration) is recorded directly.

Start	End	Type	Duration (hrs)	Amount + Currency	Task	Project or Order	Cost Center	Billable	Comment …
May 07	May 07	Regular	8		Repair	1212	700	x	Aaabbbccc ..
May 07	May 07	Meal		$ 10		1212	700	x	
May 08	May 11	Vacation							
May 14	May 14	Regular	4		Production		800		
May 14	May 14	Sickness	4						
May 15	May 18	Sickness							
…									

Example Timecard 2: This is an example where begin and end times are required for all time data lasting less than one working day. In this example it is expected that the receiving Time & Attendance application would calculate the duration automatically based on the work schedule and break information.

Start		End		Type	Amount + Currency	Quantity+ uom	Task	Project or Order	Billable	Comment …
May 07	08:00	May 07	19:00	Prod. hrs			Repair	1212	x	Aaab..
May 07		May 07		Meal	$ 10			1212	x	
May 08		May 11		Vacation						
May 14	08:00	May 14	12:00	Regular		40 Piec.	Production			
May 14	13:00	May 14	17:00	Sickness						
May 15	08:00	May 18	12:00	Sickness						
…	…									

Example Timecard 3: This is an example where the work performed is recorded as clock-in / clock-out information and where absences or other time data that is not recorded at a time clock device is directly recorded in the Time & Attendance application, thus not included in this timecard.

TimeEvent Time		Type	Order
May 07	08:01	Clock-in	1212
May 07	12:03	Clock-out	
May 07	12:32	Clock-in	1213
May 07	17:05	Clock-out	
May 08	07:59	Clock-in	1213
May 08	10:04	Clock-out	
	…		

2.3 Process: Posting of Processed Time Data

The Business Process "posting of processed time data" is a process between the actor "Time & Attendance application" (sender of the timecard) and the actor "Final Consumer Application" (receiver of the timecard).

2.3.1 Activity Diagram
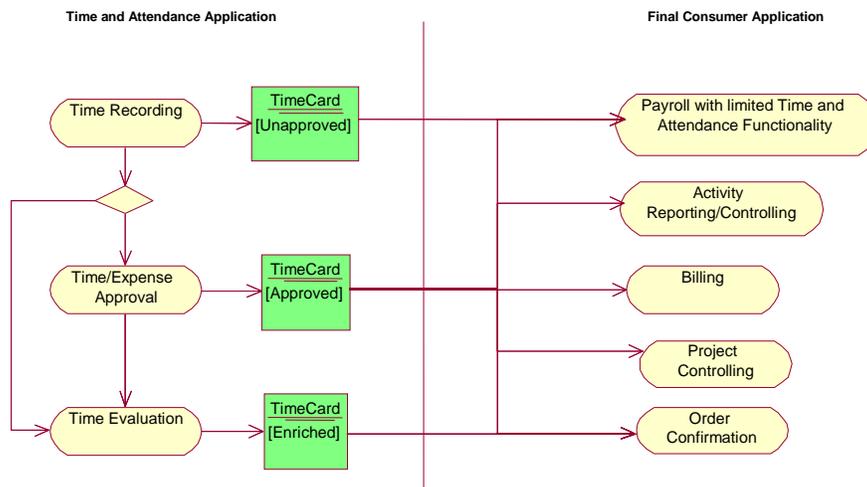
2.3.2 Users

The typical users who trigger the business process are

- For recording the time & expense data: The Time Administrator, the Team Lead, the project manager or the line manager. It is also possible that such a Time & Attendance application offers Employee Self Service applications that record the time data directly on the database of this T&A application.

- For triggering the data transfer to the receiving Final Consumer Application: typically an administrator or an automated background system process.

2.3.3 Business Goal and Process

Business goal: Depending on the variations of their role (Administrator versus Manager) the users would

- Check the time data submitted by the employee's timecard for correctness and completeness.

- Optionally, approve this time data.

- Complete the employee's time data by information that is not known to the submitter of the raw time data or that the employee himself is not allowed to record. On the one side, this means that the time administrator may record manually additional information on special bonuses or pay rates. On the other side, this means automatic calculations done by Time Evaluation. Time Evaluation processes the legal, union and company specific rules to determine overtime or night shift bonuses etc. It calculates the net duration of the work performed by evaluating the break information in the work schedule etc.

- The Time & Attendance Application may also condense the data: as an example, it creates time pairs out of the single time events. Or it may cumulate the single time data of the different days into weekly or monthly sums.

- The Time & Attendance Application may select and prepare the time & expense data to the individual need of the final consumer applications. It may create special timecards for the payroll process, for controlling processes and for billing processes. And it triggers the transfer of these timecards to these consumer applications.

In this sense, the time data of these timecards are *processed* (they are enriched by more classifications than just the raw input data). They are *final,* in the sense that the consumer applications do not create new timecards.

The data format of the time & expense records in the final timecard is the same as in the process of posting raw time data. Typically, final timecards would not contain time events since it is unusual that the consumer application offers functionality that can form time pairs and time durations out of time events. However, this format could be used to portray events such as the achievement of a goal in a project plan.

Depending on the design of the business processes at a specific company it may occur that the time administrators or line managers only approve the timecards received from the employee via time capturing device and then post it to the receiving consumer applications without adding new time data.

