**Scoped examples for prospective vendors of services**

This document shows prospective vendors of services using Microsoft Dynamics Enterprise some sample scoping of requirements that are currently envisaged, prior to the comprehensive scoping at the start of the new project.

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**Notes on ITIL (Information Technology Infrastructure Library)**

Datasharp wish to follow the practices, methodologies and recommendations, set out in ITIL.

ITIL principles are designed to apply to the structure, deployment and ongoing management of information technology within an organisation.

# General ledger for Finance Management

Account structure, cost accounting

The purpose of this scoping section is to demonstrate the financial management requirements that will also serve as a minimum specification for the way the general ledger is structured.

The examples are not specifications for this scoping exercise. Instead, they are used here to demonstrate what is required from the system, and to give some indication of the minimum requirement of data to be entered, managed, categorised and published for management purposes.

The general ledger structure currently in use was derived from the requirements for company management and costing reports. This is described here (below) in order to explain how it was achieved using our current system, not necessarily as a specification for how the new system might be configured to produce the same analysis and Business Intelligence, and more.

Each nominal/general ledger account – and therefore each line of detail (lowest level transaction) – belongs to a set of five categories, as follows:

(Major Heading – see note, below)

1. Location – used to break out internal sales staff and external franchise offices
2. Cost Centre
3. Major Category (P&L/Balance sheet group - Sales/CoS/Overheads etc)
4. Minor Category
5. Nominal detail

Nominal Account (concatenation of all preceding codes *in the above, fixed order*)

In Datasharp’s existing system there is a built-in category (Major Heading) with a fixed set of twelve P&L and Balance sheet codes that are used by the application to anchor the P&L and Balance sheet views to traditional accounting groupings.

For reporting purposes we have included our own variant of this, called ‘Major Category’, that enables us to produce the management reports we need, and ignore the system Major Headings.

Examples of the way we can use this structure to view the data in any combination of grouping and hierarchy:

e.g. 1 (each category description and code in default hierarchy)

An Other (sales person) ‘602’

IT Services ‘800’

Sales ‘A’

 IT Engineering ‘A27’

 IT Engineering Labour charge sales ‘010910’

 Nominal account for all preceding categories:

 602-800-A-A27-010910

e.g. 2 (summary for all cost centres, sales only (not CoS etc) for a sales person)

Sales

An Other (sales person)

 Total sales by Cost Centre:

 General

 Telecoms

 Network Services

IT Services

e.g. 3 (summary for all detail categories for sales of one sales person, one cost centre and one minor category)

Sales

An Other (sales person)

 IT Services

 IT Engineering

 Total sales by Minor Category:

 IT Maintenance Contract sales

 IT Engineering Labour charge sales

 IT Engineering Part sales

e.g. 4 (all nominal accounts for one major, minor, cost centre; all locations (sales people)

Sales

 IT Engineering Labour charge sales

 IT Engineering

 IT Services

 IT Engineering Labour charge account - Sales person A

 IT Engineering Labour charge account - Sales person B

 IT Engineering Labour charge account - Sales person A

e.g. 5 (P&L for a location)

An Other (sales person)

 Sales

 General

 Telecoms

 Network Services

IT Services

 Cost of Sales

 General

 Telecoms

 Network Services

IT Services

 Overheads

 Staffing costs

 Motor expenses

 Travel & Accommodation

 Telephone

An Other total

e.g. 5 (P&L for a cost centre)

IT Services

 Sales

 IT Engineering

 IT Maintenance Contract sales

 IT Engineering Labour charge sales

 IT Engineering Part sales

 Cabling Labour charge sales

 Cabling Parts sales

 IT Installation sales

 Other Sale/CoS

 Delivery charges

 Cost of Sales

 IT Engineering

 IT Maintenance Contract purchases

 IT Engineering Part purchases

 Cabling Parts purchases

 Miscellaneous IT Engineering purchases

 Overheads

 Staffing Costs

 …further breakdown by nominal detail

 Motor expenses

 …further breakdown

Travel & Accommodation

 …

 Telephone

 …

 Printing & Stationery

 …

 Sundry Expenses

 …

 Depreciation

 …

IT Services total

Note:

Location classifies sales people, franchise offices and the Datasharp head office (DSUK). The location code for DSUK is ‘\*\*\*’ for easy identification and so that it naturally precedes other codes without having to re-order.

