
PBS_CageTrack

Proposal to Sato Australia

By



1. Executive Summary

Sato Australia (Sato) have sought to partner with Purpose Built Software (PBS) in an opportunity with Movers And Shakers Relocations Pty. Ltd.

Movers And Shakers Relocations Pty. Ltd. (M&S) are an organisation that (amongst other things) specializes in the office relocations business space. A feature of their business differentiation is their Crates On Skates system.

M&S in the implementation of the Crates On Skates system have accumulated individual assets (Items) of plastic crates and skates to total volume around 50k Items. These individual Items are constantly moving between M&S Depots (Depots) and M&S client sites. Presently movements of Items are tracked using a manual recording process. Some of the Items are used for the duration of a relocation (though sometimes all the Items are not released (returned) by the client at the same time) and some Items are supplied to clients on a longer term rental basis.

The M&S investment in the crates and skates is significant. M&S are finding that the existing manual method of tracking the Items is time consuming plus there is some risk of Items being lost to the recording process and of rentals not being charged for.

M&S have decided to investigate if efficiencies (timesaving, accuracy and shrinkage based) could be attained by the use of an electronic desktop and Pda based data capture mechanism.

M&S have asked of Sato to put forward a proposal for an electronic tracking application with related Pda hardware to replace the manual process.

For clarity; M&S have asked that invoicing generally plus rentals, rental durations and rental rates are not a required part of the software requirement. The rentals are to be handled by the M&S backend Moveware application.

This proposal is based on the information received in meetings and emails with Andrew Tait and Doug Brown.

Three software programs are envisaged:

- **PBS_CageTrackServer:** A Server application which would be run as a service. This would perform all of the "heavy lifting", maintain the links and move data between the desktop software and the Pda users.
- **PBS_CageTrackClient:** A Client application. This is a Windows executable which would communicate with the Server and allow the display and configuration of required settings for transfer of data to Pda devices. The Client application also provides views into the data collected and allows generation of reports in csv format.
- **PBS_CageTrackPda:** A Pda application. This would run on one of a WindowsCE or WindowMobile platform enabled Pda device with integrated barcode scanner. The Pda application would make extensive use of barcode scanning to capture data movements and perform stocktakes.

To enable stakeholders within M&S to have maximum input, PBS will provide a number of Prototype applications that will allow stakeholders to touch, feel and operate the components. Feedback from the Prototypes will be fed back into the development cycle further refining the deliverable. This approach reduces project cost plus PBS finds it keeps the teams engaged and results in a successful project.

PBS is proposing a phased approach where the project development cost will remain fixed provided requests for extensions do not deviate too far from reasonable

expectation. Should (out of scope) extensions be requested then PBS will quote them and attain written approval prior to commencing that work.

PBS encourages the stakeholders to remain engaged with PBS during the project development. If they do this then we envisage the Rollout phase could commence as early as week 8 from project start.

2. Proposed Application Suite

The proposed application suite is comprised of three custom built applications (PBS_CageTrackServer, PBS_CageTrackClient and PBS_CageTrackPda) that communicate with each other via TCP within an internal Local Area Network.

The role of each is described below.

2.1. PBS_CageTrackServer (Server) Functions

The Server application is a program that will run on any suitable server PC machine running Windows XP, Windows Server 2003 or Windows Server 2008 within the M&S network. It is envisaged that all Depots will have TCP access within the M&S network to the PC running the Server application. It follows that the server program is well behaved and should be ok to run in an environment where other software is running.

The server will be run as a service and have the following functionality:

- Sending of reference data to Client and Pda software
- Receipt of transaction data from Client and Pda software
- Provide a software auto-upgrade mechanism to Client and Pda

2.2. PBS_CageTrackClient (Client) Functions

The Client application must allow the following functions to be performed by M&S staff in their offices in a simple and easy to use manner using a windows application:

- Add/Edit/Display of parameterizations within the Server software
- Views into the data history of Pda users as known to Server
- Provide stocktake review
- Output of reports as files for subsequent view and printing in MsExcel
- Print labels for attachment to Items.
- Auto-upgrade of new software versions ex Server

2.3. PBS_CageTrackPda (Pda) Functions

The Pda software will run as an executable on one of a WindowsCE or WindowMobile platform enabled Pda device with integrated barcode scanner. It will have at least the following functionality:

- Communication with the Server software via TCP
- Use barcode scanner to perform a Stocktake of Items
- Capture stock movement transaction data
- Auto-upgrade of new software versions ex Server

2.4. Database

The actual structure, tables and fields of the database will be fully defined during analysis within the Prototype phase, however the following broad outline is offered.

- Item
- Location
- ItemAggregation (a temporary aggregation of a set of items into)
- User
- UserPermissions

2.5. Inter team communications and transitions between phases

PBS is offering to implement this project using the proven Prototype + Implementation + Rollout phase project management model. This approach works really well for projects of this size and M&S are recommended to adopt this approach. The phases are described below in more detail together with the roles of the teams.

