

PTC® Live Global

CUST 243 - Structuring Product Data for Delivery: Packaging Bill of Materials

Katie Musser, Packaging Manager
Ron Harkins, Director Engineering IT
Newell Rubbermaid

June 9, 2015



Overview

PTC® Live
Global

Structuring Product Data for Delivery

- About Newell Rubbermaid
- Product Lifecycle Management at Newell Rubbermaid
- Packaging - A Global Team with Global Needs
- Technology Enabling the Vision
- Business Value Realization
- Summary





Katie Musser, Packaging Manager

Katie joined Newell Rubbermaid in 2005 and currently leads the ISV/Merchandising team focusing on packaging development and partnerships with Shopper Marketing, In-store Visibility, Brand, Trade, and Supply Chain to enhance innovation, performance, design, and in-store impact across all Newell Rubbermaid's temporary displays. Katie is also the engineering lead for Packaging in PLM to build and share robust packaging specifications with internal and external users.



Ron Harkins, Director Engineering IT

Ron has been engaged accelerating the development and manufacturing of products since 1984. Most recently, as the Director of Engineering IT for Newell Rubbermaid, Ron is responsible for the strategic planning and technical execution of Newell Rubbermaid's global PLM implementation.



Newell Rubbermaid At-A-Glance

Newell Rubbermaid, an S&P 500 company, is a global marketer of consumer and commercial products with a strong portfolio of leading brands. As part of the company's Growth Game Plan strategy, Newell Rubbermaid is making sharper portfolio choices and investing in new marketing and innovation to accelerate performance.



Headquarters:
Atlanta, Georgia
U.S.A.



Employee Number:
Approximately
17,000



Sales (2014):
\$5.7 Billion



Country Number:
100+

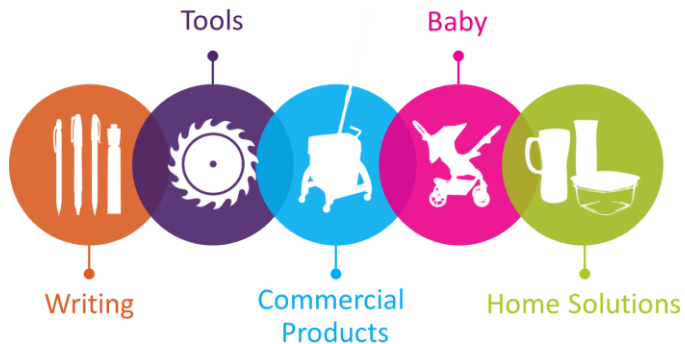


NYSE Listing





5



6



Newell Rubbermaid's Windchill PLM Journey

2008 - 2009

+100 "systems" managing product development data

Enabling systems are a patchwork quilt of disparate tools and processes

Limited synergies between functions



Multiple PLM Systems

2010 - 2013

All PLM systems merged and migrated to PTC Windchill

Business ownership company-wide for PLM technology

Common MCAD convergence with usage standard



Single Instance PTC Windchill

2014 - 2016

Final Legacy R&D Migrations

Global Packaging

Project Renaissance



Harmonize Types and Process



What is the expectation for PLM?