But also the opposite situation may occur: Some T&A applications offer employee self service user interfaces that store the recorded time data directly on the database of the T&A application or the Time Administrator has the job to records all time data of organizational unit. In this situation the raw time data would not be imported from a previous time capturing device but created directly in the T&A application.

The business rules of the company may define that only approved data should be posted to the final consumer applications.

2.3.4   Example of a Processed Timecard

Example Timecard 4: A processed timecard: overtime and net durations has been calculated automatically.

Start		End		Type	Duration (hrs)	Amount + Curr	Task	Project or Order	Cost Center	Bill	Comment
May 07	**08:00**	**May 07**	**17:00**	**Regular**	**8**		Repair	1212	700	x	
May 07	**17:00**	**May 07**	**19:00**	**Overtime**	**2**		Repair	1212	700	x	Aaabbbccc ..
May 07		May 07		Dirty W.		$ 20	Repair	1212	700		
May 07		May 07		Meal		$ 10		1212	700	x	
May 08		May 11		Vacation	**32**						
May 14	08:00	May 14	12:00	Regular	**4**		Production		800		
May 14	13:00	May 14	17:00	Sickness	**4**						
May 15	08:00	May 18	12:00	Sickness	**32**						
…	…										

3 DTD/Schema Design

3.1 Time & Expense Reporting

3.1.1 DTD Diagrams

A full diagram of the schema is available at:

http://schemas.hr-xml.org/xc/canon/Time/TimeCard-1_0.jpg.

A high level diagram can be found below.
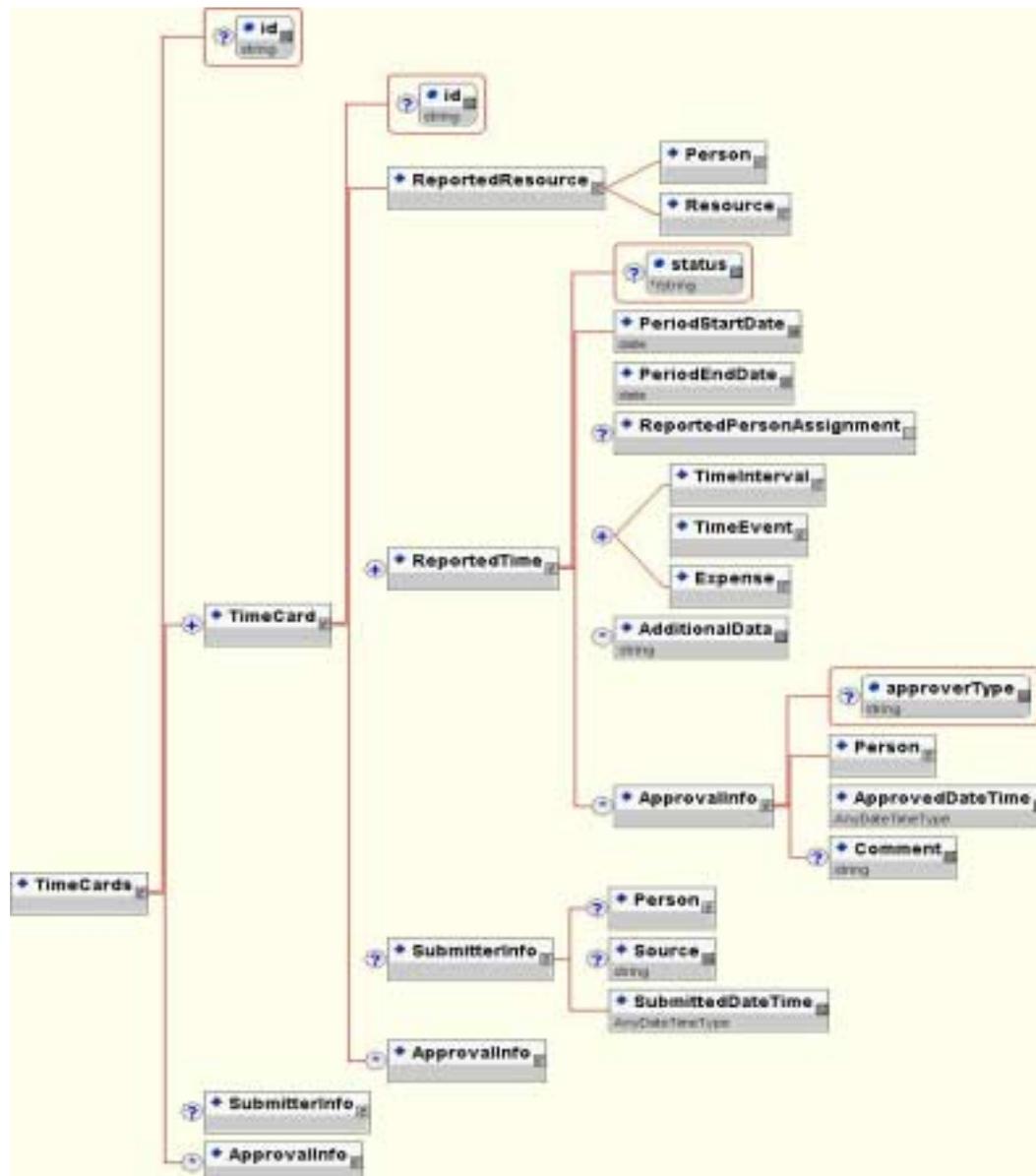
3.1.2   Schema/DTD Elements Explained

