



Oil Dispensing &
Measuring Systems

Electronic Art Display cc T/A OilPro Reg nr 1989/020709/23

Date: 18 November 2003

INTEGRATION SPECIFICATION

OilPro Oil Management System / Accounting Software Packages

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1. STRATEGIC CONTEXT

The OilPro Oil Management System is an electronic oil management system, linked to computer software. The system controls the dispensing of oil from bulk tank to dispensing bay in a workshop environment, while keeping record of all actions. Full information about the OilPro Oil Management System is available on the internet at www.oilpro.co.za. The aim of this document is to establish a basis for integration of OilPro Oil Management System with accounting software. The OilPro Oil Management System and accounting software packages address specific, but different needs. Some information is required by, or common to both systems. If there is no integration between the oil management system and the accounting system, this information needs to be entered twice (once for each system) in the client environment, after which it still requires consolidation. Duplication introduces undesirable overheads and risks, e.g. discrepancies or inconsistency in data. As soon as integration is accomplished, the OilPro Oil Management System sends information directly to the accounting software. This information is then pulled into and integrated with the accounting software. This ensures uninterrupted workflow and deals with the risk factors as described above.

2. OBJECTIVES

The integration involves making changes to the **OilPro Oil Management System** software suite and establishing an Integration tool with the accounting software, to:

- Import relevant information generated by the **OilPro Oil Management System** into the **accounting** software system; and
- Ensure that the job card evaluation information generated by the **accounting** system is imported into **OilPro Oil Management System**.

