How Owens Corning Achieved SAP Integration and Reporting Transparency with SAP Business Planning and Consolidation

October 13, 2014

OWENS CORNING ®

Our people and products make the world a better place.

Speaker Introductions

- **Terri Himmel (Owens Corning)**

  – Finance Center of Excellence Leader

  – Led Owens Corning through both installations of BPC (7.0 and 10.0)

  – Nine years of Owens Corning experience

- **Scott McCarthy (Owens Corning)**

  – Finance Leader – Corporate FP&A

  – Leading Owens Corning through installation of BPC 10.0

  – 17 years manufacturing experience – accounting, operations & finance

Abstract

- **Business case and benefits realized in implementing SAP Business Planning and Consolidation (BPC)**

- **Leveraging both planning and consolidation in an integrated way and taking advantage of SAP NetWeaver for better data integration and reporting**

- **Change management strategy of leveraging Excel investments while at the same time delivering more transparent, detailed, and standardized reporting**

- **Leveraging the cloud to accelerate implementation and use of HP Load Runner to optimize performance of the solution**

Agenda

- **Project Background and Business Case**

- **Our Financial Consolidation Story**

- **Our Forecasting Excellence Story**

- **Wrap up**

Who is Owens Corning?

- **Founded in 1938, Owens Corning is an industry leader in glass fiber insulation, roofing and glass fiber reinforcements**
  - 2013 sales: $5.3 billion
  - 15,000 employees in 27 countries

- **Fortune® 500 company for 60 consecutive years**

- **Component of the Dow Jones Sustainability Index**
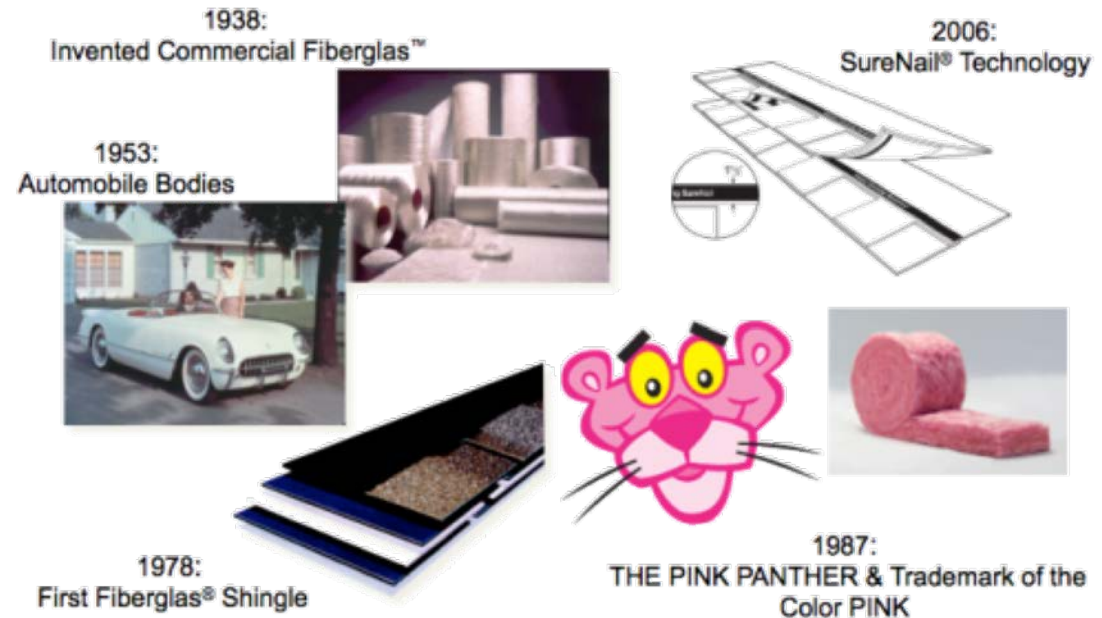
- **NYSE: OC**

What Do We Do?

- **The company operates within two segments: Composite Solutions and Building Materials**

  – Composites Solutions

  - Owens Corning glass fiber materials can be found in over 40,000 end-use applications

  – Building Materials

  - Roofing
  - Insulation
  - Sound insulation / Acoustic Solutions
  - Basement finishing solutions

1938:
Invented Commercial Fiberglas™

1953:
Automobile Bodies

1978:
First Fiberglas® Shingle

2006:
SureNail® Technology

1987:
THE PINK PANTHER & Trademark of the Color PINK

Financial Planning – Business Drivers of Change

An integrated, transparent forecast that incorporates great business and market knowledge with underlying assumptions and uncertainties which are clear to all stakeholders.

Transparent:
assumptions around the business and market are common, aligned, made explicit, and have a tight linkage to the financial outlook

Integrated:
the processes (e.g. supply chain S&OP, tax/treasury, sourcing, etc.) are all connected and aligned. Additionally, the income statement, cash flow schedule, and balance sheet "talk" together

Uncertainties:
critical variables and assumptions that can result in variation to the forecast are expressed by general management and made clear by finance

Process:
our ability to remove waste and improve forecasting efficiency is paramount to creating flexibility and speed in forecasting

Financial forecasting that enables credible guidance and drives proactive business decisions

Decision Framework for Consolidation

Key Attributes of Best-in-Class Consolidation	No Technology N/A	Current BPC Version	Upgrade BPC (10.0)
Speed / Efficiency to Enable Insight		◑	◔
Ease of Execution – Master Data Management		◔	◔
Reporting Efficiency and Flexibility		◔	◔
Process Control		◑	◔
Deeper Data Capability		◔	◔
Comparative Ranking		◔	◑