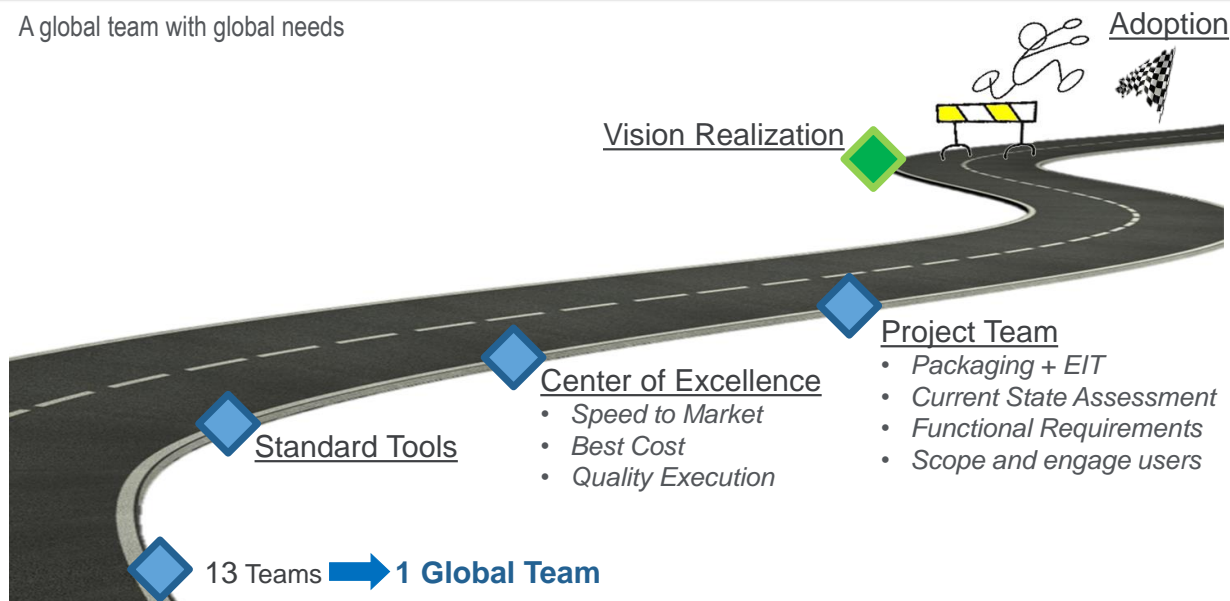
Enable our Development Pillar a sustained ability to transform the best ideas into the best products and provide to our Delivery Pillar the specifications required to **build, buy and deliver** our brands.

What do we need to do?

Deliver a scalable product development system used to **create, vault, structure, share and control** product content throughout the extended enterprise.



A global team with global needs



As Designed

Item	Name	Version	SAP Num.	Quantity	Unit	State	Line
FG0000401601	WALMART OSS ENDCAP	A.4 (Design)	1934184			Released	
PKG0000243213	1934184 PAI	A.0				Released	
PKG0000243216	1934184 BOM Overview	A.0				Released	
PKG0000250060	141316A_POG_C	A.0				Released	
LV0000401732	UNIT	1.1 (Design)		1			
LV0000401734	CASE PACK	1.1 (Design)		1			
PKG0000404339	CORR_DRW_PR_MIW_PEG WALL...	A.0 (Design)	1935016	1			
ART0000042266	1070-01	A.0					
ART0000042266	1934184-1935016 CORR_DRW_P...	A.1					
PKG0000041	OFFICE Essentials	A.0 (Design)	1935017	1			
PKG0000041	847	A.0					
ART0000041	847	A.1					
ART0000041	847	A.1					
PKG0000041	847	A.0					
ART0000041	847	A.0					
ART0000041	847	A.0					
PKG0000041	847	A.0 (Design)	1935013	2			
PKG0000041	847	A.0					
ART0000041	847	A.0					
ART0000041	847	A.0					
PKG0000041	847	A.0 (Design)	1934900	1			
ART0000041	847	A.1					
ART0000041	847	A.0					
ART0000041	847	A.0					
PKG0000041	847	A.0 (Design)	1935014	1			
ART0000041	847	A.2					
ART0000041	847	A.0 (Design)	1935015	1			
PKG0000041	847	A.0					
ART0000041	847	A.2					
ART0000041	847	A.2					
PKG000001887	847	A.0 (Design)	1923133	2			

As Delivered



As Specified

NewellRubbermaid
SAP NUMBER: 1934184
NAME: WALMART OSS ENDCAP
Version: A.4
State: Released
New Date: 2015-03-04 07:58:55 CST
Created by: MaturBattistin, Joshua
Modified by: MaturBattistin, Joshua
Reason for Modification:

