

## Reducing Total Cost of Ownership for Oracle Retail



*"UC4 Software's integration with Oracle Retail is a unique opportunity for new and existing customers to get even more out of Oracle's Retail solution. The UC4 platform provides a valuable solution resolving key TCO and Operational metrics. As an Oracle Certified Advanced Partner, UC4 supports our goals in driving Retail solutions that are not just cost effective, but also meet or exceed expectations. The result is true integration that helps clients better optimize and rapidly lower their TCO."*

**Jennifer McDaniel, VP, Strategy, Merchandising and Stores, Oracle Retail**

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## Introduction

Oracle Retail offers software solutions that support many of the operational activities of a typical retailer. The software solutions create value by applying innovative technology to help retailers efficiently create, manage, and fulfill consumer demand. As with all major application implementations, the customer must make a significant investment, often several months or more, to develop a complete Retail batch schedule. The UC4 platform can cut the batch schedule development and implementation time to just a few weeks, and reduce ongoing maintenance. The result is reduced total cost of ownership (TCO). This white paper describes how UC4 significantly shortens the Retail batch schedule development time, as well as the additional functionality UC4 brings to Retail applications.

## Batch Integration and Scheduling for Retail Applications

Oracle Retail's collaborative solutions help to create, manage, and fulfill consumer demand, and are employed extensively around the world.

Oracle Retail appreciates the complexities of their customer's IT environments and has worked extensively with partners to ensure that batch application integration, data integration, and application scheduling have been addressed.

UC4 and Oracle have worked together to develop a unique, fully supported solution for scheduling and automation that brings significant benefits to the Retail implementation project and to the operation of the production Retail environment. For example, a plug and play template for the scheduling of RMS, RDW, and DWI can be implemented and running in a matter of days - compared with the traditional weeks or months of development that is normally associated with this task.

### How new Oracle retail customers benefit from UC4

If you are new to Oracle Retail, you are embarking on a major project to improve your competitive position in the retail market. You are investing in a market-leading product in order to bring gains in efficiency and effectiveness to the IT component of your business infrastructure. The UC4 solution for Retail:

- Enables you to improve the time-to-market of your Retail implementation.
- Reduces the risk of in-house developed solutions.
- Improves the visibility and control of Retail business processes.
- Manages the workload and exploits the Retail database for efficient application processing.
- Enables the batch application integration you need with your wider infrastructure.
- Pays for itself during implementation alone.

### How existing Oracle retail customers benefit from UC4

The UC4 solution for Retail is based on a repeatable, best practice template. However, this template is often modified and enhanced by customers to fit with their unique business requirements. If you have already implemented a traditional, script-based schedule using a legacy scheduling product, you already know:

- How long it took you to build the original schedule
- How difficult it is to maintain or change the schedule
- The challenges of balancing computing resources
- The cost of downtime when trying to recover corrupt data caused by poor management of reject data.
- How many people need to be involved to fix a production problem.
- With UC4, many of these on-going issues are significantly reduced or completely avoided.

## UC4 Retail Solution Overview

In a single product, the UC4 platform provides many features that improve the efficiency and effectiveness of your Oracle Retail batch schedule.

### The retail schedule template

The UC4 Retail Schedule template provides rapid implementation of the critical components in Oracle Retail:

- Oracle Retail Merchandising System (RMS)
- Oracle Retail Sales Audit (ReSA)
- Oracle Retail Trade Manager (RTM)
- Oracle Retail Allocation
- Oracle Retail Price Management (RPM)
- Oracle Active Retail Intelligence (ARI)
- Oracle Retail Invoice Matching (ReIM)

The template is completely script-free and is supplied by UC4. The template will automatically run programs scheduled daily, weekly, monthly, or on specific dates. The template can be modified easily to accommodate your environment, but it is initially provided as a 'best-practice' solution from UC4. Solutions for RDF, RDM, and POS Uploads are standard additions to the UC4 implementation.