High ← Impact → Low

Decision Framework for Forecasting

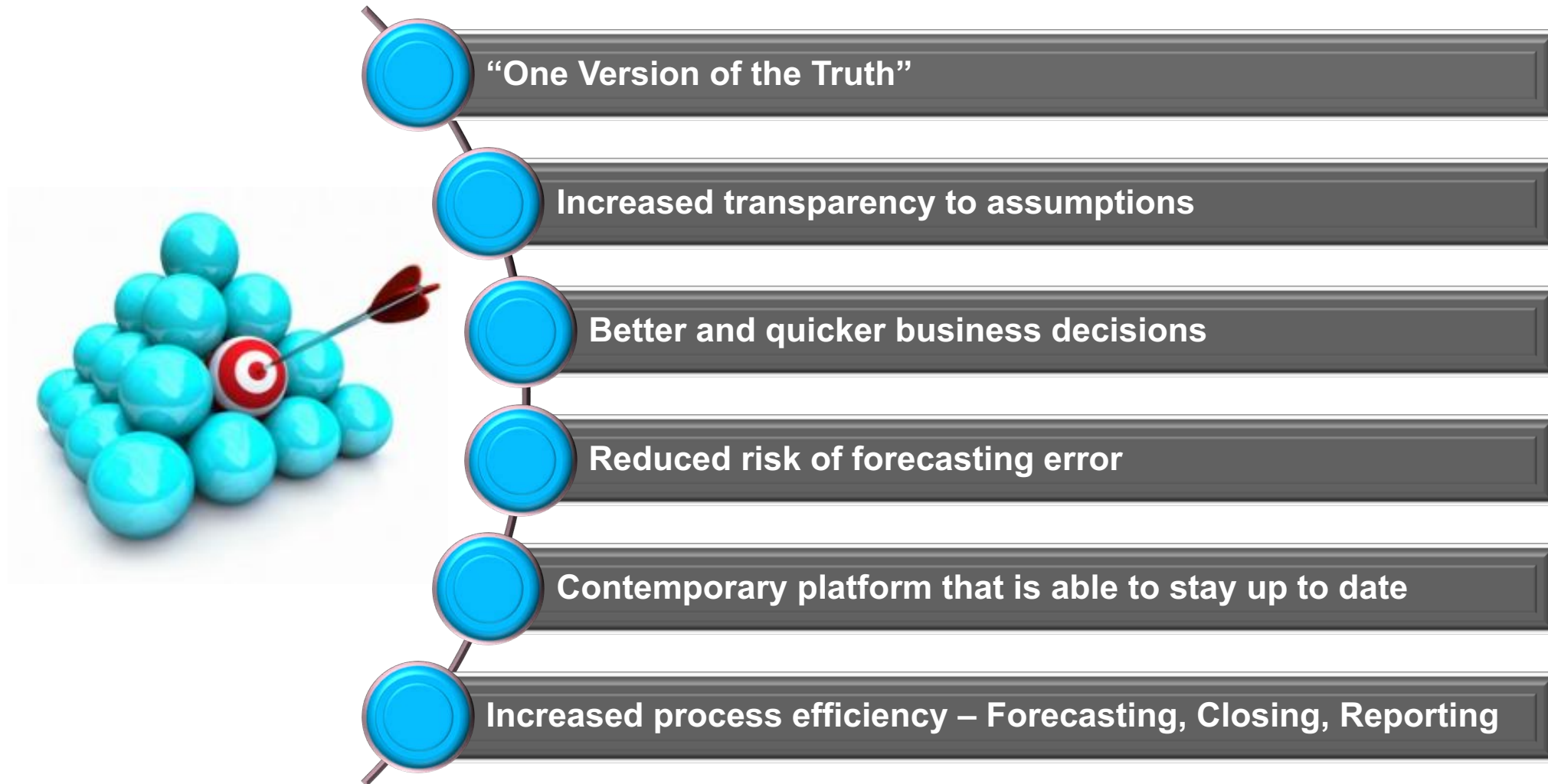| Key Attributes of Best-in-Class Forecasting Based on External Benchmarking	No Technology	Current BPC Version	Upgrade BPC (10.0)
Alignment & Accountability	◔	◔	◕
Speed / Efficiency to Enable Insight	◔	◔	◑
Transparency to Assumptions	◑	◑	◕
Central Modeling of Drivers, Scenario Planning and Risk Profiling	◔	○	◕
Forecasting Data Quality / Consistency	○	◔	◑
Process Control	◑	◕	●
Linkage to SAP, Consolidations, and BI	◔	◑	◕
Flexibility	◕	◔	◑
Comparative Ranking	◔	◔	◕