Please refer to *Management Accounts report requirements example - BIG22017.xlsx* as this is how we currently view the information for management purposes. A similar Business Intelligence report or interactive and graphical screen display will be needed in the new system.

Other crucial reports are not included here but existing management reports will be used for comparison to ensure the project scoping covers all Datasharp’s requirements, based on the nominal account structure designed in that scoping.

# Time recording

Members of staff that carry out services for customers will have to record all their time while at work. The time will be recorded by the individual users, with simple data entry.

Time will be allocated to the service contract being maintained, or to a project, pre-sales work, administration etc. See the separate scoping for Service Contracts for the way in which the time will be processed specifically for contracts.

**The interface** that deals with the time-recording process must:

* be simple, quick and intuitive to use:
	+ as little navigating as possible between different screens/forms for different functions
	+ time will be entered and shown in hh:mm format.
* automatically record time from when the user decides to start recording until the user decides to stop.
* record/edit time to the nearest minute, rounded up.
* separate records, and therefore separate timers, will be needed for each engineer and each task or work type.
* categorise time entries by work type (not the same as Task type – see other scoping documents, especially Resource Scheduler.
* allow multiple tasks, and therefore multiple time records, per case (aka job, incident, call etc).
* have a rapid method of starting the timer for each work session: the clock must start when the record is first opened, not after the initial form has been filled in.
* have a quick method of stopping the timer.
* have a quick method of pausing and un-pausing (or restarting) the time for a task.
* have the current used time clearly visible.
* allow easy editing of time records to change the start date/time, stop date/time, billable time and paused time.
* allow each engineer to have multiple timers running (or being paused).
* allow the user to assign time to be billable or non-billable or mixed on a single time record.
* allow the user to easily enter notes about the timed task in hand.
* be able to link the time record to one of the following:
	+ a case/job/incident belonging to a service contract
	+ a case/job/incident belonging to a project
	+ a case/job/incident belonging to a pre-sales job
	+ administrative or other internal work that doesn’t belong to a contract, project or pre-sales job.
* show appropriate information on the time record about the case or project being worked on.
* allow specific degrees of read/write/prohibit of time records by users and groups, depending on:
	+ levels of authority in the department/company
	+ need to share information across groups or departments
	+ need to prevent or allow editing of certain elements of each time record
	+ need to see lists of own time records, and those of others in same group.

**Processing of time record data**

1. The following data must be recorded on each time record:
	* 1. Start date & time
		2. Stop date & time
		3. Total time between start and stop
		4. Total time paused
2. All recorded time must be automatically accumulated on the relevant (i.e. linked) records, as follows:
	1. case/job/incident
	2. service contract, project or pre-sales job

See the suggested structure for services and detail for service contract time management under Service Contract scoping.

1. Workflow(s) and statuses will be needed to control the processing of time records in the following manner:

The following is our suggested scope of time record workflow and statuses. We are open to suggestion on ways of managing this information and further discussions will be needed to compare the full requirements with software capabilities to determine the precise specifications:

* 1. Create a new time record. Automatically starts running: Status = Running
	Available options: Pause/Un-pause; Stop
	2. Pause a time record clock. Status = Paused

Available options: Un-pause; Stop

* 1. Un-pause a paused time record clock. Status = Running

Available options: (see a., above)

* 1. Stop a time record clock. Status = Open

Available options: Edit; Submit; Reject

* 1. Time records must be available for editing until the appropriate users Submit them for approval.

Users will be allowed to edit the following elements of Time records in this Open state:

* + 1. Start date/time, Stop date/time and total time between start and stop.
		Users must be able to enter any combination of two of these and for the third to be calculated automatically by the system.
		2. Paused time
		3. Billable time
	1. Submit a time record. Status = Submitted

After a time record is submitted for approval, no editing will be allowed.

Normally all engineers and their supporting staff will be restricted to the above steps and statuses, with the exception of Queried (see below).

Submitted time records will be available for an assigned user to manage and approve.

Available options: Approve; Query

* 1. Reject a time record. Status = Rejected

A rejected time record will no longer be included in any calculations. It need not be submitted or approved.

* 1. Query a time record. Status = Queried

An ‘approver’ user can Query a time record instead of Approving it.