3. INTEGRATION CONTEXT

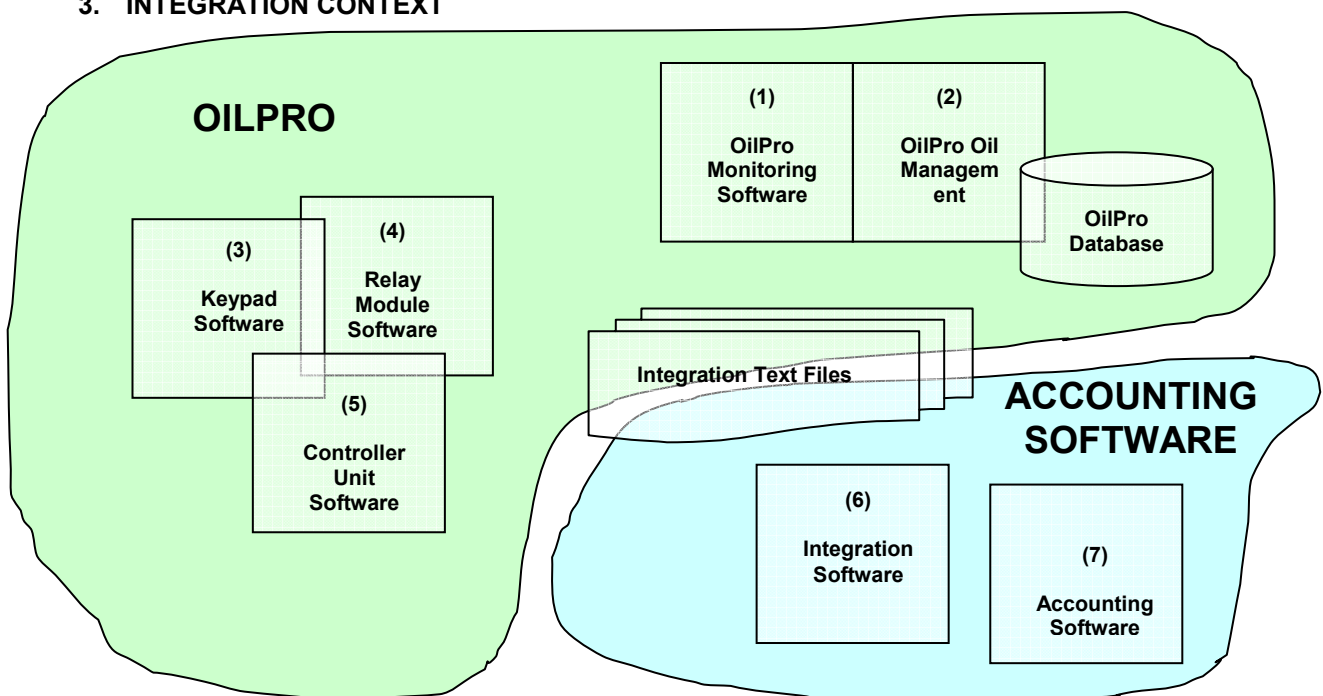
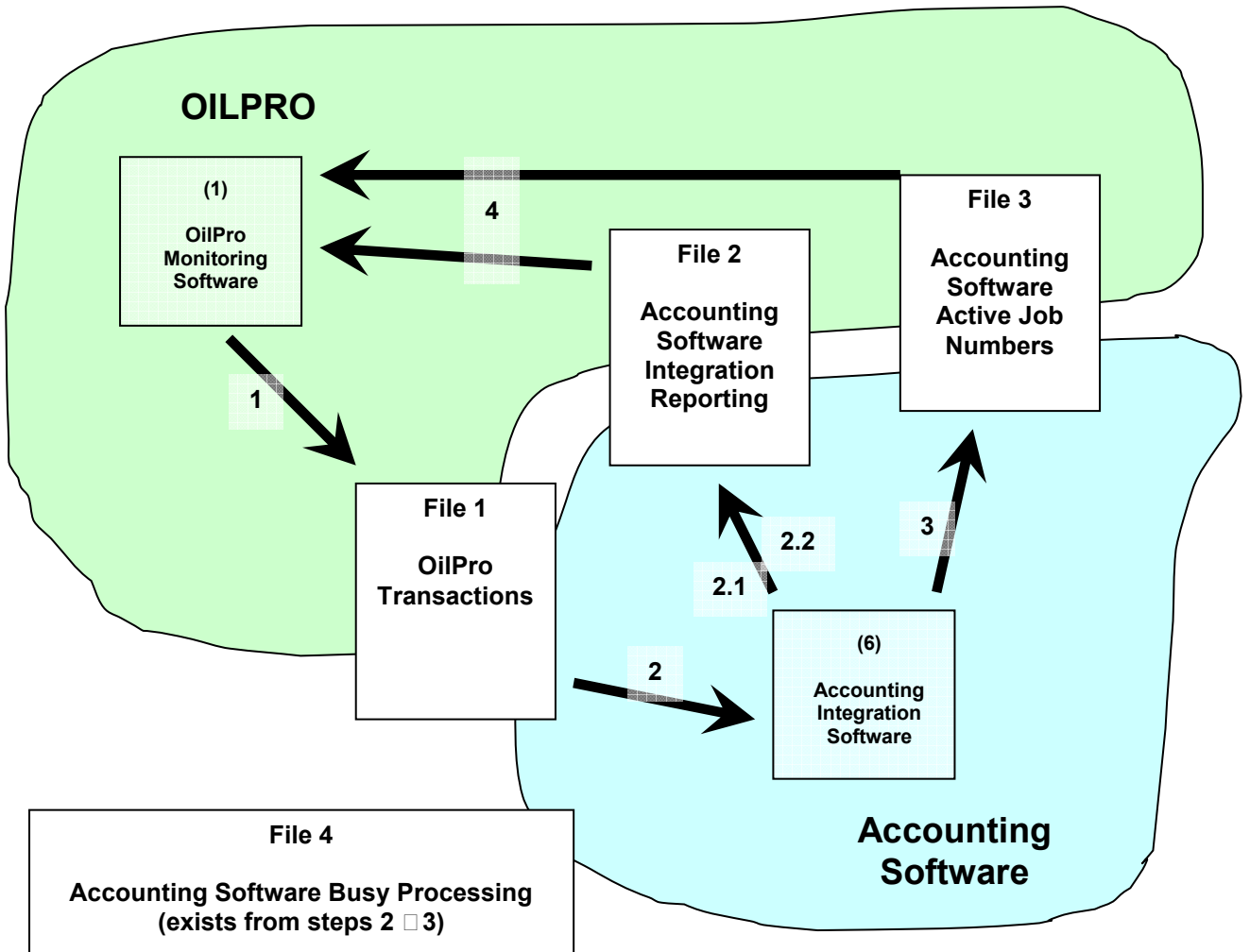