Impact: High → Low

SAP BPC Justification

- **Factors considered during the decision-making process**
  - Driving alignment and accountability
  - Integration with other (transactional/data warehousing) platforms in Owens Corning systems landscape
  - Flexibility and ease-of-use for user-adoption
  - Transparency to assumptions
  - Scalability
  - Already using BPC 7.0 for consolidations
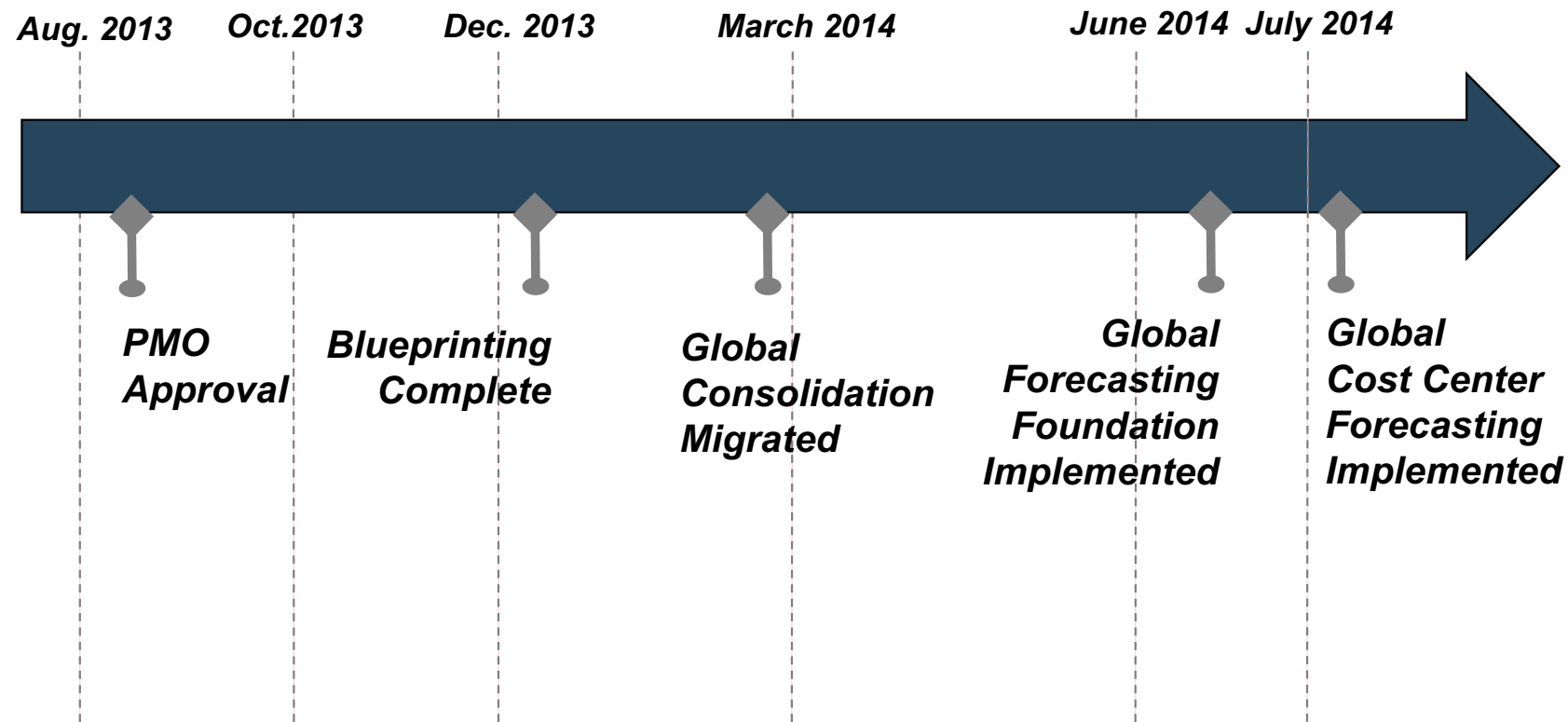
Targeted Business Benefits

"One Version of the Truth"

Increased transparency to assumptions

Better and quicker business decisions

Reduced risk of forecasting error

Contemporary platform that is able to stay up to date

Increased process efficiency – Forecasting, Closing, Reporting

Implementation Waves

Financial Consolidation Wave

Forecasting Foundation Wave

Cost Center Forecasting Wave

Project Time Line

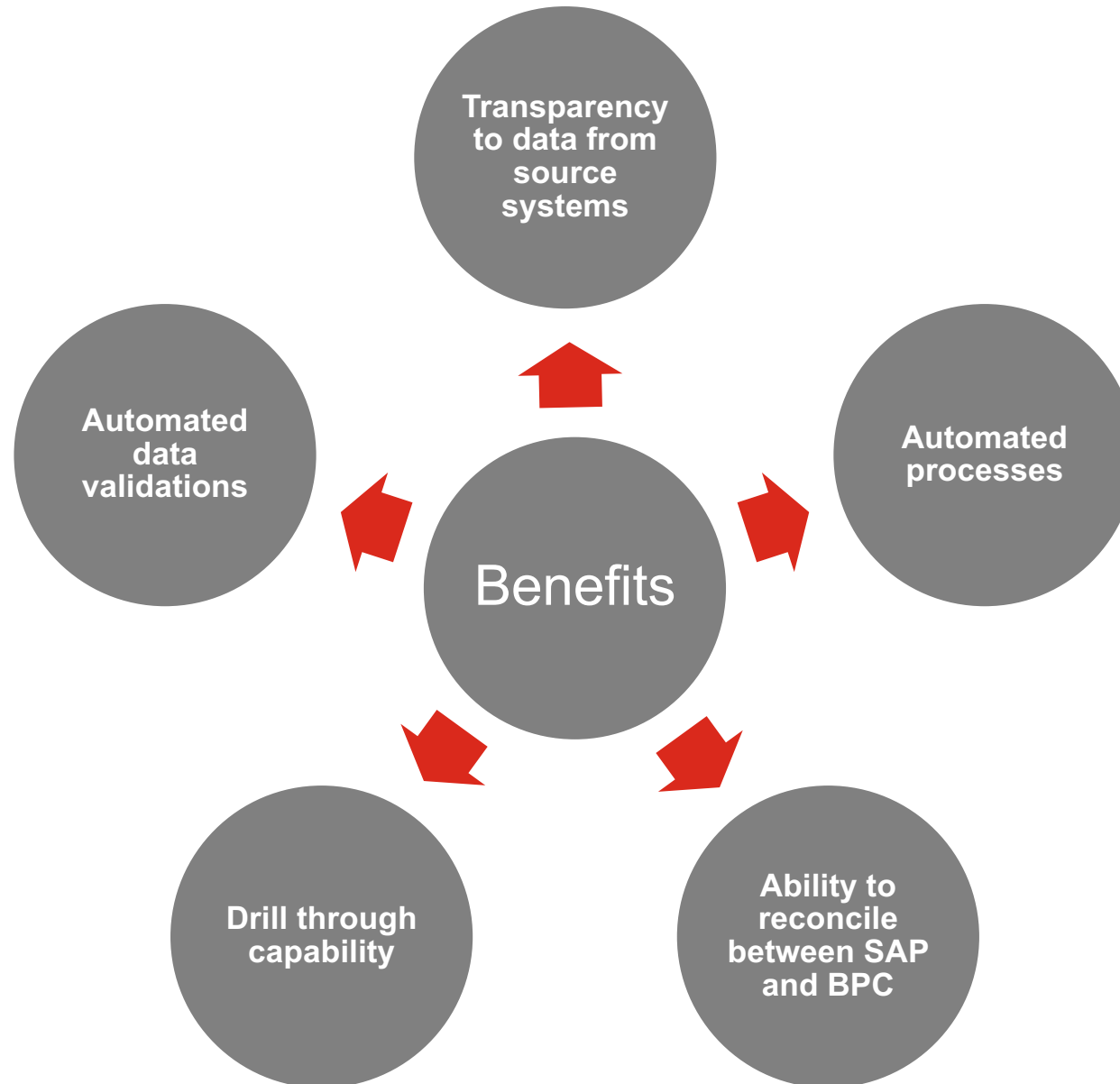| Aug. 2013	Oct. 2013	Dec. 2013	March 2014	June 2014	July 2014
PMO Approval	Blueprinting Complete	Global Consolidation Migrated	Global Forecasting Foundation Implemented	Global Cost Center Forecasting Implemented	

