

4TH ANNUAL CONFERENCE ON
TECHNOLOGY & STANDARDS

2007

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**BUSINESS INTELLIGENCE AS A COMPETITIVE
ADVANTAGE FOR STUDENT LOAN COMPANIES**

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ALL Student Loan Mission

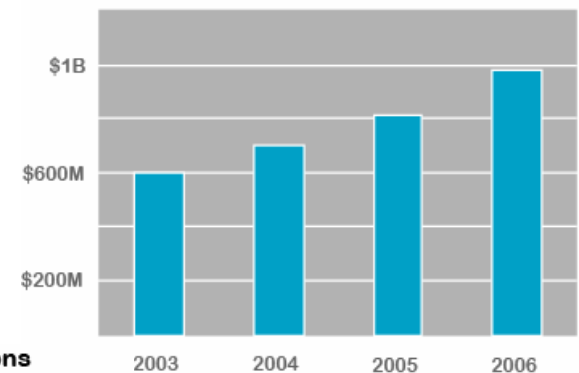
- Non-profit dedicated to serve needs of students:
 - Affordable loans
 - Interest rate reduction programs

- Grow to gain economies of scale
 - Pass greater savings onto students & families
 - Develop better products for students
 - Provide better service to customers

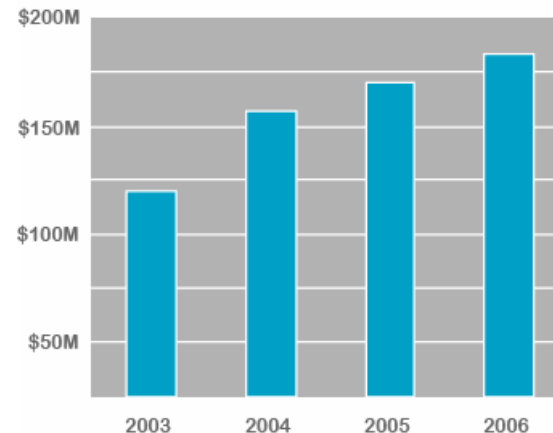
ALL Performance

- 63% increase in originations between 2003 and 2006
- 45% loan portfolio growth from 2003 to 2006
- 0% increase in headcount since 2004