Figure 1: Integration Context

4. FUNCTIONAL SPECIFICATION

<p>Functional Description</p>	<ol style="list-style-type: none"> 1. The OilPro Oil Management System is required to export the following information, which in return needs to be imported into the Accounting Software: <ul style="list-style-type: none"> • Transaction Number • Job Number • Product Number (Stock code) • Quantity Pumped • Date and Time • Operator Name <p>This information is used in the Accounting Software for invoicing. Integration will ensure that the information will be readily available in the system at the time of invoicing, that it will be consistent with OilPro Oil Management System information and need not be entered manually.</p> 2. the Accounting Software generates unique job card numbers for each job to be performed in the workshop. All actions performed by the OilPro Oil Management System require specification of the job number. The integration will ensure that the job numbers generated by the Accounting Software system are also reflected from within the OilPro Oil Management System, without having to re-enter the job numbers in OilPro Oil Management System. 3. Activation functionality needs to be added to the OilPro Oil Management System system, which should be activated for systems integrating with the Accounting Software and deactivated otherwise. When deactivated, manual procedures apply as always.
<p>Process Description</p> <p>(see Figure 2)</p>	<ol style="list-style-type: none"> 1. The OilPro Oil Management System Monitoring Software creates a text file with valid transactions, if the file doesn't exist and writes the required information (as provided above and in the technical specifications) to it. If it exists, transactions are appended. 2. The Integration Software imports the transaction information into the Accounting Software. For the duration of this action, a file indicating the busy status must exist. Upon completion, the busy file must be deleted. <ol style="list-style-type: none"> 2.1 At the same time, generate a reporting file, with the following information: <ul style="list-style-type: none"> <input type="checkbox"/> All errors (e.g. invalid job numbers) <input type="checkbox"/> All transactions successfully imported 2.2 Transactions containing job numbers generated by the OilPro Oil Management System's override facility (and therefore not yet registered in the Accounting Software), must be written as errors to the reporting file (see section 5.2 File 2). OilPro Oil Management System will ensure that the user correlates the job number(s) temporarily allocated by the override facility with the job numbers generated by the Accounting Software. 2.3 Delete the text file generated by the OilPro Oil Management System. 3. The Integration Software creates a text file with all valid job numbers and optionally quantities and / or vehicle codes to be imported into the OilPro Oil Management System. 4. The OilPro Oil Management System processes the job card information and reporting file (details not part of the scope of this document).
<p>Process Considerations</p>	<ul style="list-style-type: none"> • What tests should be made to evaluate the integrity and sequencing of the files, e.g. if the required one-to-one relationship between the export and import is sustained? If not (no import or export or both), what then? Should an integration identifier be supplied that needs to be checked by both systems? <p>Result <input type="checkbox"/> there is no one-to-one relationship between exporting and importing as far as the files are concerned. If the Accounting Software fails to pick up a file in a cycle, the OilPro Oil Management System will continue to append to the existing file. The next time the Accounting Software successfully imports the information, it must delete the file after processing, as described in the process above. No integration identifier is required.</p> • What are the process requirements from the integration program's point of view, e.g. do OilPro Oil Management System and the Accounting Software have to be installed on the same PC? Other? <p>Result <input type="checkbox"/> the Accounting Software allows operation over a network, but it is recommended that the integration software runs on the same PC as the OilPro Oil Management System software.</p> • What errors can be anticipated and how should the systems deal with them? <p>Result <input type="checkbox"/> Errors can be generated by the Integration software due to invalid job numbers created by OilPro Oil Management System's override functionality. See process above. Other errors are invalid job numbers and product codes.</p>