Element / Attribute	Content Model	Description
TimeCards	Root element	A batch of one or more TimeCard(s)
TimeCards id	Optional attribute 0 or 1 occurrence	Identifier for the batch
TimeCards SubmitterInfo	Optional element 0 or 1 occurrence	Container for the person or system that submitted the batch. Note: this element is also used at TimeCard level has the same function but is restricted to the specific TimeCard.
TimeCards SubmitterInfo Person	Optional element 0 or 1 occurrence	The person that submitted the timecard.
TimeCards SubmitterInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person submitting the timecard.
TimeCards SubmitterInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person submitting the timecard.
TimeCards SubmitterInfo Source	Optional element 0 or 1 occurrence	The system that submitted the timecard.
TimeCards SubmitterInfo SubmittedDateTime	Required element Single occurrence	The timestamp as to when the timecard was submitted.
TimeCards ApprovalInfo	Optional element 0 to many occurrences	Container segment with information as to when and by whom the batch was approved.
TimeCards ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.
TimeCards ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.
TimeCards ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.
TimeCards ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.

Element / Attribute	Content Model	Description
TimeCards TimeCard	Required element Single occurrence	A record describing the time and/or expense data of a person or resource for a given period. One or more TimeCard may be present.
TimeCards TimeCard id	Optional attribute 0 or 1 occurrence	Identifier for the whole TimeCard.
TimeCards TimeCard ReportedResource	Required element – must contain <u>either</u> Person or Resource data Single occurrence	Container describing the person or resource for which time and/or expense is being reported.
TimeCards TimeCard ReportedResource Person	Required element Single occurrence	The person for whom the time and/or expense is being reported.
TimeCards TimeCard ReportedResource Person id	Optional attribute 0 or 1 occurrence	Identifier for a person. (May be adapted in future according to the schema of the workgroup "personal identifiers"). Examples may be personnel number, badge card number, SSN…
TimeCards TimeCard ReportedResource Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the Cross Process Objects Workgroup (CPO) Person Name schema.
TimeCards TimeCard ReportedResource Resource	Required element Single occurrence	The resource for which the time and/or expense is being reported. Examples: room designation, contractor supplied, desk
TimeCards TimeCard ReportedResource Resource id	Optional attribute 0 or 1 occurrence	Identifier for a resource.
TimeCards TimeCard ReportedResource Resource type	Optional attribute 0 or 1 occurrence	Identifier for the type or resource being reported. Ex. Conference room or PC
TimeCards TimeCard ReportedResource Resource ResourceName	Optional element 0 or 1 occurrence	Name/descriptor of the resource. Ex. an address or asset tag number.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedResource Resource AdditionalData	Optional element 0 to many occurrences	Allows specification of additional data regarding the resource.
TimeCards TimeCard ReportedResource Resource AdditionalData type	Required attribute Single occurrence	Type that further describes the proper meaning of the associated additional data.
TimeCards TimeCard ReportedTime	Required element 1 to many occurrences – Must contain one or more Interval, Event, or Expense segments	A container with reported time and/or expense data for a person or resource in a given period.
TimeCards TimeCard ReportedTime status	Optional attribute 0 or 1 occurrence	Indicator as to whether the data in the record has been processed and possibly modified by an application("processed") or is as originally submitted ("raw")
TimeCards TimeCard ReportedTime PeriodStartDate	Required element Single occurrence	Beginning date for the data being reported within this ReportedTime record.
TimeCards TimeCard ReportedTime PeriodEndDate	Required element Single occurrence	End date for the data being reported within this ReportedTime record. PeriodStartDate and PeriodEndDate together define the reporting period covered by the ReportedTime container.
TimeCards TimeCard ReportedTime ReportedPersonAssignment	Optional element 0 or 1 occurrence	Allows a work assignment identifier to be expressed that will apply to all data within the ReportedTime container.
TimeCards TimeCard ReportedTime ReportedPersonAssignment id	Optional attribute 0 or 1 occurrence	The work assignment identifier.
TimeCards TimeCard ReportedTime TimeInterval	Optional element 0 to many occurrences	A container segment used to report the duration and type of a work for a specified time period.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeInterval id	Optional attribute 0 or 1 occurrence	Unique identifier for a TimeInterval segment.
TimeCards TimeCard ReportedTime TimeInterval type	Required attribute Single occurrence	The type that characterizes the time being reported. Examples: regular hours, overtime, sickness, break, vacation…
TimeCards TimeCard ReportedTime TimeInterval dayAssignment	Defaulted attribute = "current"	Allows assignment of work performed on a "physical" time interval or day to another "logical" day. Mostly for evaluation purposes. Allowed values: current (default), previous, next. Current = same as the StartDate of the interval. Next = StartDate +1. Previous = StartDate –1.
TimeCards TimeCard ReportedTime TimeInterval billable	Optional attribute 0 or 1 occurrence	Allows indication as to whether the costs resulting from the work reported are billable to a customer.
TimeCards TimeCard ReportedTime TimeInterval StartDateTime	Required element Single occurrence	Defines the start date and, if applicable, start time of the time interval being reported.
TimeCards TimeCard ReportedTime TimeInterval EndDateTime	Optional element 0 or 1 occurrence	Defines the end date, and if applicable, end time of the time interval being reported.
TimeCards TimeCard ReportedTime TimeInterval Duration	Optional element 0 or 1 occurrence	Allows specification of the duration of the reported work. If not specified, typically the duration is derived by the receiving system on the basis of work schedule information and/or Start-/ EndDateTime. Expressed in ISO/W3C standard time format.
TimeCards TimeCard ReportedTime TimeInterval Piecework	Optional element 0 to many occurrences	Container segment for the specification of produced pieces within the time interval.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeInterval Piecework piece	Required element Single occurrence	Allows for identification of the piecework for which units are to be expressed. Ex. Sweaters
TimeCards TimeCard ReportedTime TimeInterval Piecework piece id	Optional attribute 0 or 1 occurrence	Identifier for the piecework being described. Ex. 1234B (code for sweaters)
TimeCards TimeCard ReportedTime TimeInterval Piecework Quantity	Required element Single occurrence	Quantity of the produced pieces.
TimeCards TimeCard ReportedTime TimeInterval Piecework Quantity unitOfMeasure	Optional attribute 0 or 1 occurrence	Unit in which the quantity of the produced pieces is measured. Examples: piece, liters, meters…
TimeCards TimeCard ReportedTime TimeInterval RateOrAmount	Optional element 0 to many occurrences	Container segment that allows specification of a rate or a flat amount to be applied to the reported work.
TimeCards TimeCard ReportedTime TimeInterval RateOrAmount currency	Required attribute Single occurrence	The currency for the rate or amount.
TimeCards TimeCard ReportedTime TimeInterval RateOrAmount type	Required attribute Single occurrence	The type of the rate or amount. Examples: hourly rate, daily rate, bonus