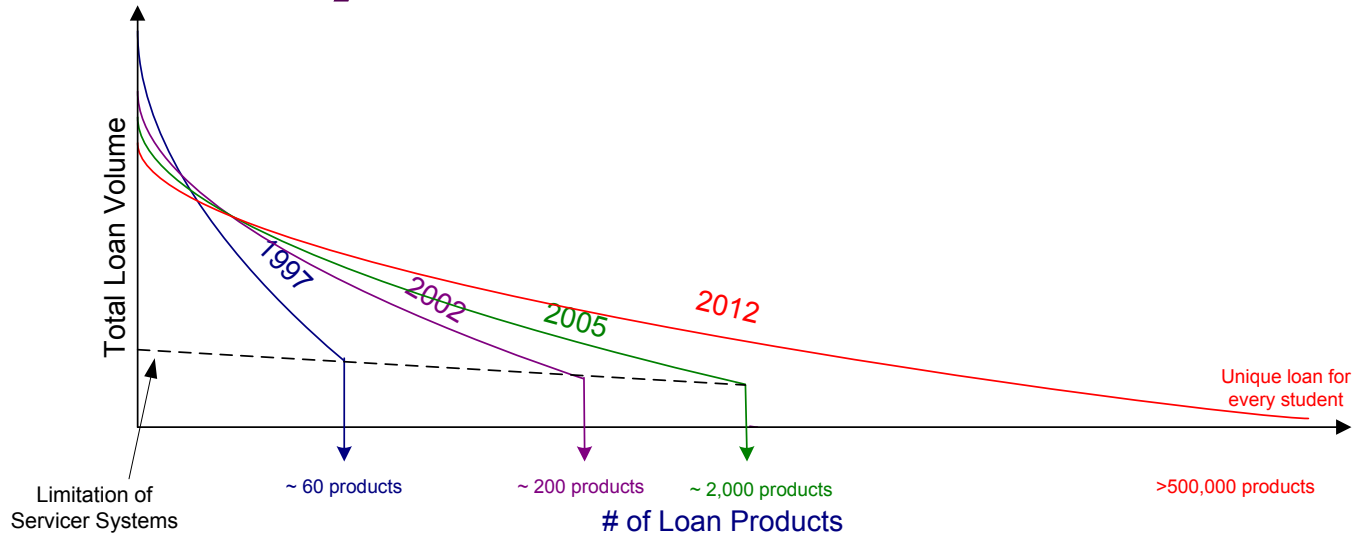
ALL Student Loan Portfolio Growth



FFELP Loan Originations



Why ALL Invested in BI



The Long Tail is forming...

- Proliferation of Product: ~ 50x increase in loan products since 1997
- Open Distribution: Internet challenging FAO's PLL model
- Ease of Search: Loan comparison tools

Future = Rapidly increasing competition, complexity and speed of business...

Margin Pressures

- Increasing number of competitors
- Shrinking SAPs
- Reduced FFELP interest rates
- Reduced securitization spreads
- Diminishing guarantees
- Increased demands for service
 - Schools
 - Borrowers

ALL Pain Points

- Untimely, incomplete, inconsistent information
 - Different departments = different data sets
 - Data sources not compatible (servicers, originations, etc.).

- Manual manipulation of data
 - Time consuming
 - Introducing errors and omissions

- Business decisions based on...
 - BAD data
 - Data that differed by department & analyst → no clear picture
 - Data from servicers with errors and without the ability to check validity

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The Value is in the Data



What if we could capture data from every...

- Transaction
- Internal system
- External system
- Lead, Application and Borrower

We would have a complete, accurate view of the entire lifecycle...

- By borrower
- By loan
- By indenture
- Etc.

Benefits ALL Realized from BI

Accounting

- Servicer Transaction Report
 - Requires just 20% of the original processing time

Finance

- Portfolio Characteristics Report
 - Requires just 5% of the original processing time

Marketing

- Consolidation Net/Bleed Report
 - Requires just 4% of the original processing time

Operations

- Ability to track origination errors and omissions

How ALL Implemented BI

- ALL partnered with JustIQ to build the Intelligent Warehouse
 - Data Warehouse
 - Combines 16 data sources (CRM, Servicers, Originations, etc).
 - Provides “one truth” across entire company
 - Business Intelligence Tool
 - Built using JustIQ’s version of MicroStrategy 8.02 → migrating to 8.1 soon
 - 300+ reports in use
 - Standard library of 150 reports
 - Customized by end-users
 - Used by every department every day

