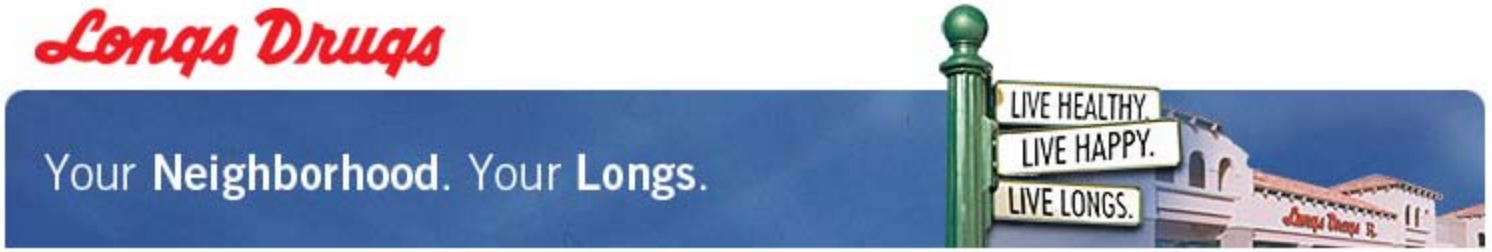

Staying Current on RMS Version 10 – The Longs Drugs Story

April 2008

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Agenda

- ✓ Longs Overview
- ✓ Our challenge to upgrade
- ✓ A typical upgrade project at Longs
- ✓ Lessons Learned

Longs' Background

- Our first store was opened in 1938 in Oakland, CA
- Today we have over 520 stores in California, Hawaii, and Nevada
- "Tradition of Excellence"
- Average store: approximately 25,000 sq ft and carries approximately 30,000 SKUs
- In 2007 Longs was 443 in the Fortune 500
- FY07 revenues just over $5 billion

Longs Supply Chain Initiative & Partnership with Oracle Retail

Our Upgrade Challenge

- The Challenge –

  Stay no more than three versions behind the current published version of RMS

- Why stay on version 10?
- What is the benefit of being current?

The Challenge Scorecard

Since 2003, we have completed four RMS version 10 upgrades:

- 10.1.1 to 10.1.7 (October 2004)
- 10.1.7 to 10.1.8 (July 2005)
- 10.1.8 to 10.1.11 (February 2006)
- 10.1.11 to 10.1.20 (February 2008)

The Project Team

- Systems Analysts (SA) – Review SIR documents, determine business impact, perform unit testing, support testing
- Programmer Analysts – Complete impact analysis, apply code changes, retrofit code where necessary, perform unit testing, support testing
- Application Architects – Review changes and assists in impact analysis on RMS and other systems
- Analysts from systems which interface with RMS – Perform impact analysis due to RMS changes, make code changes as necessary, perform regression and integration testing

The Project Team (Continued)

- Business Analyst – Review business impact documents, document changes to business processes, communicate changes to end users, perform user acceptance testing
- QA Analyst – Review business impact documents, add additional test cases if necessary, execute existing supply chain system tests (regression test all applications)
- Performance Tuner – Performance test/tune RMS batches & Forms
- DBA – Assists with database changes and performance tuning
- Configuration Management Analyst – Performs code migrations

Project Milestones

What goes into an upgrade at Longs?

- Application of patches with no customizations
- Retrofitting custom modifications
- Special handling for “core” processes
- Batch scheduling changes
- Business impact analysis
- Testing (and lots of it)
- Implementation Planning
- Production deployment
- Post Implementation Support

Project Planning

Task Name	Work	Duration	Start
Upgrade Code to 10.1.XX	**4,056.4 hrs**	**144 days**	**Mon 1/29/07**
Apply Database Change Scripts	85 hrs	15.18 days	Mon 1/29/07
Apply Control Scripts	35 hrs	6.25 days	Mon 2/19/07
Upgrade Batch Code (.pc) & Library	350 hrs	12.5 days	Mon 1/29/07
Upgrade Forms & toolset	432.4 hrs	14.29 days	Wed 2/14/07
Upgrade Database Objects	510 hrs	15.18 days	Tue 3/6/07
Upgrade POSUPLD	160 hrs	14.29 days	Tue 3/27/07
Review Defect writeups, create business impact documentation, and create high level test plan	1,776 hrs	50 days	Tue 4/17/07
Code Review/Analysis of certain important batch jobs (list TBD)	120 hrs	10.71 days	Tue 6/26/07
Review Batch Schedule	40 hrs	7.14 days	Tue 7/10/07
Move retl files to proper directory	16 hrs	2.86 days	Tue 3/27/07
Prepare migration request	32 hrs	5.71 days	Fri 3/30/07
Maintain migration request	20 hrs	83.33 days	Mon 4/9/07
MILESTONE: QA Deployment	0 hrs	0 days	Mon 4/16/07
MILESTONE: Production Deployment	0 hrs	0 days	Fri 8/17/07
Testing and Business Review	**480 hrs**	**14.28 days**	**Tue 3/27/07**
Execute unit testing	240 hrs	7.14 days	Tue 3/27/07
Review Changes with Business	240 hrs	7.14 days	Fri 4/6/07