GLOBAL PACKAGING
FINISHED GOOD SPECIFICATION

GENERAL INFORMATION
CATALOG NUMBER:

DIMENSIONAL INFORMATION

BARCODE	QTY	ENGLISH			METRIC								
		L (IN)	W (IN)	H (IN)	CUBE (IN ³)	WEIGHT (LB)	WEIGHT (KG)						
UNIT		16.59	16.75	00	71.8766	29.4347	87.919	407.100	425.454	192.62	8.7261	39.887	
UNIT	8871841062273	1	16.59	16.75	00	71.8766	29.4347	87.919	407.100	425.454	192.62	8.7261	39.887
PALLET	70071841062281	2	44.80	19.50	00	77.3368	15.9722	188.838	1728.00	1516.08	360.32	2.4344	84.482

PACKAGING BILL OF MATERIAL

DESCRIPTION	SAP NUMBER	UOM	QTY	MRG	OLD LOGIC NUMBER	WINDCHILL NUMBER	COMMENTS
CORR_DRW_PR_MIW_PEG WALL NEW OSS EC	1935016	Unit	1.0			PG0000041328	
CORR_DRW_PR_PR_HEADER NEW OSS EC	1934900	Unit	1.0			PG0000011320	
CORR_DRW_PR_MIW_BOTTO NEW OSS EC	1935013	Unit	2.0			PG0000011325	
CORR_DRW_PR_PR_FLLER NEW OSS EC	1935022	Unit	1.0			PG0000011328	
CORR_DRW_PR_PR_PANEL L NEW OSS EC	1935014	Unit	1.0			PG0000011321	
CORR_DRW_PR_PR_FLLER L R NEW OSS EC	1935023	Unit	2.0			PG0000011325	

Mar 5, 2015 Unit Released 1 of 4

NAME: 141316A_POG_C
NUMBER: PKG0000250060
STATE: Released
FORMAT: PDF

4 of 4

Utilizing PTC Windchill technology to enable business requirements

- Business rules to speed development and reduce errors
- Reports to ensure clean data handoffs to supply chain
- Drive cross functional engagement with Creative Design team members

Reduce input and errors



Scenario

- Develop flat pattern dimensions for corrugate boxes in order to estimate cost and source components
- All dimensions must be displayed in both Metric and Imperial
- Over 190K manual conversions annually

Requirements

- Calculate either inside or outside dimensions
- Calculate blank (flat pattern) material size
- Users will enter either Imperial or Metric values and then convert input and results to the reciprocal measuring system
- Ad hoc values must be permitted

Input this

Length:	<input type="text" value="24"/>
Width:	<input type="text" value="16"/>
Depth:	<input type="text" value="16"/>
Shy Top Gap:	<input type="text" value="12"/>
Shy Bottom Gap:	<input type="text" value="0"/>
Tuck Size:	<input type="text" value="0"/>



To get this

INSIDE DIMENSIONS			
Length (in):	24.0000	Width (in):	16.0000
Length (mm):	610	Width (mm):	406
Depth (in):	16.0000	Depth (mm):	406
OUTSIDE DIMENSIONS			
Length (in):	24.2500	Width (in):	16.2500
Length (mm):	616	Width (mm):	413
Depth (in):	16.5000	Depth (mm):	419
Volume (cubic feet):	3.763	Volume (cubic meters):	0.107
BLANK DIMENSIONS			
Blank Length (in):	33.1275	Blank Width (in):	81.7500
Blank Length (mm):	841	Blank Width (mm):	2076
Area Square Feet:	18.7947	Area Square Meters:	1.7459

Supporting 12 corrugate box styles



Form Processor

Attribute values are used to lookup formulae and certain constant values in external tables.

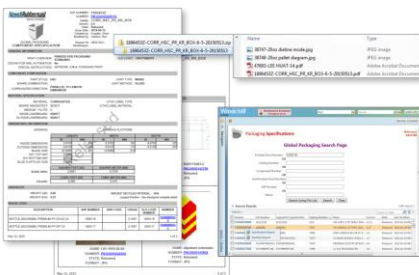
Form processor contains the business logic used to calculate dimensions.