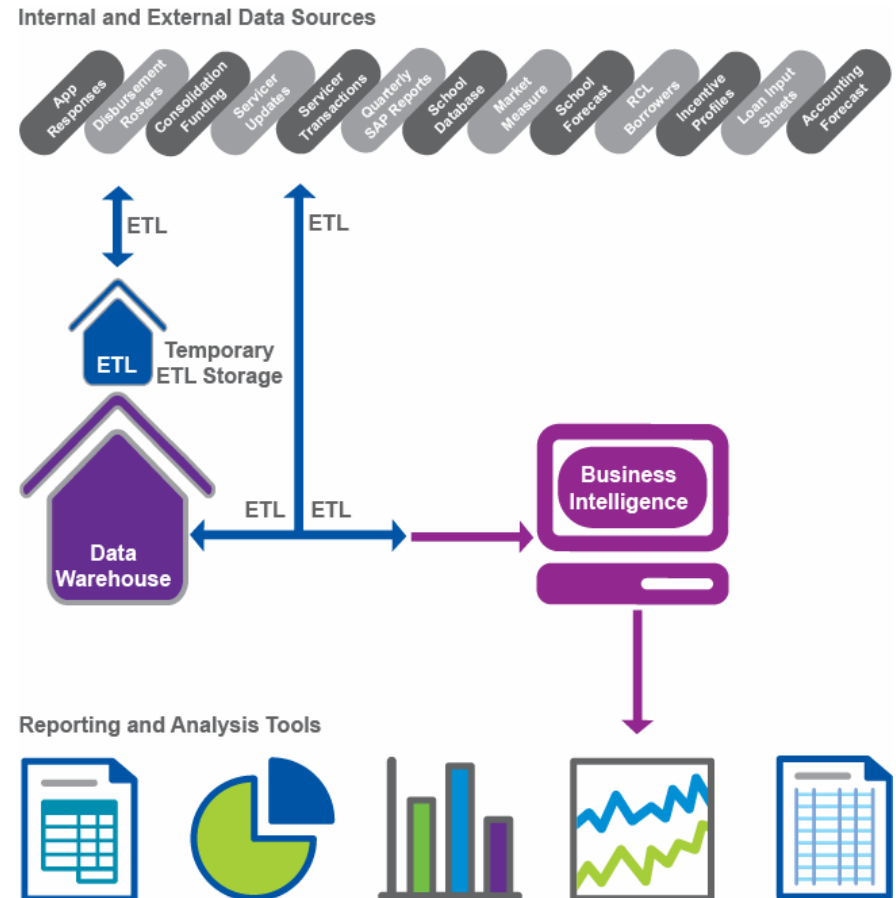
How ALL Implemented BI

- ALL started the BI project in 2005
 - Total development time > 20,000 hours
 - Massive learning curve
 - Audit trails
 - Data alignment
 - Much easier to deploy using new IW architecture

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How ALL's BI Works

- Bolts into existing systems
- Cleans, aligns & stores all data
- Total data security
- Instant access
- Integrates with existing tools (Excel, DBC, etc.)
- “One Truth”



Best Practices for BI Deployment

- Manage expectations
 - Long road (developing system from scratch > 15,000 hours → easier to buy package)
 - Very expensive (>\$1 million)
 - Very complex (affects entire business process)
 - Must be CEO-driven → control the politics
 - Must have executive stakeholders from every department

- Clearly define business requirements
 - Use-cases
 - Prioritize phases of deployment