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeInterval RateOrAmount period	Defaulted attribute = "NotApplicable"	Period used to further define the rate.

Examples: hour, day, week |
| TimeCards TimeCard ReportedTime TimeInterval AdditionalData | Optional element 0 to many occurrences | Container segment that allows specification of additional information on kind or origin of the work performed. It is typically used to define the cost assignment. Examples: project number, cost center id, order number, job id… |
| TimeCards TimeCard ReportedTime TimeInterval AdditionalData type | Required attribute Single occurrence | Type that further describes the proper meaning of the associated additional data.

Examples: project, cost center, order, job, location |
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo	Optional element 0 to many occurrences	Container segment with information as to when and by whom the time interval was approved.
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard ReportedTime TimeInterval ApprovalInfo Comment	Optional element 0 or 1 occurrence	Free form text where approver's comments can be carried.
TimeCards TimeCard ReportedTime TimeInterval Comment	Optional element 0 or 1 occurrence	Free form text where reported time interval comments can be carried.
TimeCards TimeCard ReportedTime TimeEvent	Optional element 0 to many occurrences	A container for a work time event that occurred at a specific point in time.
TimeCards TimeCard ReportedTime TimeEvent id	Optional attribute 0 or 1 occurrence	The identifier for a time event.
TimeCards TimeCard ReportedTime TimeEvent type	Required attribute Single occurrence	The type that characterizes the occurred event. Examples: clock in, clock out, break
TimeCards TimeCard ReportedTime TimeEvent dayAssignment	Defaulted attribute = "current"	Allows assignment of work performed on a "physical" time interval or day to another "logical" day. Mostly for evaluation purposes. Allowed values: current (default), previous, next. Current = same as the StartDate of the interval. Next = StartDate +1. Previous = StartDate –1.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeEvent billable	Optional attribute 0 or 1 occurrence	Allows indication as to whether the costs resulting from the work reported are billable to a customer. In the case of an event the information is for the duration that starts with that event.
TimeCards TimeCard ReportedTime TimeEvent EventDateTime	Required element Single occurrence	The timestamp that event occurred.
TimeCards TimeCard ReportedTime TimeEvent RateOrAmount	Optional element 0 to many occurrences	Container segment that allows specification of a rate to apply to the reported work, or an amount assigned to the reported work. In the case of an event the information is for the duration that starts with that event.
TimeCards TimeCard ReportedTime TimeEvent RateOrAmount currency	Required attribute Single occurrence	The currency for the rate or amount.
TimeCards TimeCard ReportedTime TimeEvent RateOrAmount type	Required attribute Single occurrence	The type of the rate or amount. Examples: hourly rate, daily rate, bonus
TimeCards TimeCard ReportedTime TimeEvent RateOrAmount period	Defaulted attribute = "NotApplicable"	Period that further describes the rate data. Examples: hour, day, week
TimeCards TimeCard ReportedTime TimeEvent AdditionalData	Optional element 0 to many occurrences	Allows specification of additional information on kind or origin of the work started. It is typically used to define the cost assignment. Examples: project number, cost center id, order number, job id…
TimeCards TimeCard ReportedTime TimeEvent AdditionalData type	Required attribute Single occurrence	Type that further describes the proper meaning of the associated additional data.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo	Optional element 0 to many occurrences	Container segment with information when and by whom the time event was approved.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard ReportedTime TimeEvent ApprovalInfo Comment	Optional element 0 or 1 occurrence	The timestamp when the time interval was approved.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime TimeEvent Comment	Optional element 0 or 1 occurrence	Free form text where approver's comments can be carried.
TimeCards TimeCard ReportedTime Expense	Optional element 0 to many occurrences	Container for individual expenses incurred.
TimeCards TimeCard ReportedTime Expense id	Optional attribute 0 or 1 occurrence	The identifier of the expense.
TimeCards TimeCard ReportedTime Expense type	Required attribute Single occurrence	The type that characterizes the expense.
TimeCards TimeCard ReportedTime Expense billable	Optional attribute 0 or 1 occurrence	Used to indicate whether the expense is billable to a customer.
TimeCards TimeCard ReportedTime Expense ExpenseDate	Required element Single occurrence	The date that this expense has incurred.
TimeCards TimeCard ReportedTime Expense ExpenseAmount	Required element Single occurrence	Amount of the expense
TimeCards TimeCard ReportedTime Expense ExpenseAmount currency	Required attribute Single occurrence	Currency of the expense amount.
TimeCards TimeCard ReportedTime Expense AdditionalData	Optional element 0 to many occurrences	Allows specification of additional information on kind or origin of the expense. It is typically used to define the expense assignment. Examples: project number, cost center id, order number, job id…