The UC4 Retail Schedule template includes:

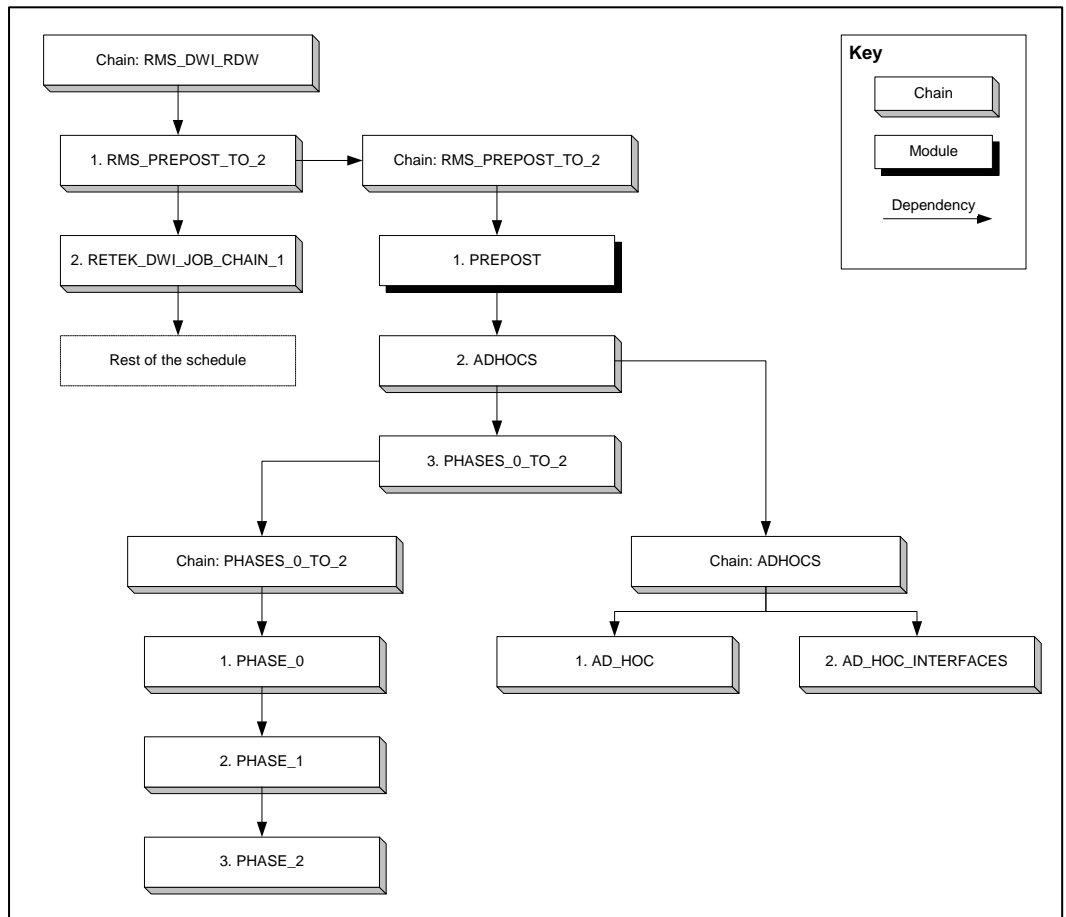
- The pre-written code and pre-built schedule required to run the Retail programs.
- The logic to detect what modules are in place and therefore whether to run those programs or not.
- The logic to automatically take advantage of Retail Multi-threading.
- The application driver (program-type) used to develop any custom Retail solutions within UC4.
- Approximately 450 UC4 modules (jobs).
- Nearly 120 UC4 chains (job streams).
- Over 1,000 built-in interdependencies and conditions.
- Fully automatic and safe restart/recovery processes.
- Automatic information extraction from Retail error logs for fast problem diagnosis.
- The template also includes the following enhancements for Retail:
  - Schedules for RDF and RDM.
  - A solution for multi-threaded or more frequent POS uploads.
  - Automatic scheduling (in held status) of jobs to process reject data.
  - Automatic detection and management of multiple input files.

The UC4 template alone can save 16 man weeks of development in addition to the benefits gained in the production environment.

### Subset of Oracle Retail Schedule Template

The diagram on at right shows a subset of the supplied Retail schedule template for RMS/DWI and RDW. Functionally related modules are combined into chains providing a highly visible and granular solution. This translates to better control and easier understanding of a very complex schedule.

The diagram is similar to the chain flow view within the UC4 product interface. The entire chain flow diagram for the complete schedule is produced very quickly and easily and becomes a very useful working document for operational and functional users throughout the development and delivery of the Retail solution. Each discreet chain of modules can be easily moved to accommodate different scenarios. Operation of the schedule, trouble-shooting problems, and maintenance are all made easier by this granular and highly visible solution. Each discreet chain of modules can be easily moved to accommodate different scenarios. Operation of the schedule, trouble-shooting problems, and maintenance are all made easier by this granular and highly visible solution.