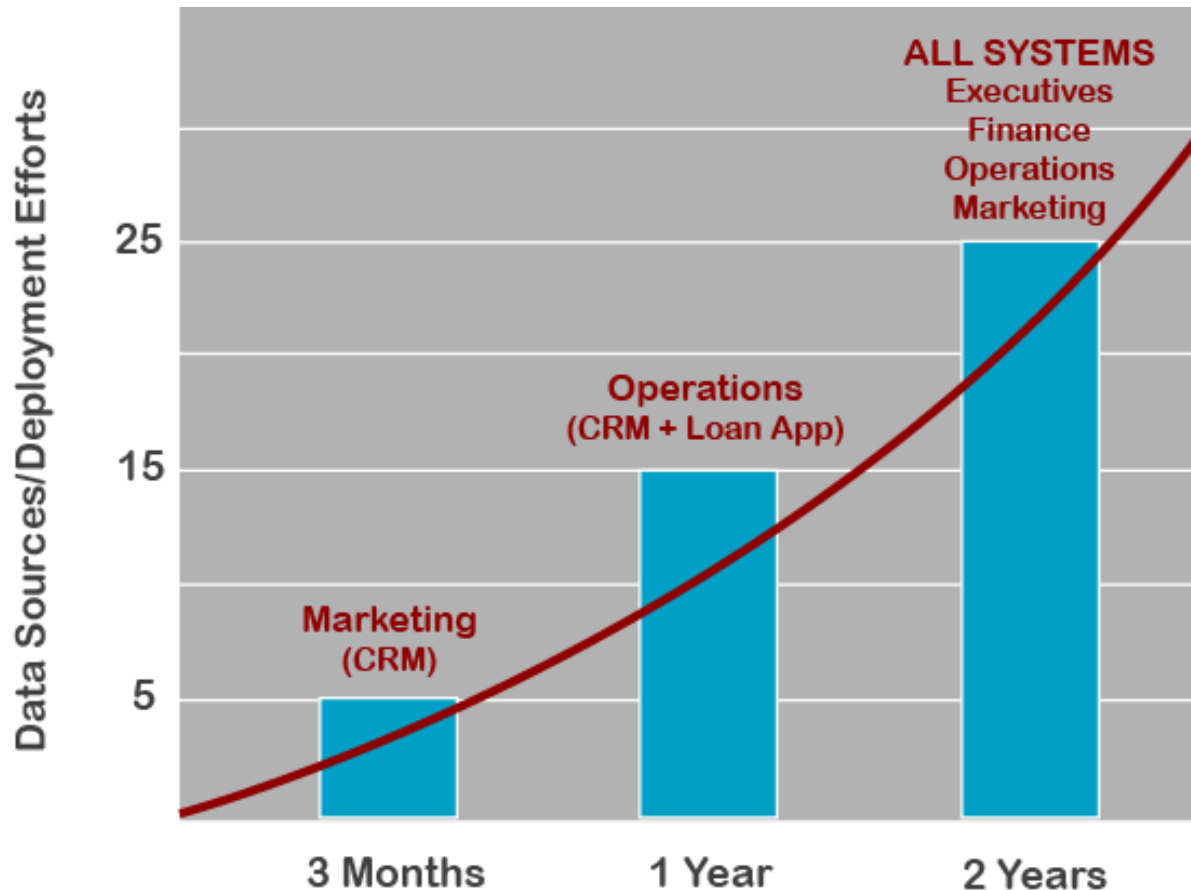
Best Practices for BI Deployment

- Start small, start easy
 - Crawl 1st...Walk 2nd...then Run
 - One department at a time
 - Use ROI to justify future enhancements

- Focus on data quality

- Don't reinvent the wheel
 - Consider using off-the-shelf development tools
 - Copy best practices of others in industry

Best Practices for BI Deployment



Check List for BI Implementation

First Priority

Plan everything around ability to AUDIT

- Determine data requirements
- Determine availability of data in electronic form
- Data quality
- Data changes

Second Priority

Drive implementation based on detailed user requirements.

- Data changes
- User requirements drive data requirements.
- Reports requirements change once the system is deployed.
- A good BI system is one that is flexible.

Check List for BI Implementation

- ETL architecture
 - Separate business rules
 - Exception reporting

- Configuration Tool to manage data sources
 - Align disparate sources
 - Control ingestion of data & ETLs

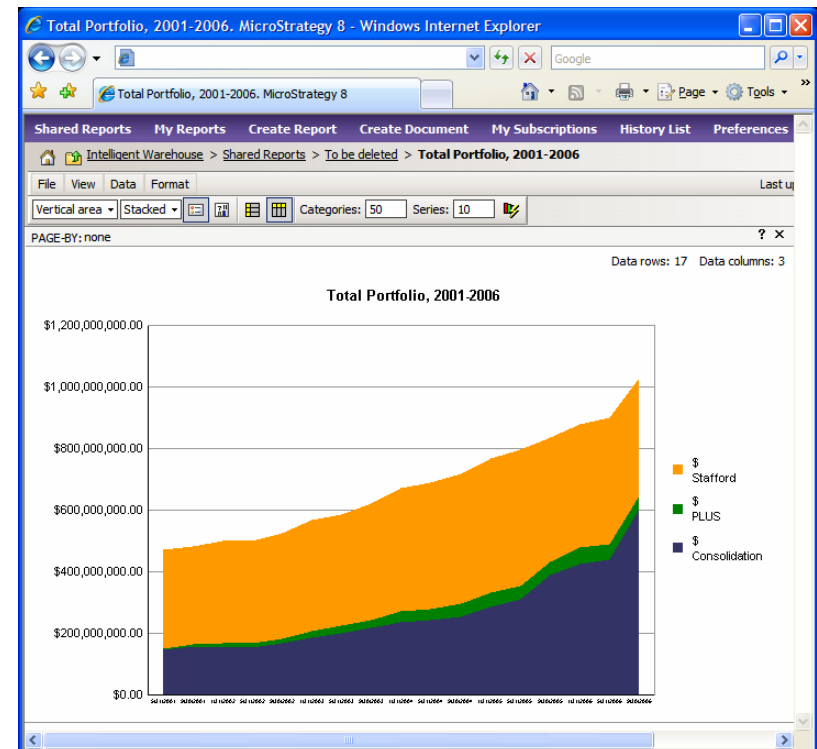
- Security at every level of data access, reporting, etc.