Business rules may be turned off to permit users to enter discrete values as required.

Specification report, technical package and global search

Scenario

- Manufacturing and vendors must unambiguously understand the design criteria
- Attribute information and supporting reference data should be easily found and presented in a common fashion



Requirements

- Create summary report for each component type
- Finished good data must rollup
- On-demand technical package to deliver content with data
- Provide a easy to use navigation UI with actions to deliver content

Example Component Specifications

Three example component specification reports are shown. Each report includes fields for Component Composition (Part Style, Board Combination, Corrugated Direction), Material Specification (Material, Board Gauge/Thickness, Medium-Flute, Inside/Outside Linerboard, Outside Linerboard), and Pack Composition (Pack Method, Core Inside Dia).

Finished Good Specification

The Finished Good Specification report includes a table for Dimensional Information and a Packaging Bill of Material table.

UNIT	BARCODE	QTY	ENGLISH		
			L (in)	W (in)	H (in)
UNIT			36.5000	16.7500	71.8750
CASE	00071641082373	1	36.5000	16.7500	71.8750
PALLET	70071641090261	2	48.0000	40.0000	77.3750

DESCRIPTION	SAP NUMBER	UOM	USAGE
CORR_DRV_PR_MV_PEG WALL VM OSS E.G.	1935016	Unit	1.0

- 12 packaging part type share 103 attributes
- Common reports look and feel delivered as a PDF
- Views must be intuitive and present dissimilar information uniformly
- Embed PTC Windchill system links to data
- Supporting image pages for all documents with links to download content directly from PDF

Technical Package

One 'action' to gather and download all content for supply chain

- Traverse the product structure and identify all components
- For each component, generate the specification report and gather all related documentation
- Create a package (zip) with sub-folders for each of the components, add product specification report and all content
- Zip file name derived using finished good number, version and date

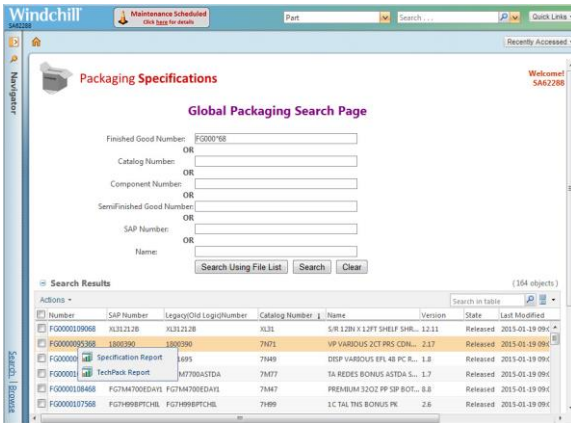
Product Structure

A tree view of the product structure starting with WALMART OSS ENDCAP and listing various sub-components like CORR_DRV_PR_MV_PEG WALL, CORR_DRV_PR_PANEL B, and CORR_DRV_PR_PANEL C.

Technical Package

A screenshot of a file explorer showing a zip file named 1934184-WALMART-OSS-ENDCAP-A-4-20150514.zip. The contents of the zip file are listed, including folders for each component and their associated specification reports and drawings.

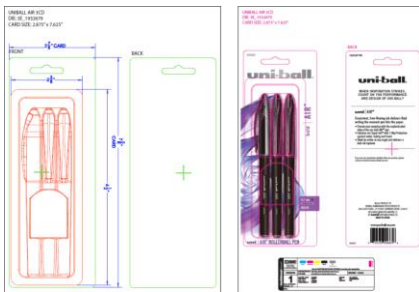
Direct access for manufacturing to print and download



- Concise search page enables business users quick access to content
- Users may use a list of numbers as input
- Right mouse click to generate specification or technical package
- Actions enabled
 - Copy to clipboard
 - Output table to file / spreadsheet