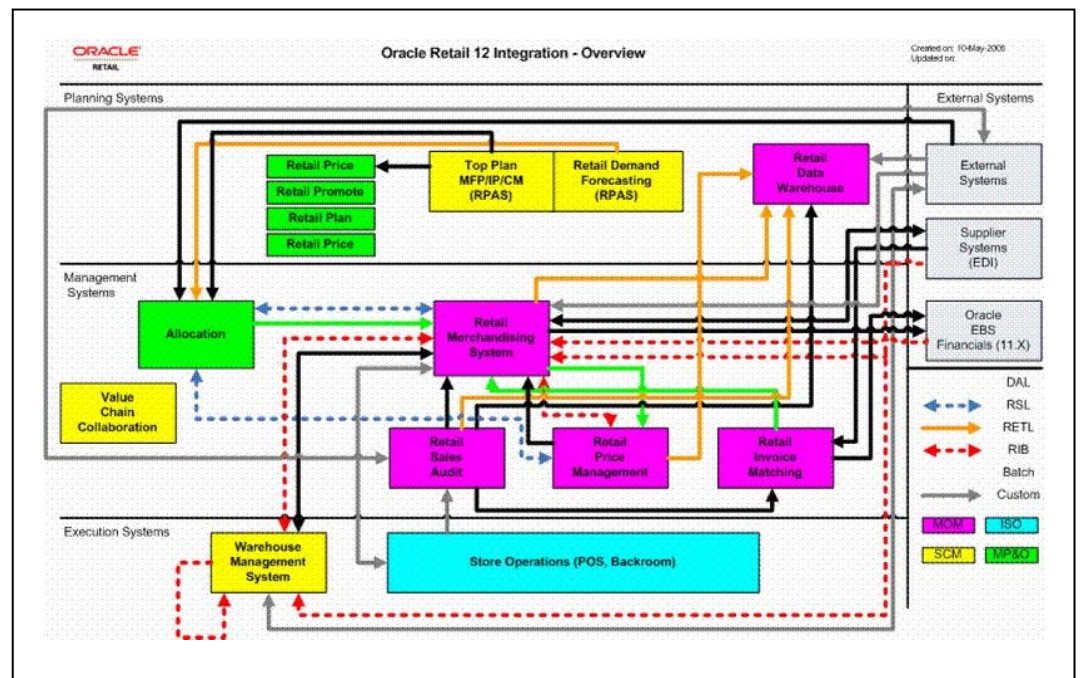
### Technical Details

#### Retail specific architecture

In an Oracle Retail environment, the UC4 Master will usually reside on the main RMS server. The UC4 data repository will use the main Oracle instance that is also used for storing your Retail data. This allows the UC4 platform to benefit from the high availability architecture used for your Retail applications as well as enabling business process acceleration links for your Oracle applications. Remote agents also can be installed to control other Retail applications, such as RDF, RDM, or RDW that might run on other servers.

## Template import/export

The template is a pre-defined schedule created in the Oracle Retail environment. The powerful "import/export" feature in UC4 was used to extract the schedule objects and make them available to Oracle Retail customers. The same "import/export" mechanism is used throughout your development lifecycle to ensure a risk-free migration of the schedule from development to test and production environments. This feature enables new environment variables such as database logins, printer names, and machine names, to be automatically mapped to the existing schedule - saving time and avoiding coding changes that can introduce errors.



## Running retail processes

Before running any Retail process, which is an individual module in the UC4 platform, the UC4 Retail program-type code (template) checks for:

- Retail threading requirements
- Retail Bookmark information
- Lock or Reject File existence
- Existence of multiple input files

## Retail multi-threading

Given a Retail multi-threaded program, the template checks the restart tables to determine how many threads of the program should run, and then runs the program once for each thread. In the situation where the user specifies the number of threads, UC4 updates the RE-START\_CONTROL table and inserts one record for each thread into the RESTART\_PROGRAM\_STATUS table. The restart tables are automatically refreshed before programs that use restart/recovery are run.

## Retail restart/recovery

The UC4 solution automatically checks the Retail restart/recovery tables. If a previous run has failed, then the UC4 job will abort unless a parameter is set to force the cleanup of the restart recovery tables. Any dependants wait until the job is restarted - this logic applies to multi-threaded programs and is intended to force you to check whether you really want to run the current process and to avoid potentially corrupting data.

**Automatic scheduling for lock or reject files**

If lock or reject files are created, then UC4 will automatically schedule a new job, in HELD status, to process those files once the original problems are resolved. Therefore, there is no need to write additional processes to check if all data has been loaded correctly.