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime Expense AdditionalData type	Required attribute Single occurrence	Type that further describes the proper meaning of the associated additional data.
TimeCards TimeCard ReportedTime Expense ApprovalInfo	Optional element 0 to many occurrences	Container segment with information when and by whom the expense was approved.
TimeCards TimeCard ReportedTime Expense ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards TimeCard ReportedTime Expense ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.
TimeCards TimeCard ReportedTime Expense ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.
TimeCards TimeCard ReportedTime Expense ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.
TimeCards TimeCard ReportedTime Expense ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime Expense ApprovalInfo Comment	Optional element 0 or 1 occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard ReportedTime Expense Comment	Optional element 0 or 1 occurrence	Free form text where reported expense comments can be carried.
TimeCards TimeCard ReportedTime AdditionalData	Optional element 0 to many occurrences	Allows additional description of the data provided in the reported time section
TimeCards TimeCard ReportedTime AdditionalData type	Required attribute Single occurrence	Type that further describes the proper meaning of the associated additional data.
TimeCards TimeCard ReportedTime ApprovalInfo	Optional element 0 to many occurrences	Container with information when and by whom the entire Reported Time section was approved.
TimeCards TimeCard ReportedTime ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards TimeCard ReportedTime ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.
TimeCards TimeCard ReportedTime ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.
TimeCards TimeCard ReportedTime ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.

Element / Attribute	Content Model	Description
TimeCards TimeCard ReportedTime ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard ReportedTime ApprovalInfo Comment	Optional element 0 or 1 occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard SubmitterInfo	Optional element 0 or 1 occurrence	Container with information when and by whom the entire Timecard was submitted by.
TimeCards TimeCard SubmitterInfo Person	Optional element 0 or 1 occurrence	The person that submitted the timecard.
TimeCards TimeCard SubmitterInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person submitting the timecard.
TimeCards TimeCard SubmitterInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person submitting the timecard.
TimeCards TimeCard SubmitterInfo Source	Optional element 0 or 1 occurrence	The system that submitted the timecard.
TimeCards TimeCard SubmitterInfo SubmittedDateTime	Required element Single occurrence	The timestamp as to when the timecard was submitted.
TimeCards TimeCard ApprovalInfo	Optional element 0 to many occurrences	Container with information when and by whom the entire Timecard was approved.
TimeCards TimeCard ApprovalInfo approverType	Optional attribute 0 or 1 occurrence	Allows description of the approver in terms of level or other descriptive factor.
TimeCards TimeCard ApprovalInfo Person	Required element Single occurrence	Section to describe the person who approved the reported time interval data.

Element / Attribute	Content Model	Description
TimeCards TimeCard ApprovalInfo Person id	Optional attribute 0 or 1 occurrence	Identifier for the person approving the reported time interval data.
TimeCards TimeCard ApprovalInfo Person PersonName	Optional element 0 or 1 occurrence	Placeholder for the CPO PersonName schema. Used to further identify the person approving the reported time interval data.
TimeCards TimeCard ApprovalInfo ApprovedDateTime	Required element Single occurrence	The timestamp when the time interval was approved.
TimeCards TimeCard ApprovalInfo Comment	Optional element 0 or 1 occurrences	The timestamp when the time interval was approved.

4   Implementation Considerations

The workgroup has made the deliberate choice to leave the various type attributes as unenumerated holders. A follow-up document pertaining to implementation suggestions will include anticipated values for many of these attributes, as well as further suggestions regarding the batching of records and other transmission related topics.