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Overall Benefits Realized

Transparency to data from source systems

Automated processes

Automated data validations

Benefits

Drill through capability

Ability to reconcile between SAP and BPC

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Hierarchy Complexities

- **Emerged from bankruptcy with sophisticated legal structure**

- **Constantly evolving matrix management structure**

	Building Materials				Composites		
	Insulation			R&A	Reinf	ES	
						Non-Wovens	Fabrics
	Res	EIS	Foam				
Markets / Channel	Drive Org Structure						
Customers				Rebates			
Regions	North America				Americas, Asia, Europe		
Vertical Integration							
Capital	High				High		
Products			Drive Org Structure		Drive Org Structure		
Plant Operations	Continuous		Discontinuous		Continuous	Discontinuous	
Distribution Warehouses				Many			

Hierarchies Pain Points

- **Entity Hierarchies**
  - Management
  - Legal
  - Geographic
  - Tax

- **Labor intensive to create new hierarchies and maintain security**

- *Master Data Stats*
  - *3,800 dimension members*
  - *14 hierarchy levels*
  - *Nine hierarchies*
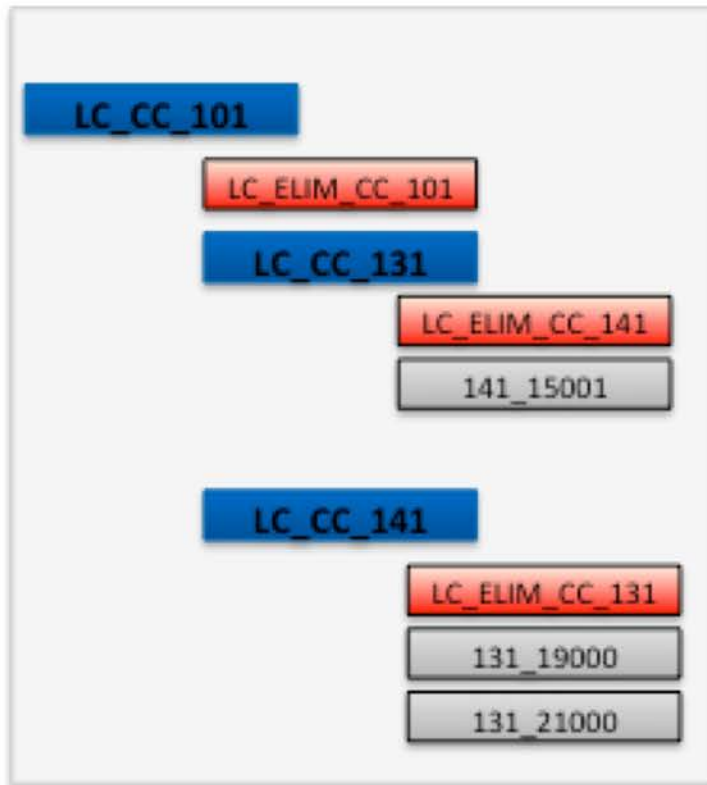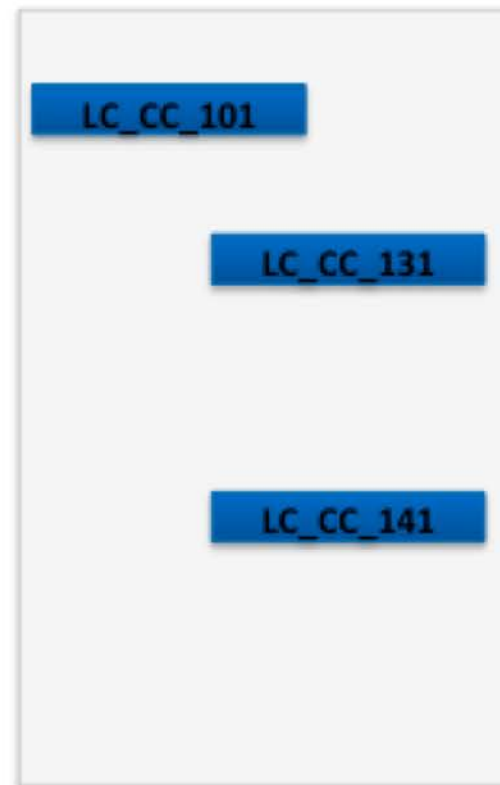 - *Management reporting requires new hierarchy each year*