Development Processes

- Create a merged patch release matrix
- Review each line in matrix and apply changes
- Read SIR Document(s)
- Base RMS (no custom modifications)?
- Custom modification?
  - Impact Analysis
  - Retrofit or apply base?
- DDL Changes
- DML Changes
- Extracts or Upload? Pay special attention
- Business Impact Review/Write-up

Example Merged Patch Release Matrix

Release	Defect Number	Program/Module	Revision (1.x)	Priority	Defect Description	Developer Assigned	Status	Longs Mod/ Retek
10.1.14	395654	RTV.FMB	13	3	When forms are viewed in Oracle Forms 9i, the texts in the sort buttons are cut off and most of the header labels are misaligned in the multi-record block of the form.	Irene	Already in Production	10.1.14 Base Retek Code + LDS Mods
10.1.14	397148	RTV.FMB	14	14	When two users edit the same rtv, no error message is displayed and the changes made by both user are posted into the RTV_HEAD and RTV_DETAIL tables incorrectly.	Irene	Already in Production	10.1.14 Base Retek Code + LDS Mods
10.1.17	5368139	RTV.FMB	15	2	When creating an RTV for the Unavailable Inventory reason, the user should provide the inventory status information causing unavailable inventory but there is no way for the user to enter this information.	Irene	Applied	10.1.19 Base Retek Code + LDS Mods
10.1.18	5376811	RTV.FMB	16	2	An approved Return to Vendor (RTV) cannot be cancelled.	Irene	Applied	10.1.19 Base Retek Code + LDS Mods
10.1.18	5576933	RTV.FMB	17	2	The RTV form cannot handle a VPN longer than 25 characters.	Irene	Applied	10.1.19 Base Retek Code + LDS Mods
10.1.19	5705520	RTV.FMB	18	2	When creating an externally generated RTV with a comment that has 300 characters, the following error message is displayed: " Error ORA-06502: PL/SQL: numeric or value error: character string buffer too small returned by program unit RMSSUB_RTV.PARSE_RTV."	Irene	Applied 10.1.19 Base Retek Code + LDS Mods - checked	10.1.19 Base Retek Code + LDS Mods

Communication

Communicate changes due to Upgrade

- Systems that interact with RMS
  - Determine impacts
  - Apply changes if necessary
- Business Partners → End users
- Support Teams
- Operations groups
- Temporary changes for Go Live

Sample Business Impact Review

Oracle Defect #	Patch Release Version	Functional Area	Reviewer
393831	10.1.12	PACK ITEMS	XXXXX

Defect Description

This defect reverses defect #4922837. (10.1.15)

The system allows the deletion of a pack item that is used as the primary replenishment pack for some other item.

Defect Resolution

The system will launch an error message which indicates the user is attempting to delete a pack item which is a primary replenishment pack.

Longs Impact

System will not allow a user to delete a Pack Item which is a Primary replenishment pack.

Unit Test Case Scenarios

Scenario	Expected Results	Comments
1. From rtkstrt, select Items→Items. 2. In itemfind, select New from	Notice that, the item cannot be deleted and the error message, "Cannot delete the pack item because it is a primary replenishment	

Test, test, test, and test!