5   Issues List

Issue	Anticipated Resolution
Expression of non-standard time units – in v.1.0 a make-do solution offered by understanding between the trading partners or with values fitted into the piecework framework.	Future version
Lack of sophistication in the handling of expenses – in v.1.0 a minimal attempt was made to define requirements for expense reporting in favor of concentration on time reporting. It is expected that the expense portion of the dtd will become more sophisticated in the next release.	Future version
Recommendations regarding the handling of modified and cancelled records – in v.1.0, the handling of these exceptions is left completely to the implementation partners.	Future version

6   Appendix A - Document Version History

Version	Date	Description
1.0	2001-9-5	Distribution of Document to CPO/TSC for review
1.0	2001-9-15	Final Version of Document to CPO/TSC for review
1.0	2001-Oct-16	Approved Recommendation by HR-XML Consortium

7 Appendix B – Related Documents

Reference	Link
CPO PersonName Schema	http://ns.hr-xml.org/CPO/PersonName-1_2/PersonName-1_2.pdf
	http://ns.hr-xml.org/CPO/PersonName-1_2/PersonName-1_2.xsd
Provisional Envelope Specifications v.1.1 TimeCard-1_0 Schema	http://ns.hr-xml.org/Time/TimeCard-1_0/TimeCard-1_0.xsd
TSC Status Code Document	http://schemas.hr-xml.org/xc/canon/TSC/TSC-Status_Codes-v00.11.doc
CPO Date Time Data Types Specification	http://ns.hr-xml.org/CPO/Dating-1_1/cpoDateTimeTypes-1_1.xsd
	http://ns.hr-xml.org/CPO/Dating-1_1/DateTimeDataTypes-1_1.pdf

8   Appendix C – Reference Examples

Examples map to instances displayed in Sections 2.2.4 and 2.3.4.

Example 1:

```xml
<?xml version = "1.0" encoding = "UTF-8"?>
<TimeCards>
<TimeCard>
       <ReportedResource>
               <Person id = "d026194"/>
       </ReportedResource>
       <ReportedTime>
               <PeriodStartDate>2001-05-01</PeriodStartDate>
               <PeriodEndDate>2001-05-18</PeriodEndDate>
               <TimeInterval type = "Regular" billable = "true">
                       <StartDateTime>2001-05-07</StartDateTime>
                       <EndDateTime>2001-05-07</EndDateTime>
                       <Duration>PT8H</Duration>
                       <AdditionalData type = "Task">Repair</AdditionalData>
                       <AdditionalData type = "Order">1212</AdditionalData>
                       <AdditionalData type = "CostCenter">700</AdditionalData>
                       <Comment>Aaabbbccc</Comment>
               </TimeInterval>
               <Expense type = "Meal" billable = "true">
                       <ExpenseDate>2001-05-07</ExpenseDate>
                       <ExpenseAmount currency = "USD">10</ExpenseAmount>
                       <AdditionalData type = "Order">1212</AdditionalData>
                       <AdditionalData type = "CostCenter">700</AdditionalData>
               </Expense>
               <TimeInterval type = "Vacation">
                       <StartDateTime>2001-05-08</StartDateTime>
                       <EndDateTime>2001-05-11</EndDateTime>
               </TimeInterval>
               <TimeInterval type = "Regular">
                       <StartDateTime>2001-05-14</StartDateTime>
                       <EndDateTime>2001-05-14</EndDateTime>
                       <Duration>PT4H</Duration>
                       <AdditionalData type = "Task">Production</AdditionalData>
                       <AdditionalData type = "CostCenter">800</AdditionalData>
               </TimeInterval>
               <TimeInterval type = "Sickness">
                       <StartDateTime>2001-05-14</StartDateTime>
                       <EndDateTime>2001-05-14</EndDateTime>
                       <Duration>PT4H</Duration>
               </TimeInterval>
               <TimeInterval type = "Sickness">
                       <StartDateTime>2001-05-15</StartDateTime>
                       <EndDateTime>2001-05-18</EndDateTime>
               </TimeInterval>
       </ReportedTime>
</TimeCard>
</TimeCards>
```

Example 2:

```xml
<?xml version = "1.0" encoding = "UTF-8"?>
<TimeCards>
<TimeCard>
        <ReportedResource>
                <Person id = "d026194"/>
        </ReportedResource>
        <ReportedTime>
                <PeriodStartDate>2001-05-01</PeriodStartDate>
                <PeriodEndDate>2001-05-18</PeriodEndDate>
                <TimeInterval type = "Regular" billable = "true">
                        <StartDateTime>2001-05-07T08:00:00</StartDateTime>
                        <EndDateTime>2001-05-07T19:00:00</EndDateTime>
                        <AdditionalData type = "Task">Repair</AdditionalData>
                        <AdditionalData type = "Order">1212</AdditionalData>
                        <Comment>Aaabbbccc</Comment>
                </TimeInterval>
                <Expense type = "Meal" billable = "true">
                        <ExpenseDate>2001-05-07</ExpenseDate>
                        <ExpenseAmount currency = "USD">10</ExpenseAmount>
                        <AdditionalData type = "Order">1212</AdditionalData>
                </Expense>
                <TimeInterval type = "Vacation">
                        <StartDateTime>2001-05-08</StartDateTime>
                        <EndDateTime>2001-05-11</EndDateTime>
                </TimeInterval>
                <TimeInterval type = "Regular">
                        <StartDateTime>2001-05-14T08:00:00</StartDateTime>
                        <EndDateTime>2001-05-14T12:00:00</EndDateTime>
                        <PieceWork>
                                <Piece>gadget</Piece>
                                <Quantity>40</Quantity>
                        </PieceWork>
                        <AdditionalData type = "Task">Production</AdditionalData>
                </TimeInterval>
                <TimeInterval type = "Sickness">
                        <StartDateTime>2001-05-14T13:00:00</StartDateTime>
                        <EndDateTime>2001-05-14T17:00:00</EndDateTime>
                </TimeInterval>
                <TimeInterval type = "Sickness">
                        <StartDateTime>2001-05-15T08:00:00</StartDateTime>
                        <EndDateTime>2001-05-18T12:00:00</EndDateTime>
                </TimeInterval>
        </ReportedTime>
</TimeCard>
</TimeCards>
```