- ▾ [GC_OC_GEOGRAPHICCONS] Owens Corning Geographic Consolidation
  - ▸ [GC_AFRICAGEOREP] Africa Geographic Reporting
  - ▸ [GC_ASIAPACGEOREP] Asia Pacific Geographic Reporting
  - ▸ [GC_CANADAGEOREP] Canada Geographic Reporting
  - ▸ [GC_EUROPEGEOREP] Europe Geographic Reporting
  - ▸ [GC_LATINAMGEPREP] Latin America Geographic Reporting
  - ▸ [GC_OTHERGEOREP] Other Geographic Reporting
  - ▸ [GC_USGEOREP] U.S. Geographic Reporting

Handling Hierarchies Another Way

- **Eliminations on "groups" more intuitive**

- **Still maintained entities but made them time-dependent**

Entity Dimension

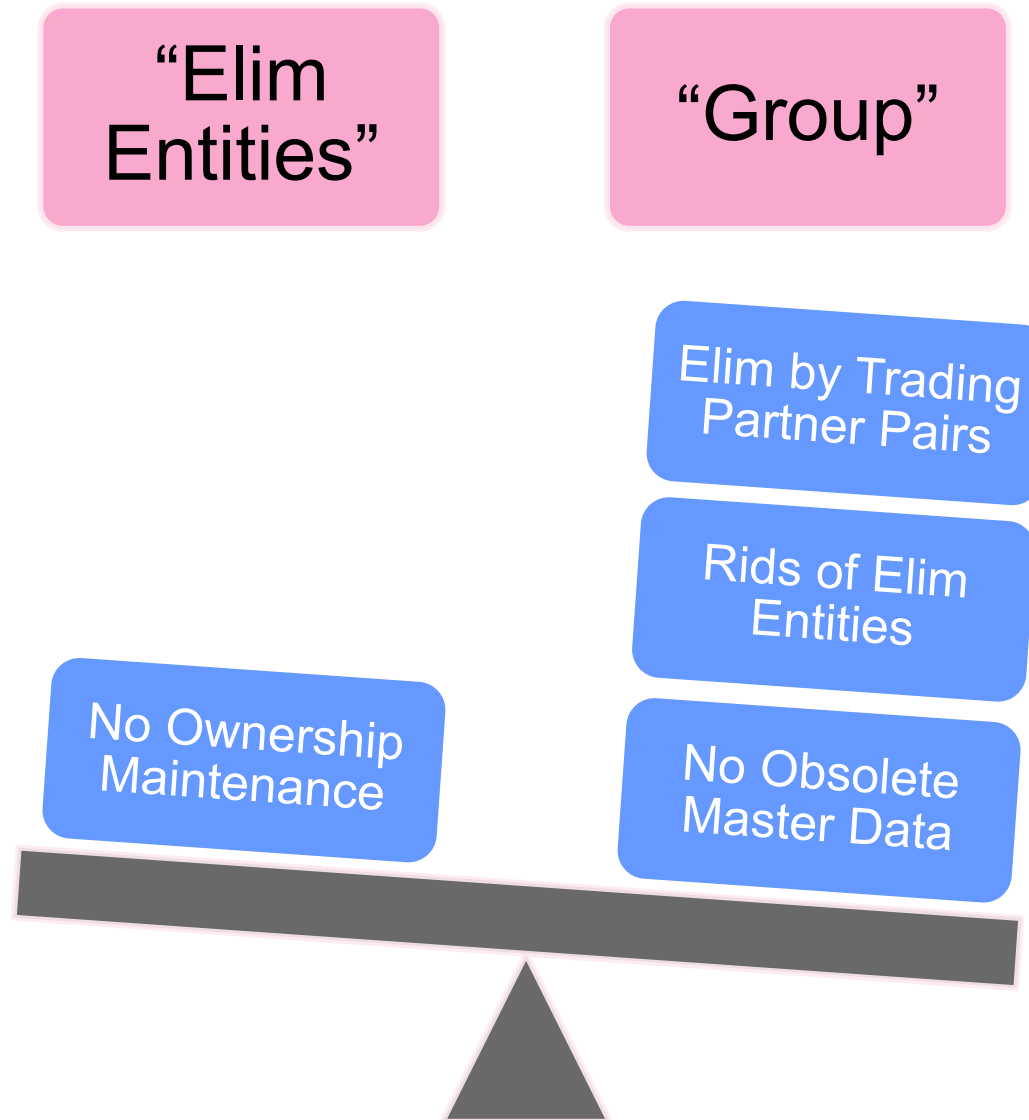LC_CC_101
LC_ELIM_CC_101
LC_CC_131
LC_ELIM_CC_141
141_15001
LC_CC_141
LC_ELIM_CC_131
131_19000
131_21000