Figure 2: Integration Process



5. TECHNICAL SPECIFICATION

5.1 Technical Considerations

No		Comments / Notes
1.	The OilPro Oil Management System will export to a text file, from which the contents will be imported into the Accounting Software .	Integrations to similar systems are made via DDE links or by obtaining information via a comport connection.
2.	The OilPro Oil Management System supports some best practice programming principles in order to optimise the system for resource usage. The reasons for this are limited resources in the available technology (e.g. chips) and the restrictions in many of the clients' environments (e.g. technical specifications of PC equipment).	The OilPro Oil Management System will be optimised as technology changes and resource limitations are being eliminated.
3.	Consider memory usage / storage space in controller unit with regards to the job card number evaluation. Limited resources currently allow for 160 transactions to be stored at any given time. The job numbers are stored in the controller unit, database and log files.	Procedures have been finalised for interaction between log files, integration files and the OilPro Oil Management System software suite, but does not fall within the scope of this document.
4.	Consider all issues with regards to the use of codes. Investigate impact - if any, on exchange formats, system functionality, etc.	No consideration needs to be given to stock codes from the OilPro Oil Management System perspective. OilPro Oil Management System dispenses only lubricants.
5.	Consider risks , e.g. users manipulating the export / import files.	The risks have been considered. The text file approach will be followed despite the risks. Information security will be implemented to identify problems where possible.

5.2 Format Specifications

FILE 1		OilPro Transactions			
FILE DETAILS	Name	Location			Life Span
		Only supplied on request			User settable cycle time
FILE CONTENTS					
Headers	None				
Trailers	None				
Other identifiers	None				
Field delimiters	No delimiters - Fixed Field Length				
RECORDS	Field	Relevance / Condition	Type Details	Order	Len
	Transaction Number	Essential OilPro reference	Alphanumeric: XX9X999,999,	1	12
	Job Number	Essential	Alphanumeric, 8 characters	2	8
	Product Number	Essential Accounting Software code from Lookup Table	Positive Integer XXXX	3	4
	Quantity	Essential	Positive Decimal 9999.99	4	7
	Date	Important	Date String YY/MM/DD	5	8
	Time	Important	Time String HhHmm:ss	6	8
	Operator Code	Enter in comment field	Positive Integer 99	7	2
	Operator Name	Enter in comment field	Alphanumeric	8	30

FILE 2		Accounting Software Integration Reporting			
FILE DETAILS	Name	Location			Life Span
		Only supplied on request			As above
FILE CONTENTS					
Headers	None				
Trailers	None				
Other identifiers	None				
Field delimiters	None <input type="checkbox"/> Fixed Field Length				
RECORDS	Field	Relevance / Condition	Type Details	Order	Len
	Identifier	Essential	Alphabetic E <input type="checkbox"/> Error P <input type="checkbox"/> Processed	1	1
	Full Record	Essential	Alphanumeric	2	Σ

FILE 3	Accounting Software Active Job Numbers				
FILE DETAILS	Name	Location	Life Span		
		Only supplied on request	As above		
FILE CONTENTS					
Headers	None				
Trailers	None				
Other identifiers	None				
Field delimiters	None				
RECORDS	Field	Relevance / Condition	Type Details	Order	Len
	Job number	Essential Only active job numbers, i.e. created, but not yet invoiced.	Alphanumeric, 8 characters	1	8

FILE 4	Accounting Software Busy Processing				
FILE DETAILS	Name	Location	Life Span		
		Only supplied on request	While processing		
FILE CONTENTS					
Headers	None				
Trailers	None				
Other identifiers	None				
Field delimiters	None				
RECORDS	Field	Relevance / Condition	Type Details	Order	Len
	None				

5.3 Lookup Tables

(To be completed)

Naming Convention		
OilPro Oil Management System	Product Number	
Accounting Software	Lubrication Code	
Description	OilPro Oil Management System Product Number	Accounting Software Lubrication Code