- Unit testing – Completed by development teams
- System testing – RMS test scripts that have been reviewed by the business
- Regression testing – Regression test other applications which interface with RMS, plus functions in RMS not impacted by the upgrade

More Testing

- Integration testing – Test new code with external groups and vendors & ensure all processes work as expected
- Performance testing – Ensure RMS batch schedule will meet service level agreements and online performance is acceptable
- User Acceptance Testing
- Mock Go Live – Test implementation plan

Implementation Planning

Picking a date

- Find a “quiet” time
- Keeping that date quiet

Create an implementation plan

- Indicate date, time, and duration for specific tasks
- Facilitates cross team planning and communication
- Include explicit communication points

Example Implementation Script

SCI 10.1.20 Upgrade Implementation Master Script

Day	Start	End	Actual Start	Actual End	Task	Notes	Dependencies	Team	Owner	Complete
T+1	2/23/2008	Saturday								
	4:00	approx. time	1:07	1:10	Notify support team members supporting build validations build is near completion	When the CM team begins applying batch scripts is when we are one hour away from completion of the build		Coordinator	Steve	Complete
	-	5:00		2:27	**Upgrade Build (Cont'd from Friday)**	Refer to detailed build plan.		CM	Jeurgen	Complete
	5:00	5:15	2:35		**Checkpoint #4:** Email progress update to distribution list.	Notify all the build has completed, and CM/tech validations are beginning		Coordinator	Steve	Complete
	5:00				Place TLOG files in archive location so if restore occurs these will not be lost			RMS Support	Mark Z	Complete
	5:00	8:00	2:30	3:15	CM Validation	Confirm triggers are enabled including oassdw triggers	Also are forms on ax51,52,53	CM	Jeurgen, RMS Support	Complete
	5:00	7:00	2:37	6:14	DB Build Compares & build validations	* Need to ensure that invoice matching flags are set to N * Proper version of order purge is applied		RMS Support/ RMS Dev/DBA	Mark Z, Eva, Ted	Complete
	5:00	5:30	3:00	3:45	Count the data in the dbc_tables and compare to their "source" tables to ensure row counts are the same			RMS Support/RMS Dev	Mark/ Eva	Complete
	5:00	8:00	2:45	4:36	Run DB analyze	This will be a custom script to analyze specific tables & indices rather than the normal job that runs in the RMS nightly batch.		DBA	Ted J	Complete
	5:45		5:45	9:21	Force start of PCRSX18U	This is time dependent and unless the upgrade is 4 or more hours ahead of schedule, this will not run	Must be 5:45 AM	RMS Support	Mark Z	Complete
	6:00	approx. time	3:35	3:40	Notify Custom Dev team SSA build is going to complete soon and technical custom dev validations can begin	This should be one hour after the bulid validations have begun		Coordinator	Steve/Eva	Complete

Implementation Planning (Continued)

- Review the plan weekly for 6 or more weeks prior to the implementation
- Mock Go Live
  - Helps to estimate durations for production implementation
  - Practice build scripts and steps
  - Need clear communication between groups as to what will be tested during this testing phase
- Rollback planning
- Code Freeze

The Big Day

- Systems down early
- Execute the implementation plan
- Apply code changes and database changes in parallel where possible
- Validations
- Catching up after outage

Post Implementation Support

- The first batch execution
- The first month end close
- The first business day
- How did it work before?

Benefits Experienced

- We are able to leverage Oracle's expertise and development resources
- Applying urgent fixes from Oracle is easier
- Time spent on analyzing and maintaining SRs with Oracle is reduced
- Business receives fixes to lower priority issues that would not be fixed alone

Risks of Upgrading

- “If it ain’t broke, don’t fix it”
- Retrofitting customizations into new patches
- Downtime for actual implementation – operational impacts
- Potential impacts on systems which interface with RMS
- Defects not found until after implementation

Overall - What We Have Learned?

- Putting off an upgrade is not always a good idea
- An upgrade is not just for the technical team
- Documentation is a good thing

Estimating & Planning Lessons Learned

- Planning 30% of team members time for non upgrade tasks might not be enough
- Do not underestimate the time it will take to manage the details
- Number of customizations increases timeline
- Minimize the big bang approach when possible
- Need to plan for defects found while applying patches
- Need to plan for special handling of core processes

Development Lessons Learned

- Investigating business impacts can be time-consuming
- Need to find a way to balance writing up the right amount of impacts (too much versus not enough information)
- The longer we use RMS, the more database customizations we make, the more time it takes to analyze DDL changes

Testing Lessons Learned

- Need to test the “well sometimes we…” scenarios
- Business review of test cases is very helpful
- Data in development environments needs to be realistic
- Need to plan and coordinate with other groups a code freeze period. This should be explicitly communicated (and agreed upon) early in the project planning phase
- Testing the implementation process must mimic the exact steps to be followed during the production implementation

For the Next Upgrade

- We will not wait until we are 9 versions behind
- We will investigate more ways to minimize the big bang approach and reduce implementation duration
- We will try to plan for “other” projects trumping the upgrade
- We will plan more time to handle the details

Questions