Group Dimension

LC_CC_101
LC_CC_131
LC_CC_141

Entity Dimension
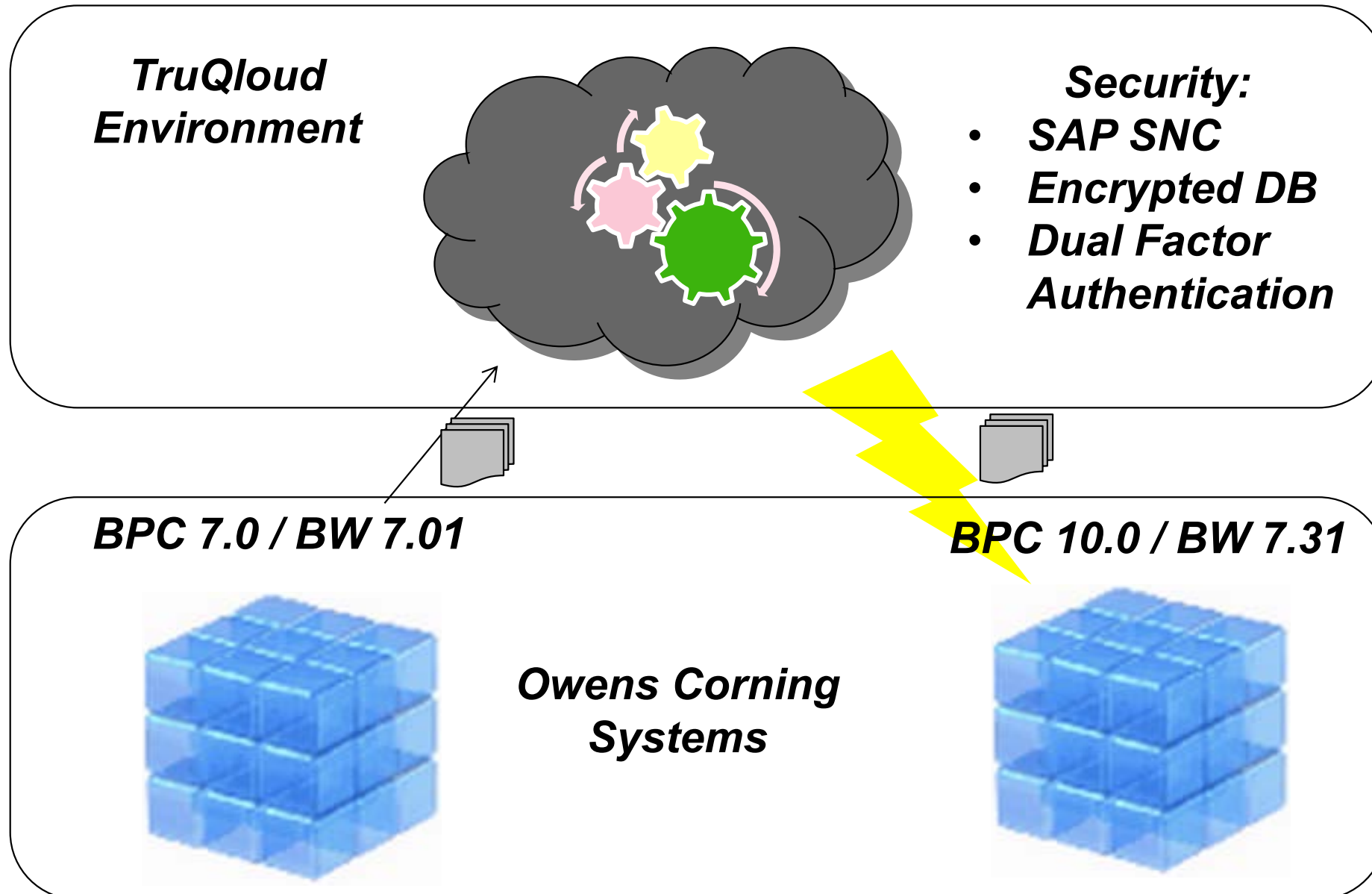
141_15001
131_19000
131_21000

Building a Better Solution

- **End-to-end "lights-out" automation**

    - Replaced complex IBM DataStage development with streamlined standard functionality to load data from SAP ERP

    - Automated consolidation (e.g., currency translation and eliminations)

    - Leveraged TruQua tools for:

        - Auto-generation of the group hierarchy and ownership data from time-dependent entity hierarchies
        - Capturing records with bad or obsolete master data
        - Automated data validations (i.e., debits equal credits)
        - Automatic email notifications

- **Enhanced reporting and analysis**

    - Document line item drill-through
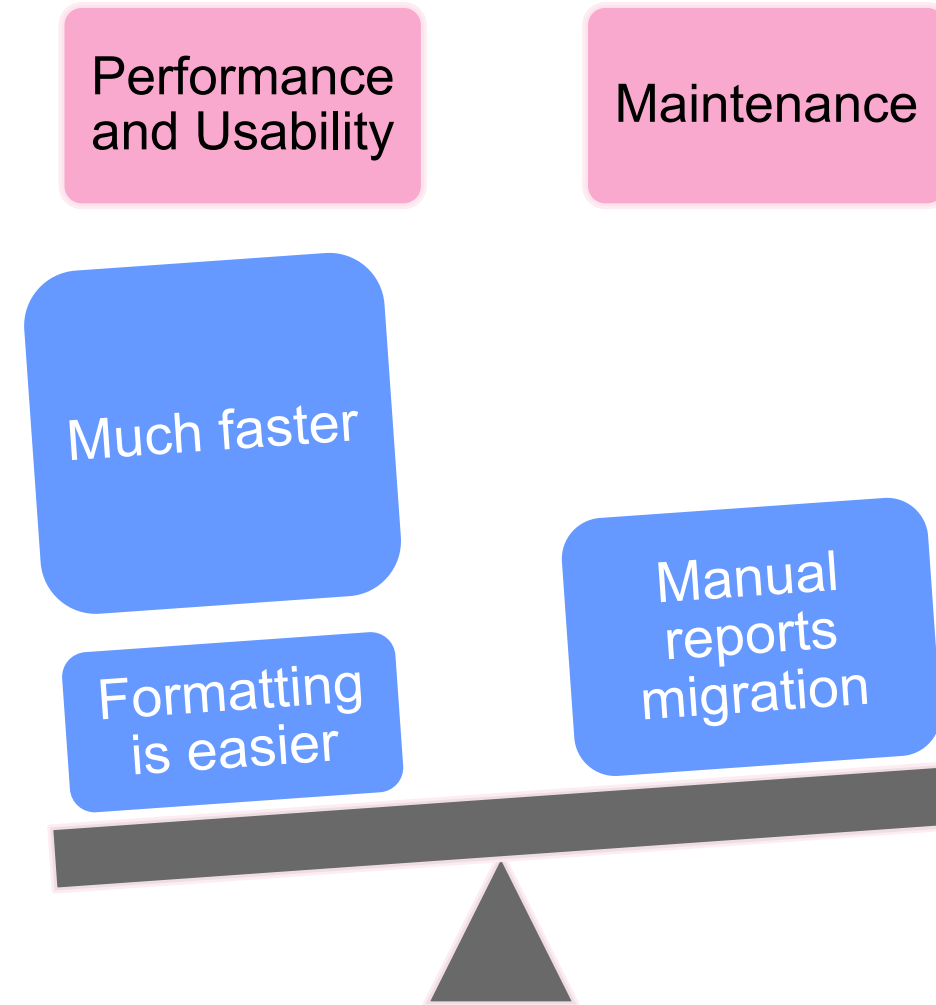
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Using TruQloud for Project Acceleration