This methodology has the benefit of reducing the amount of work required to recover from problem situation and also to provide a high level of visibility about the problem and the resolution of that problem.

**Multiple input file detection**

Usually, if more than one input file is detected, the oldest one is processed - optionally you can be informed about the existence of multiple files and choose the next action.

The very fact that UC4 is checking for multiple files eases the burden on operations and applications support teams in detecting problems and recovering potentially critical situations.

**Output files and log files**

Output files that result from batch processes are stored in defined directories. With UC4, both output and log files can be viewed online and delivered to users via email. For problem determination, UC4 extracts the relevant data from the Retail log files to provide only the necessary information associated with a process, rather than unnecessarily providing the whole log file. UC4 can distribute error notification and associated log information automatically, or UC4 can feed problems automatically into problem management products such as Remedy.

**Other UC4 solutions for retail**

UC4 provides a template to drive any Pro\*C, shell, or Perl script in the Retail environment. UC4 templates reduce the coding effort and enable reusable modules to be combined into business process chains. These chains can extend beyond the Retail environment and into other applications such as Oracle E-Business Suite, PeopleSoft, or any other ERP/business critical application. The standard UC4 delivered solution is often extended in the following areas.

**POS Upload.** The Point Of Sale data upload process is critical to the retail business; it facilitates uploading data from every store in the retail chain to the Retail system. Frequent uploads are desirable to ensure the data on which decisions are based is as current and accurate as possible - enabling the retailer to effectively manage replenishment, inventory turn, reactivity to sales, mark downs, and promotions.

The complexity of managing data transfers and uploads increases dramatically as the frequency of uploads increases, imposing serious strain on any system.

UC4 manages this complexity and workload balancing to permit a significant increase in the frequency of uploads through parallel execution of data transfers and controlled and managed uploads to Retail. Further, the UC4 solution ensures granularity and visibility, providing a more controlled and assured delivery of business critical data.

**Retail Demand Forecasting.** UC4 offers a standard solution for implementing the batch requirements for RDF. The schedule is configured dynamically to respond to changes in the business by checking the domains as defined in the Retail application environment. Adding a new domain requires absolutely no changes to UC4 or the schedule.

The solution uses the UC4 advanced queuing mechanism to ensure that system load is managed.

**ReSA template and scripts.** UC4 provides a template schedule enabling easy customization of dependencies and conditions of the Retail supplied scripts for the Retail Sales Audit. This area is often customized and this should be viewed as a starting point for your ReSA implementation.

## UC4 and the Retail Integration Bus

UC4 is used for application scheduling and processing large amounts of data through batch application integration. Data is loaded directly into the database through standard SQL load processes, ETL tools, or via the Retail Integration Bus (RIB). When data arrives, UC4 can use data arrival to automatically trigger background processing as in the POS upload process documented above.

It is recommended that UC4 drives processes when the conditions are right to do so, as opposed to the traditional method of just time fencing everything into a batch window. This enables 24x7 processing of data where applicable.

Regardless of whether you are using the RIB or FTP/ETL solutions, UC4 requires little, if any, configuration changes.

## UC4 Rapid Results Services

UC4 Software has a packaged service offering to deliver rapid implementation of the batch schedules for Retail. The service, Rapid Results Retail, delivers the necessary training, implementation, and configuration required to ensure that both UC4 and Retail best practice methods are used in delivering your Retail batch processing solution. As an example, the UC4 product can be installed and the RMS schedule loaded and tested in just a few days.

The basic 13-day Rapid Results package includes:

- One day UC4 installation in development / test environment
- Three days formal classroom training for your development/integration/operations teams
- Implementation of the Retail Template
- Full system test and test runs of RMS schedule
- Implementation of additional solutions (i.e. POS upload, RDM, RDF)
- Integration to your systems management tools and additional alerting mechanisms
- Knowledge transfer throughout the engagement
- Delivery of project documentation and test run data

## UC4 Oracle Retail Solution Benefits

In summary, applying the UC4 platform to Oracle Retail is the surest way to shorten implementation and reduce TOC.

The benefits are wide ranging:

- Significantly shorten implementation timescales
- Reduce total cost of ownership
- Increase agility to accommodate business process changes
- Improve end-to-end process visibility
- Minimize downtime through automatic restart and recovery
- Maximize throughput and resource usage by eliminating manual intervention
- Improve productivity from integration of retail with other core business processes

### UC4 Return on Investment Example

Please see Appendix A, an example from real UC4 / Retail implementations and has been verified by leading external consultants. The savings demonstrated in this ROI are indicative of a UC4 solution and show some significant savings not only during development, but also right through to the operation and management of the resulting automated environment.