19

Approved Artwork Request



Die Line

Artwork

Scenario

- Creative design needs to update packaging with approved artwork and certain deliverables
- Users are not comfortable using the 'technical' Windchill UI

Requirements

- Packaging engineers must be able to requested approved artwork from creative inside the Windchill system
- Provide a simple to use interface for Creative to respond to the request

20

Packaging Part, Die Line and Artwork Relationship

Actions PKG Paperboard LxW - PKG0000442180, PPR_BC_PR_SBS_CARD UB AIR 3CD BLACK, Newell Rubbermaid, A.1 (Design) Released

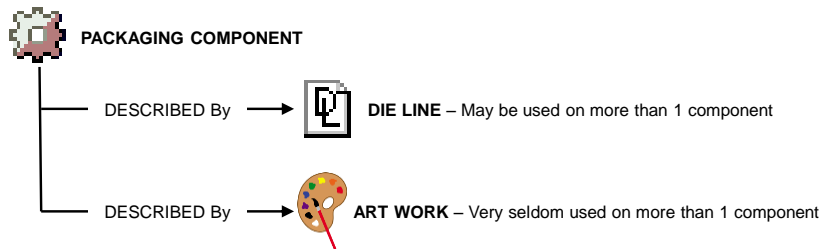
Details Structure **Related Objects** Changes History Where Used New Tab 1 x

Described By Documents | References Documents | CAD/Dynamic Documents | Alternates | Substitutes

Described By Documents Default (2 objects)

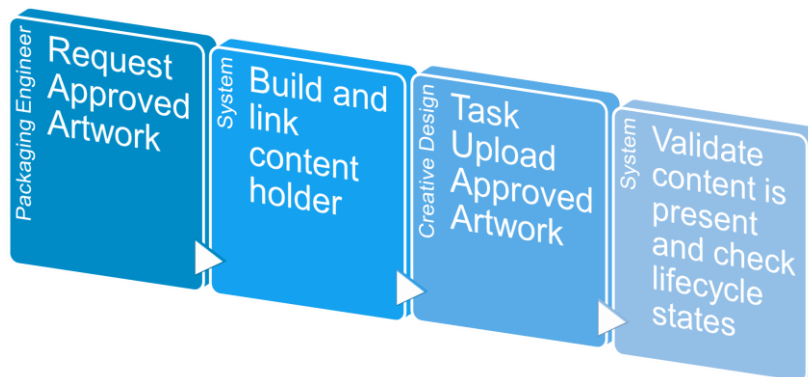
Number	Version	Name	Context	State	Last Modified
PKG0000249394	A.0	3E_1932679	Newell Packaging Library	Released	2015-02-18 15:34 CST
ART0000249396	A.1	1926808-1943971-PPR_BC_PR_SBS_CARD UB AIR 3CD BLACK-1.1-201...	Creative Design Library	Released	2015-03-17 13:10 CDT

(0 objects selected)



Approved Artwork Request – Proposed Steps

Workflow enables the process



Managed collection is used to communicate relationship between die line and required artwork

Actions ▾ Artwork Request - **AAR003740, 1927437-FG0000447309-SHARPIE EXTREME 2CD BLACK CNDA**

Details Package Content Deliveries

FINISHED GOOD NUMBER

Package Content All COMPONENT NUMBER VERSION (6 objects)

Exclude Include Add to Package Filter Properties Expand Collapse Actions ▾ COMPONENT NAME DATE

	Number	Name	Version
	ART-DIE-001673	1927437-1929252-PPR_GC_PR_SBS_CARD 2CT SHP EXTRM NON-1.2-20150319	
DIE LINE ICON	PKG0000248874	554-1318	A.0
ARTWORK ICON	ART0000251249	1927437-1929252-PPR_GC_PR_SBS_CARD 2CT SHP EXTRM NON-1.2-20150319	A.1
	ART-DIE-001672	1927437-1929251-PPR_GC_PR_SBS_CARD 2CT SHP EXTRM CAN-1.3-20150319	
	PKG0000248874	554-1318	A.0
	ART0000251248	1927437-1929251-PPR_GC_PR_SBS_CARD 2CT SHP EXTRM CAN-1.3-20150319	A.1