TruQloud Environment

Security:
- **SAP SNC**
- **Encrypted DB**
- **Dual Factor Authentication**

BPC 7.0 / BW 7.01

BPC 10.0 / BW 7.31

Owens Corning Systems

Performance Benefits

Task	BPC 7.0 (mins)	BPC 10.0 (mins)
Load from Source - 4 ERP systems //	30	10
Translate and eliminate	30	
Currency Translation		10
Net Income (script)		1
Eliminations		10
Total Time	60	31

Data Volumes (monthly)	BPC 7.0 (recs)	BPC 10.0 (recs)
Group None		220K
Legal		1.9M
Management / Tax / Geographic		3.5M
Total	800K	5M

Reporting Impacts

- **Performance**
  - 2x to 20x faster

- **Usability**
  - Very similar but formatting is much easier

- **Maintenance**
  - Had to learn a new Excel add-in tool and rewrite all reports

Performance and Usability

Maintenance

Much faster

Formatting is easier

Manual reports migration

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Forecasting Project Scope

Forecasting Foundation Wave

- Load data into BPC at detailed level (volume, price, etc.) to enable transparency
- Pull data from existing business financial models and processes
- Leverage existing BI infrastructure
- Build integrated financials (P&L, Balance Sheet, Cash Flow) in BPC
- Deliver reporting and analysis for forecast versus actual at the business level directly from BPC
- Implement company wide

Cost Center Forecasting Wave

- Standardize cost center forecasting and reporting across Owens Corning
- Eliminate waste in maintenance of Excel tools
- Create comparability between forecast and actual
- Build cost center tool in BPC that is integrated with BI Cost Center cube
- Leverage drill through capability from BPC reports to cost center details in BI

Change Management

Prepare

Build organizational support

Involve business & users early

Avoid massive process change that will not impact project success

Engage

Initiate training and coaching for the users

Communicate expectations and early wins across organization

Implement

Address anticipated and emerging resistance

Collect and analyze feedback

SAP BPC Input Forms and Reports

- **21 Input Forms**
- **40 Reports**
- **~ 15 Data Manager Package**

SAP BPC Input Forms and Reports

- **Important to make minimal changes to complex forms**

New Tool

Cost Center	96001102
Description	CORPORATE FINANCIAL PLANNING & ANALYSIS
Local Currency	USD
Period	05
Plan Year	2014
Plan Cycle/Prior QRF	FCST05 · FCST04
Summary Currency	US Dollar
Variance Selection	Plan

	Cost Center	Cost Category		2014.JAN				2014.FEB		
			PLAN	FCST05	ACTUAL	Variances	PLAN	FCST05	
Fiscal Year 2014	96001102	Contract Labor	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Cross Charge	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Depreciation & Amortization	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Employee Related	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Fees	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Fringes	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Repairs & Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Others	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Rent & Lease	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Salary	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Software	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Travel & Entertainment	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Telecommunication	$ -	$ -	$ -	$ -	$ -	$ -	$
	96001102	Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$
		Grand Total	$ -	$ -	$ -	$ -	$ -	$ -	$

Old Tool

Cost Center	
Description	
Local Currency	USD
Current Period	1
Current Year	2014
Forecast Type	Forecast
Summary Currency	GC (USD)
Variance Selection	Plan

	Cost Category	January				February		
		Plan	Forecast	Actual	Var. to Plan	Plan	Forecast	A
Fiscal Year 2014	Contract Labor	$ -	$ -	$ -	$ -	$ -	$ -	$
	Cross Charge	$ -	$ -	$ -	$ -	$ -	$ -	$
	Depreciation	$ -	$ -	$ -	$ -	$ -	$ -	$
	Employee Related	$ -	$ -	$ -	$ -	$ -	$ -	$
	Fees	$ -	$ -	$ -	$ -	$ -	$ -	$
	Fringes	$ -	$ -	$ -	$ -	$ -	$ -	$
	Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$
	Other	$ -	$ -	$ -	$ -	$ -	$ -	$
	Rent	$ -	$ -	$ -	$ -	$ -	$ -	$
	Salary	$ -	$ -	$ -	$ -	$ -	$ -	$
	Software	$ -	$ -	$ -	$ -	$ -	$ -	$
	T&E Meetings	$ -	$ -	$ -	$ -	$ -	$ -	$
	Telecom	$ -	$ -	$ -	$ -	$ -	$ -	$
	Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$
	Grand Total	$ -	$ -	$ -	$ -	$ -	$ -	$