Example 3:

```xml
<?xml version = "1.0" encoding = "UTF-8"?>
<TimeCards>
<TimeCard>
        <ReportedResource>
                <Person id = "d026194"/>
        </ReportedResource>
        <ReportedTime>
                <PeriodStartDate>2001-05-01</PeriodStartDate>
                <PeriodEndDate>2001-05-18</PeriodEndDate>
                <TimeEvent type = "Clock-in">
                        <EventDateTime>2001-05-07T08:01:00Z</EventDateTime>
                        <AdditionalData type = "Order">1212</AdditionalData>
                </TimeEvent>
                <TimeEvent type = "Clock-out">
                        <EventDateTime>2001-05-07T12:03:00Z</EventDateTime>
                </TimeEvent>
                <TimeEvent type = "Clock-in">
                        <EventDateTime>2001-05-07T12:32:00Z</EventDateTime>
                        <AdditionalData type = "Order">1213</AdditionalData>
                </TimeEvent>
                <TimeEvent type = "Clock-out">
                        <EventDateTime>2001-05-07T17:05:00Z</EventDateTime>
                </TimeEvent>
                <TimeEvent type = "Clock-in">
                        <EventDateTime>2001-05-08T07:59:00Z</EventDateTime>
                        <AdditionalData type = "Order">1213</AdditionalData>
                </TimeEvent>
                <TimeEvent type = "Clock-out">
                        <EventDateTime>2001-05-08T10:04:00Z</EventDateTime>
                </TimeEvent>
        </ReportedTime>
</TimeCard>
</TimeCards>
```

Example 4:

```
<?xml version = "1.0" encoding = "UTF-8"?>
<TimeCards>
<TimeCard>
        <ReportedResource>
                <Person id = "d026194"/>
        </ReportedResource>
        <ReportedTime>
                <PeriodStartDate>2001-05-01</PeriodStartDate>
                <PeriodEndDate>2001-05-18</PeriodEndDate>
                <TimeInterval type = "Regular" billable = "true">
                        <StartDateTime>2001-05-07T08:00:00</StartDateTime>
                        <EndDateTime>2001-05-07T17:00:00</EndDateTime>
                        <Duration>PT8H</Duration>
                        <AdditionalData type = "Task">Repair</AdditionalData>
                        <AdditionalData type = "Order">1212</AdditionalData>
                        <AdditionalData type = "CostCenter">700</AdditionalData>
                </TimeInterval>
                <TimeInterval type = "Overtime" billable = "true">
                        <StartDateTime>2001-05-07T017:00:00</StartDateTime>
                        <EndDateTime>2001-05-07T19:00:00</EndDateTime>
                        <Duration>PT2H</Duration>
                        <AdditionalData type = "Task">Repair</AdditionalData>
                        <AdditionalData type = "Order">1212</AdditionalData>
                        <AdditionalData type = "CostCenter">700</AdditionalData>
                        <Comment>Aaabbbccc</Comment>
                </TimeInterval>
                <TimeInterval type = "Dirty Work" billable = "false">
                        <StartDateTime>2001-05-07</StartDateTime>
                        <EndDateTime>2001-05-07</EndDateTime>
                        <RateOrAmount currency = "USD">20</RateOrAmount>
                        <AdditionalData type = "Task">Repair</AdditionalData>
                        <AdditionalData type = "Order">1212</AdditionalData>
                        <AdditionalData type = "CostCenter">700</AdditionalData>
                </TimeInterval>
                <Expense type = "Meal" billable = "true">
                        <ExpenseDate>2001-05-07</ExpenseDate>
                        <ExpenseAmount currency = "USD">10</ExpenseAmount>
                        <AdditionalData type = "Order">1212</AdditionalData>
                        <AdditionalData type = "CostCenter">700</AdditionalData>
                </Expense>
                <TimeInterval type = "Vacation">
                        <StartDateTime>2001-05-08</StartDateTime>
                        <EndDateTime>2001-05-11</EndDateTime>
                        <Duration>PT32H</Duration>
                </TimeInterval>
                <TimeInterval type = "Regular" billable = "true">
                        <StartDateTime>2001-05-14T08:00:00</StartDateTime>
                        <EndDateTime>2001-05-14T17:00:00</EndDateTime>
                        <Duration>PT4H</Duration>
                        <AdditionalData type = "Task">Production</AdditionalData>
                        <AdditionalData type = "CostCenter">800</AdditionalData>
                </TimeInterval>
```

```
                    <TimeInterval type = "Sickness">
                            <StartDateTime>2001-05-14T13:00:00</StartDateTime>
                            <EndDateTime>2001-05-14T17:00:00</EndDateTime>
                            <Duration>PT4H</Duration>
                    </TimeInterval>
                    <TimeInterval type = "Sickness">
                            <StartDateTime>2001-05-15T08:00:00</StartDateTime>
                            <EndDateTime>2001-05-18T15:00:00</EndDateTime>
                            <Duration>PT4H</Duration>
                    </TimeInterval>
            </ReportedTime>
</TimeCard>
</TimeCards>
```