Queried time records are available for the engineers and supporting staff to edit, exactly as if the status is Open.

Available options: Edit; Re-submit; Reject

* 1. Approve a time record. Status = Approved

Available options: Un-approve; Archive

(Un-approve changes the record to its previous status: Submitted)

**Relationship with Cases and Contracts**

While a time record is Running (i.e. not Open, Submitted or Authorised), no processing will be carried out between the time record and its ‘parent’ Case and Contract.

When a time record is Open, Submitted or Queried, the billable and non-billable values must be included on Case and Contract records in an accumulated Work in Progress value (one for billable, one for non-billable (or total – yet to be decided)).

When a time record is Approved (or Archived), the billable and non-billable values must be included on Case and Contract records in an accumulated Time Used This Year value.

The above concept and practicalities are scoped in more detail under the Service Contract scoping section.

Note: For design purposes it may be necessary to have another ‘layer’ of records that relates to tasks, and for the time records to be associated with these tasks instead of directly to the ‘parent’ case, as follows:

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# Resource Scheduler & Resource Management

**Resource Scheduler**

The scheduler will be used for all resources throughout the company and will be dynamically linked to:

* Scheduled Tasks and their Cases
* Scheduled Tasks and their Projects
* Scheduled Tasks for non-customer or pre-sales projects

All of the above tasks must be ‘in’ the scheduler and visible as soon as they are dated/timed

* Task workflows and statuses (for colour-coding and other indicators of progress)

It will also be used for the daily activities for all Resources (not covered by the Tasks, described above).

Such ‘activities’ are not yet fully defined but will encompass most or all of the work types used for time recording. Time work records will not be in the scheduler: they are for current work being carried out and logging time against work types to users, cases and projects.

Note: A time record work type and an activity may be similar but they will not necessarily be linked. For instance, a time record relating to a task may have a more specific work type than the scheduled activity it relates to.

For more detail on Resources, see section headed ‘Resource Management’.

Resources currently include:

 Engineers – for internal and external work

 Other customer-facing staff such as consultants and project managers

 Vehicles owned/rented by the company

 Equipment such as projectors

 Meeting rooms

and more

Resources will be available for assigning to tasks or activities, for both external (customer) and internal work.

Currently there is no requirement for the scheduler to display actual time spent on tasks, so for scheduling purposes and subsequent work on a scheduled task, there need not be a relationship between the scheduled task and the engineers’ time records associated with the case/incident.

Engineers will be booked in the scheduler for the following reasons:

* Assigned to a scheduled task (of a case/incident, project, pre-sales project or internal project)

The task may be scheduled for a number reasons, such as:

* + Visit to customer for a Case (or Case task if that model is used)
	+ Remote work directly involving customer for Case/task
	+ Project work – tasks defined in a project (customer or pre-sales)
	+ Third line support – scheduled task to deal with a specific technical issue not covered by Helpdesk or Second line support
	+ Joint working with other staff that requires co-ordinated scheduling
* Blocking out time for other reasons, not related directly to an individual task:
	+ Helpdesk
	+ Second line support (similar to Helpdesk)
	+ Travel
	+ Administrative work
	+ Training course
	+ Holiday, sickness

In other words, a resource that does not appear in the scheduler in a block of time will be considered (by the system and users) to be available for assignment to tasks within that block.

The system as a whole (not just the scheduler) will be designed to manage and assign resources , activities and tasks will be

Resources and scheduling will be managed in a way that allows the following events and activities to

The system will attempt to assign engineers to tasks based on preset rules or criteria such as:

* + Resource skills matrix
	+ Resource availability

Users with appropriate permissions will be able to override the system’s assignments, and the system will provide suitable warnings or errors if the pre-set rules are broken during this process.

User Interface:

* Easy visibility of engineer availability and scheduled tasks
* Easy visibility of tasks identified to be scheduled but without assigned engineers
* Easy ‘drag and drop’ method of assigning an engineer to a task and a date & time
* Move freely from one day, week or month to another that may not be visible due to the original criteria
* Calendar-style views of the scheduler will be needed that show a single day, a number of days (e.g. 5, 7, 10, 14), a week (starting on a pre-defined day – currently Monday), a calendar month, a number of months, a year and a number of years (if practical).
* Tasks, events, priorities, task stages will be colour-coded.