Scaling Out Forecasting and Reporting

- **Using HP Load Runner, month-end close was simulated with 100 virtual users**
- **First 100 user "peak hour" test showed production system was not sufficiently sized**
- Forecasting Cube Data response time and variability increase considerably during Forecast load
- Both Forecasting Cube and Cost Center Cube reads doubled in time
- The response times shown in this test indicate that additional resources should be provided to the Prod System to ensure good performance during Month-End Close.
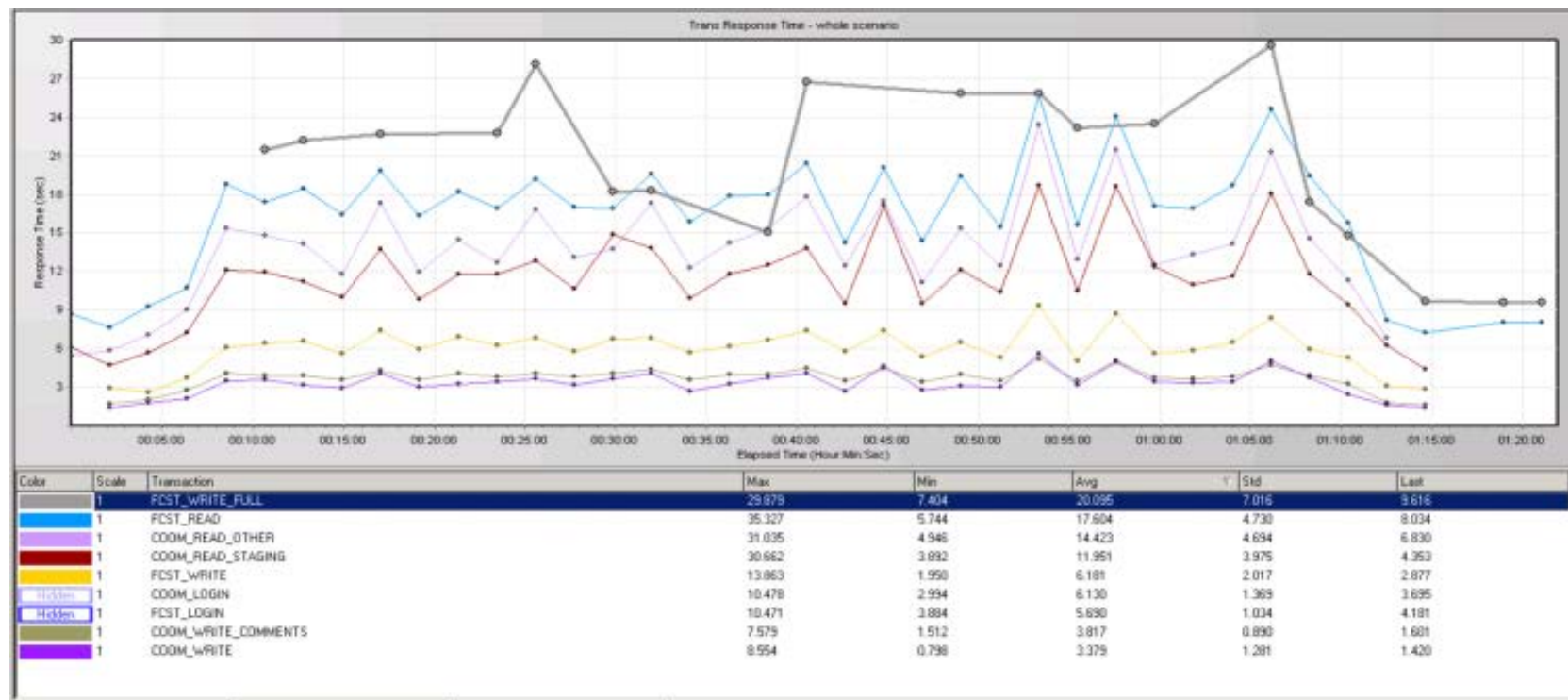
Performance Optimizing the System

- **After system performance optimization (increasing the resources on Prod), planning and reporting processing times were cut in half**
- Forecasting Cube and Cost Center Cube data response time and variability both reduced
- Due to the large amount of writes, Light Optimization should be run on cube Forecasting Cube daily during the Forecast loading period
- The response time improvements shown in this test indicate that additional resources should be provided to the BPC Prod System to ensure good performance during Month-End Close
- Model Cost Center Cube was pre-loaded with roughly 7,000,000 records, the expected Data Volume for production.
- Model Forecasting Cube was pre-loaded with roughly 5,000,000 records, the expected Data Volume for production.

Transaction	Average	Previous Test	Change
COOM_READ_OTHER	6.9	14.4	**48.08%**
COOM_WRITE	1.7	3.3	**54.06%**
COOM_WRITE_COMMENTS	1.9	3.8	**52.61%**
FCST_READ	9.7	17.6	**55.27%**
FCST_WRITE	3.1	6.1	**52.38%**
FCST_WRITE_FULL	10.9	20	**54.73%**

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Business Benefits

Usability
- A faster month-end closing process
- Reduced effort to produce information
- Reduced cycle times for budgeting / forecasting and consolidating actuals
- More simple reporting and formatting functionality

Transparency
- "One Source of the Truth"
- Improved process control using system workflow and versioning
- Improved access to critical business information
- Greater accuracy through collaboration and accountability
- Reconcilability back to the source including SAP ERP

Reduced TCO
- Capture and isolate transactions with bad or obsolete master data
- Automated notifications to helpdesk & BI support team for any system failures
- Specialized fail over processing of jobs until issues are fixed
- Disaster recovery mirror systems in sync with the production "just-in-case"

Reduced Operational Risk
- Increased stakeholder confidence with a fast and accurate financial close
- Improved data quality through a central controls
- Cost reduced, cash controlled and risk lowered from improved processes

Lessons Learned

People
- End user training
- Change Management

Process
- Knowledge transfer and ownership of solution
- Defining who's responsible for which system (ECC, BW, BPC)
- Governance on transport strategy
- Step-by-step documentation of processes

Technology
- Improve data quality and communicate master data changes at the beginning
- Know your data in advance
- Mock up your to-be processes in Excel
- Don't underestimate the effort in deploying and stabilizing the Excel Add-In