APPROVED ARTWORK (PDF) NEEDED

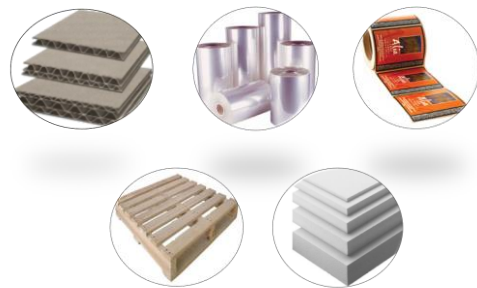
APPROVED ARTWORK (PDF) UPLOADED

(0 objects selected)

23

Center of Excellence

- *Speed to Market*
 - Robust and consistent specifications
 - Enabled flexing of resources
 - Advanced reporting for internal and external users
- *Best Cost*
 - Leverage common packaging platforms
 - Optimize material use
 - Supplier Bid
- *Quality Execution*
 - Communication of specifications
 - Accountability
 - Reduction of COF



24

Key Learnings

- 1. Planning
 - Key to success
- 2. Engagement of Stakeholders
 - Adoption support
- 3. Migration Data Validation
 - Incorporate in planning



Pursue the Ability to see Beyond the Ordinary (and repeat)

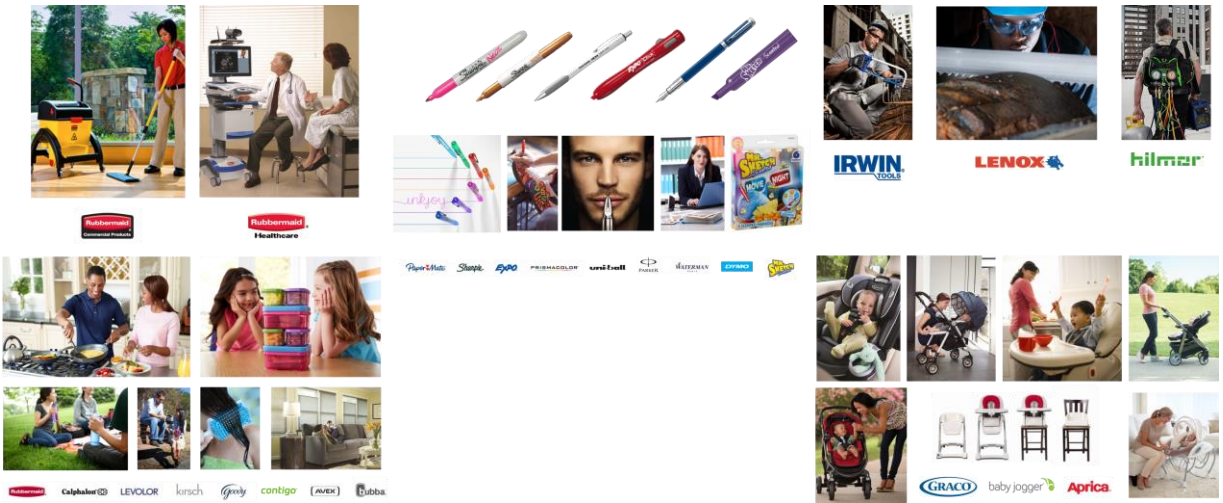
25

What is Next for Newell Rubbermaid?



Enable our Development Pillar a sustained ability to transform the best ideas into the best products and provide to our Delivery Pillar the specifications required to build, buy and deliver our brands

26



Questions

27

- Your feedback is valuable
- Don't miss out on the chance to provide your feedback
- Gain a chance to win an instant prize!
- Complete your session evaluation now

28

PTC[®] Live Global

PTC[®] PRODUCT & SERVICE
ADVANTAGE[™]