### About UC4 Software

UC4 Software is the leading provider of intelligent service automation solutions that enable organizations to connect IT service delivery with business demand. Combining real-time intelligence with just-in-time execution ensures customers can automate processes that traverse on-premises, virtualized and cloud computing platforms at low risk and cost. In excess of 1600 organizations worldwide trust in UC4 to automate the mission-critical IT systems that drive their business operations. Visit [www.uc4.com](http://www.uc4.com) for more information.

### Contact UC4 Software

In the US at (877) 464-7300 (toll-free)

In Europe at +43 2233 77880

Appendix A	Phase 1 (30 Retail jobs – 30 interfaces)			Phase 2 (150 jobs + 150 interfaces)		
	Without AW	With AW	Difference	Without AW	With AW	Difference
<b>Development - Implementation of scheduler</b>	<b>95</b>	<b>36</b>	<b>59</b>	<b>452</b>	<b>157</b>	<b>295</b>
Installation of the scheduler (development – integration - test –production)	5	5	0	2	2	0
Script development/integration/test of batch schedule with scheduler	60	10	50	300	50	250
Scripting, Integration of interfaces in the schedule	30	21	9	150	105	45
<b>Additional Scripting</b>	<b>40.5</b>	<b>5</b>	<b>35.5</b>	<b>33</b>	<b>2.5</b>	<b>30.5</b>
Multi-threading implementation (Retail & other applications) – integrated with AW	15	2	13	15	1	14
restart/recovery management - integrated with AW	15	1	14	7.5	0.5	7
logs & errors management (+ alerts) – integrated with AW	10.5	2	8.5	10.5	1	9.5
<b>Documentation of the schedule – Run book</b>	<b>8.75</b>	<b>4.38</b>	<b>4.38</b>	<b>29.17</b>	<b>10.94</b>	<b>18.23</b>
<b>Configuration management and Environment Migration</b>	<b>9.50</b>	<b>1.80</b>	<b>7.70</b>	<b>45.20</b>	<b>7.85</b>	<b>37.35</b>
<b>Total Development (man days)</b>	<b>153.75</b>	<b>47.18</b>	<b>106.58</b>	<b>559.37</b>	<b>178.29</b>	<b>381.08</b>
<b>Development cost in \$ (850 per day)</b>	<b>\$130,688</b>	<b>\$40,099</b>	<b>\$90,589</b>	<b>\$475,462</b>	<b>\$151,544</b>	<b>\$323,917</b>
<b>Operation of the batch schedule</b>	<b>60</b>	<b>24</b>	<b>36</b>	<b>120</b>	<b>48</b>	<b>72</b>
Batch Windows Optimization	24	12	12	48	24	24
Management of rejects et restart of data processing	24	6	18	48	12	36
Job rerun	12	6	6	24	12	12
<b>DBA Support</b>	<b>36</b>	<b>24</b>	<b>12</b>	<b>72</b>	<b>48</b>	<b>24</b>
<b>Application Support</b>	<b>48</b>	<b>36</b>	<b>12</b>	<b>96</b>	<b>72</b>	<b>24</b>
<b>Total Operation in Man days</b>	<b>144</b>	<b>84</b>	<b>60</b>	<b>288</b>	<b>168</b>	<b>120</b>
<b>Operation cost in \$ (850 per day)</b>	<b>\$122,400</b>	<b>\$71,400</b>	<b>\$51,000</b>	<b>\$244,800</b>	<b>\$142,800</b>	<b>\$102,000</b>
<b>Indirect Costs in \$ (generic cost to be adapted per customer)</b>	<b>\$150,000</b>	<b>\$50,000</b>	<b>\$100,000</b>	<b>\$700,000</b>	<b>\$283,333</b>	<b>\$416,667</b>
Service outages	\$ 100,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 83,333	\$ 166,667
Server Upgrade	\$ 50,000	\$ 0	\$ 50,000	\$ 450,000	\$ 200,000	\$ 250,000
<b>Total Development - Operation and Indirect Costs</b>	<b>\$ 403,088</b>	<b>\$ 161,499</b>	<b>\$ 241,589</b>	<b>\$ 1,420,262</b>	<b>\$ 577,678</b>	<b>\$ 842,584</b>