Additional Examples:

Example 5: This example shows the recording of various expenses, a meal, and the purchase of a book. Each amount is charged to the same project (DUP1899), however each is associated to different tasks within that project.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<TimeCards xmlns="http://ns.hr-xml.org/Time/TimeCard-1_0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://ns.hr-
xml.org/Time/TimeCard-1_0
TimeCard-1_0.xsd" id="248526">
        <TimeCard>
                <ReportedResource>
                        <Person id="77598">
                                <PersonName>
                                        <FormattedName>Michelle Hartwick</FormattedName>
                                </PersonName>
                        </Person>
                </ReportedResource>
                <ReportedTime status="Raw">
                        <PeriodStartDate>2001-07-01</PeriodStartDate>
                        <PeriodEndDate>2001-07-31</PeriodEndDate>
                        <ReportedPersonAssignment id="DUP1899"/>
                        <Expense type="Meal" id="55588" billable="true">
                                <ExpenseDate>2001-07-19</ExpenseDate>
                                <ExpenseAmount currency="CAD">123.95</ExpenseAmount>
                                <AdditionalData type="Task">17W9</AdditionalData>
                                <Comment>Dinner with Consultants</Comment>
                        </Expense>
                        <Expense type="Misc." id="55589" billable="true">
                                <ExpenseDate>2001-07-20</ExpenseDate>
                                <ExpenseAmount currency="CAD">77.21</ExpenseAmount>
                                <AdditionalData type="Task">17W8</AdditionalData>
                                <Comment>Book: XML for Simpletons</Comment>
                        </Expense>
                </ReportedTime>
                <SubmitterInfo>
                        <Person id="">
                                <PersonName>
                                        <FormattedName>Amanda Hardaway</FormattedName>
                                </PersonName>
                        </Person>
                        <SubmittedDateTime>2001-07-31T11:00:00</SubmittedDateTime>
                </SubmitterInfo>
                <ApprovalInfo approverType="1st Level">
                        <Person id="06070">
                                <PersonName>
                                        <FormattedName>Amanda Hardaway</FormattedName>
                                </PersonName>
                        </Person>
                        <ApprovedDateTime>2001-08-03</ApprovedDateTime>
                </ApprovalInfo>
        </TimeCard>
</TimeCards>
```

Example 6: This example shows the recording of the use of a resource (limo), and its associated cost ($250 per hour), against a particular project number (19004-A17W1).

```xml
<?xml version="1.0" encoding="UTF-8"?>
<TimeCards xmlns="http://ns.hr-xml.org/Time/TimeCard-1_0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://ns.hr-
xml.org/Time/TimeCard-1_0
TimeCard-1_0.xsd" id="94388">
        <TimeCard>
                <ReportedResource>
                        <Resource id="A4513585" type="Car">
                                <ResourceName>ABC 1 Corporate Limo</ResourceName>
                                <AdditionalData type="Owner">Office of the President</AdditionalData>
                        </Resource>
                </ReportedResource>
                <ReportedTime status="Raw">
                        <PeriodStartDate>2001-08-06</PeriodStartDate>
                        <PeriodEndDate>2001-08-12</PeriodEndDate>
                        <TimeInterval type="Regular" id="4501" dayAssignment="current"
                        billable="true">
                                <StartDateTime>2001-08-06</StartDateTime>
                                <EndDateTime>2001-08-06</EndDateTime>
                                <Duration>PT2H</Duration>
                                <RateOrAmount currency="USD" type="Hourly"
                                period="Hour">250.00</RateOrAmount>
                                <AdditionalData type="Project">19004-A17W1</AdditionalData>
                                <ApprovalInfo approverType="Manager">
                                        <Person id="000001">
                                                <PersonName>
                                                        <FormattedName>Maxwell Short</FormattedName>
                                                </PersonName>
                                        </Person>
                                        <ApprovedDateTime>2001-08-13T10:00:00+05:00
                                        </ApprovedDateTime>
                                        <Comment>Confirmed that previous verbal approval of the
                                        limo's use was given by the CEO and should be charged against this
                                        project.</Comment>
                                </ApprovalInfo>
                                <Comment>Limo was used for this emergency with verbal approval of the
                                CEO.</Comment>
                        </TimeInterval>
                        <ApprovalInfo approverType="CEO">
                                <Person id="00003">
                                        <PersonName>
                                                <FormattedName>Quinn Montgomery</FormattedName>
                                        </PersonName>
                                </Person>
                                <ApprovedDateTime>2001-08-13T11:23:00+05:00</ApprovedDateTime>
                        </ApprovalInfo>
                </ReportedTime>
                <SubmitterInfo>
                        <Person id="125549">
                                <PersonName>
```

```
                          <FormattedName>Lucy Henderson</FormattedName>
                    </PersonName>
              </Person>
              <Source>QATimes</Source>
              <SubmittedDateTime>2001-08-10T16:47:00+05:00</SubmittedDateTime>
          </SubmitterInfo>
      </TimeCard>
</TimeCards>
```