It is important for PBS that M&S promptly test releases of the Deliverables provided to them and provide feedback to PBS. Failure to do this tends to result in cost overrun for PBS. PBS requires that communication of change requests and bugs identified via a M&S maintained document called the IssuesList. The IssuesList is acceptable if it is a Microsoft Excel document that has a row containing detail for each issue with columns as follows. Columns should be at least "Issue#", "Version", "Description" and "FixVersion". The Version being the application version that is current at the time the issue was entered. The FixVersion is the application release version that M&S agrees addresses the issue. The document is maintained by M&S. PBS will increment the version number at each application release and will provide detail of changes made in the release. Should an item from the IssuesList be addressed (from the PBS perspective) then the Issue# will be cross referenced in the PBS maintained release notes. PBS is not obliged to implement an entry in the IssuesList if it is outside the project scope. Feature requests (even those for discussion and/or price request) should get an entry in the IssuesList; in this way the IssuesList becomes a living document communicating project progress and forward planning.

PBS expectation is that M&S will promptly test each Deliverable and return an updated IssuesList within 5 working days of advice by PBS of availability of a new release. PBS will advise new releases via email to a nominated M&S person; the email will contain a download link and release notes for changes contained in the release. Should M&S fail to advise missing functionality or bugs via the IssuesList document within 5 days of the release then the current project phase is considered completed and the next project phase commences.

We offer M&S the option of abandoning the project at any time during the Prototype Phase; should M&S do this PBS retains the sum paid at the start of the Prototype Phase and M&S agree not to further use the application suite thus far delivered.

PBS reserves the right to abandon the project at any time prior to rollout. Should PBS exercise this option PBS must repay all monies received for the project phases till date. Should PBS abandon the project (and repay monies) M&S agree not to further use the application suite thus far delivered.

The Prototype Phase:

This phase is the modern alternative to the old-style traditional paper based specification document. The process uses a rapid application development tool to create driveable versions as first cuts of the application suite. The applications developed will evolve in the later phases to become the finished Deliverables. To achieve this PBS will commence the project by cloning a known base code set from a previous project that has similar requirements from the communications and data interactions perspective. PBS will then supplement that base with screens and flows that address the M&S business rules. The PBS framework is very flexible in this regard; near all our projects evolve new code sets in this manner.

There will be several releases of the application suite during the Prototype phase; these releases allow M&S stakeholders to "give it a drive" and provide feedback. PBS engineers will integrate the feedback into the next Prototype release. The project stays (iterating) within the Prototype phase till both parties agree to move to the next phase.

PBS recognises that even after this project is delivered, there will be requests for extensions; in essence we recognise that the evolution never really stops.

The result of the Prototype phase is the working application suite supplemented by documentation detailing things yet to be done to complete the works to M&S satisfaction. When both parties agree that the working Prototype applications and the supplementary documentation is complete the next phase (the Implementation phase) is triggered.

It is traditional (PBS experience) that some project managers will overly try to keep the project in the Prototype phase making (often late) change requests all the way till the project is fully completed (even Rolled out). If this is happening it normally means the stakeholders are not engaging early enough to provide feedback. PBS will try encouraging early engagement; plus will hold at the Prototype phase (potentially slowing the project schedule) while change requests are still being received. In other words PBS will keep making Prototypes at M&S request but will not move the timing of project deliverable to the Implementation phase till change requests stop coming.

The Implementation Phase:

The Implementation phase begins when all M&S stakeholders have provided input and M&S and PBS are agreed on what the final Rollout deliverable will be. The aim of this phase is to lock down the Prototype code set, fix bugs and finalise the application Deliverables that M&S will use in the Rollout. There may be several releases in this phase. M&S has the obligation to promptly test the releases and maintain feedback via the IssuesList document. It is not always possible (and we need to be flexible) but PBS would strongly prefer that there be no additional change requests in this phase. If PBS is getting lots of change requests in this phase then PBS reserves the right to make the call to go back into the Prototype phase (if only) to relieve PBS from project scheduling pressure ex M&S to get to Rollout. In this phase PBS expects that M&S will request that some end users be allowed to trial (pilot) the Deliverables. The end user version control and auto-upgrade mechanisms are designed to facilitate this pilot process and indeed the Rollout itself.

The Rollout Phase:

Rollout is the phase where M&S uses the Deliverables in a day to day manner.

Identification of the commencement of the Rollout phase is important to PBS as it delineates a progress payment and commencement of the warranty obligation. M&S must test the Deliverables and advise PBS they are suitable for use before using the Deliverables in day to day use. This advice will mark the start of the Rollout phase. Should M&S fail to so advise yet begin to use the Deliverables in a day to day manner to other than the agreed Pilot users then the Rollout phase start is triggered automatically. The means by which M&S are to communicate missing functionality and bugs is via the IssuesList. Failure by clients to promptly advise missing functionality and bugs via the IssuesList is the single biggest cause of cost overrun in projects at PBS.

For clarity; no new functionality can be introduced at this phase. The warranty covers bug fixes; not missing functionality. Additional functionality in this phase (if requested) will be treated as new works and quoted separate to this proposal.