For instance, a task involving a site visit with deliveries etc will change colour at each stage.

* ‘drill-down’ that allows the user to access relevant data and information by selecting an entry on the calendar view. For instance, the action of clicking on a calendar/scheduler entry should open the Task record and allow editing or further drill-down to other elements. Closing those parts should bring the user back to where they started on the calendar.

The scheduler will allow users with the appropriate permissions to select queued jobs with their assigned engineers and drag them onto the calendar, making fine adjustments if required by opening the newly scheduled record and typing the changes in.

We also expect drag-and-drop to be available for moving bookings around the calendar.

All these manually entered/edited entries must be monitored by the system to ensure conflicts are brought to the users’ attention, such as:

* lack of the suitable skill-sets.
* insufficient time between tasks required for efficient task management by engineers, consultants, project managers.
* insufficient time or breaking of pre-defined rules for travelling between sites. This will be calculated by the system based on grid reference, postcode or vehicle tracker.

It is likely that the criteria and parameters used by the scheduler to ‘decide’ whether or not a conflict exists, and to what degree, will be stored and managed in two separate areas:

1. Resource Management entity – see below
2. Task skill requirement definition (for Cases and Projects) – out of the scope of this document but a brief description of this is:

All scheduled tasks will be classified with an activity or skills requirement using a mandatory pick-list.

Multiple skills for a particular task may be required, so this option must be available.

This list will be linked to, or be the same list as, the skills defined in the Resource Management skills matrix.

All entries in the scheduler views will be available for drill-down to the relevant records contained in the entry currently selected by the user.

For example: A task on a particular day/time block will allow drill-down to:

* The Task record of the case, project etc (the Task record is outside the scope of this document)
* The Resource Record of the assignee (engineer etc)
* The Resource Record of the vehicle associated with the task (this association is outside the scope of this document)
* The ‘parent’ Case of the task record
* The ‘parent’ Project stage and Project of the task record.

**Resource Management**

This will be a separate entity that contains the list of all available resources in the company and their related data.

Current thinking is that the following minimum information will be required but this will be enhanced once the project starts, and is open to suggestion as it stands:

Main Resource Record information:

* + Internal sequential unique ID
	+ Type:

Datasharp staff

Sub-contracted personnel

Equipment (projector, laptop etc)

Location (boardroom, meeting room etc)

Vehicle (cars, vans)

* + Code or short name

Staff: company-wide user ID (e.g. ANO1)

Vehicle: registration no (e.g. AB16 CDE)

* + Employee number (for future links with payroll)
	+ Description

Staff: name (e.g. Ann Other)

Vehicle: model (e.g. Mondeo Estate)

Additional information, specific to resource type:

* + Human:
		- Skills matrix

Table of company-defined skills vs. hi/med/lo rating for this person

Note: this must be linked to (a) the Scheduled Task skills pick-list and (b) the Product/Service catalogue.

In other words, each defined skill must exist in, and be linked between:

The Product/Service catalogue

The list of skills available for setting to hi/med/lo in the skills matrix in Resource Management

The list of skills available for selecting in a Scheduled Task

* + Vehicle:
		- Current location (but see look-up requirements, below)
		- Currently assigned driver

Also available for looking up (drilling-down) from the Resource Management record:

* + For all resources: Scheduler view of all scheduled tasks and activities for this resource (using the view options described in that section)
	+ For all resources: A list of all projects associated with this resource, with drill-down to the Project record and then to all available options within the Project Management entity
	+ For vehicles: links to the Motor Fleet record (defined elsewhere);

**Scheduling and Project Management**

Although Project Management is not covered in this scoping exercise, Datasharp’s scheduling requirements naturally include being able to see all project information easily and comprehensively in the context of day-to-day resource management. Datasharp require Gantt-style views of all projects that can be easily adjusted to show different levels of detail.

Ideally these must be available by drilling down (or ‘drilling up’) from the scheduled tasks in the resource scheduler to the relevant project.

The Gantt-style views of the projects must include the ability to show, for example:

* + An individual project
	+ All projects for a customer
	+ All projects for a project manager
	+ All projects for an engineer, consultant etc.
	+ All projects for internal Datasharp projects
	+ All projects for all customers
	+ All projects
	+ any combination of the above.