Ideally it follows that at the start of the Rollout phase the IssuesList has an entry in each FixVersion cell or contains a comment denoting the feature is for a future round of work.

The Warranty period begins at the start of the Rollout phase.

In this phase PBS will (if needed) conduct "train the trainer" sessions and those persons will begin training and supporting M&S end users.

2.6. Technology and Responsibilities

PBS will implement the application suite using our Rapid Application Development toolset and our library of existing user interface and communications components. On top of this base infrastructure PBS will add functionality to meet the business rules envisaged and provided by M&S.

PBS will:

- Design, develop and deliver the Server, Client and Pda applications
- Provide a change report at each release of the software

M&S will:

- Provide a single point of contact within M&S for communication with PBS
- Supply the Server hardware (it is envisaged this would be an existing Windows XP, Windows2003 or Windows2008 based PC)
- Supply the Client hardware (it is envisaged these would be existing Windows XP or Windows2000 based desktop PCs)
- Provide a test environment and test data
- Assign adequate resource to test Deliverables and provide feedback
- Maintain an IssuesList document detailing missing functionality or bugs

2.7. PBS Project team

Project Management: Norman Bain

Technical Lead: Peter Baum

Other resources will be involved as needed.

2.8. Deliverables

The Deliverables include:

- Server Software in executable form
- Client Software in executable form
- Pda Software in executable form
- 1 x ½ day "Train the trainer" training course conducted at M&S offices
- Warranty period of 90 days from start of Rollout phase

2.9. Validity

This proposal / quotation remains valid for 30 days.

2.10. On-going Enhancements

PBS offers its services for on-going enhancements of software.

PBS expectation is that most extensions requests will be implemented after agreement is reached on a fixed sum for the work. PBS is also agreeable to performing extensions work on a T&M basis. For guidance the PBS T&M rate at this time is \$150 exTax per hour.

2.11. On-going Support

PBS has provided for a 90 day warranty period that begins at start of the Rollout phase. During the warranty period PBS will fix free of charge bugs reported via the IssuesList.

Should M&S require ongoing support beyond the warranty period, PBS would be happy to discuss an on-going Technical Services Agreement (TSA). For guidance PBS offers a TSA calculated at an annual rate of 18% of the total spend with the sums payable each quarter in advance.

Support Services

During the warranty period and beyond (if ongoing support is contracted) PBS will provide T3 Support via email and telephone to M&S T2 Support persons who have been trained in the use of the Software. PBS will provide the support during normal business hours with proviso that it is acknowledged that there may be need on occasion for M&S to obtain support outside of normal business hours. PBS will ensure that telephone calls outside of normal business hours to a provided support number will be responded to. If requested M&S will document (via email or otherwise) the specifics of their support request. M&S will on request from PBS provide answers to relevant analysis questions, obtain copies of any affected files, and document environmental system settings.

Should there be need to address an Error by release of an update to the Software then the update will be released to M&S within 7 days of acknowledgment of need to address the Error by release of an update.

M&S must advise PBS of the Error Classification of each Support Request using the priority classifications 1, 2 and 3 as described below.

"Priority 1" means an Error that renders the Licensed Software inoperative or causes the Licensed Software to fail catastrophically.

"Priority 2" means an Error that affects performance of the Licensed Software and degrades use of the Licensed Software.

"Priority 3" means an Error that affects performance of the Licensed Software, but does not degrade use of the Licensed Software.

PBS shall address Errors in accordance with the following protocols:

Priority 1 Errors: PBS shall make reasonable attempts to acknowledge Priority 1 cases within two (2) hours from the time that the case was placed and to initiate the following procedures: (1) assign specialists to commence correction of the Error; (2) provide ongoing communication on the status of the corrections; and (3) commence to provide a Workaround or a Fix.

Priority 2 Errors: PBS shall make reasonable attempts to acknowledge Priority 2 cases within six (6) hours from the time that the case was placed and to initiate the following procedures: (1) assign a specialist to commence correction of the Error; (2) commence to provide a Workaround or a Fix; and (3) provide escalation procedures as reasonably determined by PBS support staff.

Priority 3 Errors: PBS shall make reasonable attempts to acknowledge Priority 3 cases within twenty four (24) hours from the time the case was placed.

3. Terminology

We encourage M&S to continue to evolve a consistent set of terminology for use within this project.

Many of these terms will come from common usage within M&S (and PBS should learn them).

PBS finds getting these terms established early in the project greatly reduces miscommunication plus facilitates more accurate analysis of the project aims.

Offered below is our first draft at the terms and their usage within this document.

Term	Meaning
Client Software	A desktop application that will run on users PC and allow the display and updating of information held about the links and destinations
Deliverables	The Server, Client and Pda software supplied as per this proposal
Item	Generic term covering any barcoded serialized asset in this project including crates, skates and capsules
Moveware	An industry specific application in use by M&S that performs accounting and project management.
Server Software	An application that will run as a service on a server machine in a central location
User	A user configured to use the Client or Pda programs