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Examples of ALL's Reporting System

- Drillable Portfolio Analysis
 - Reg AB Reports
 - Time series (vintage, stratification)
- Loan Serialization Rates
- Consolidation Net/Bleed
- Default Analysis (running by vintage)
- SAP Calculations
- Loans-in-Transit
- Forecast vs. Actual Volumes

(Demo data is fictional)



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Benefits of “Audit Centric” Design

- Trust but VERIFY servicers
 - Loan to indenture placements
 - Benefit compliance
 - Special Allowance Payments

- Loan accounting
 - Attach portfolio code to each disbursement
 - Attach each disbursement to general ledger entries
 - Track loan adjustments (refunds) to indentures

The screenshot shows a web application interface for loan accounting. The main content area displays a summary table and a detailed funding details table.

Summary Table:

Vendor	Indenture	Lender	# Borr	# Loans	# Disb	Gross Funding	Origination Fees	Guarantee Fees	Fees Paid	Net Funding
NDN05TE	V TAX-EXEMPT	833752	6	9	14	\$29,298.99	\$878.97	\$0.00	\$878.97	\$29,298.99
SMNDN05TE	V TAX-EXEMPT	832919	1	2	2	\$5,829.50	\$174.88	\$0.00	\$0.00	\$5,654.62
SMNDN05TE	V TAX-EXEMPT	833752	20	38	38	\$199,530.02	\$5,985.90	\$0.00	\$5,985.90	\$199,530.02
Total			27	49	54	\$234,658.51	\$7,039.75	\$0.00	\$6,864.87	\$234,483.63

Funding Details Table:

Actions	Confirmed	Portfolio	Indenture Tax Group	Vendor	Borrower Name	Borrower SSN	Lender	Nexus	School Name
Exclude	<input type="checkbox"/>	4405	V TAX-EXEMPT	SMNDN05TE	PATTERSON, ROGER	084-06-8515	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	5405	V TAX-EXEMPT	SMNDN05TE	PATTERSON, ROGER	084-06-8515	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	4405	V TAX-EXEMPT	SMNDN05TE	HOLLOWAY, STEVE	476-04-8778	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	5405	V TAX-EXEMPT	SMNDN05TE	HOLLOWAY, STEVE	476-04-8778	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	4405	V TAX-EXEMPT	SMNDN05TE	BROWN, ALEXANDRA	260-05-9382	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	5405	V TAX-EXEMPT	SMNDN05TE	BROWN, ALEXANDRA	260-05-9382	833752	CA	University of the Pacific
Exclude	<input type="checkbox"/>	4405	V TAX-EXEMPT	SMNDN05TE	TRAN, CAROLYN	446-10-3580	833752	CA	University of the Pacific

Most Important Data Feeds

- CommonLine 4 (CL4)
 - App Response Files
 - Disbursement Rosters
- Monthly Servicer Snapshots
- Monthly Servicer Transactions
- Department of Education School Database

Data Challenges

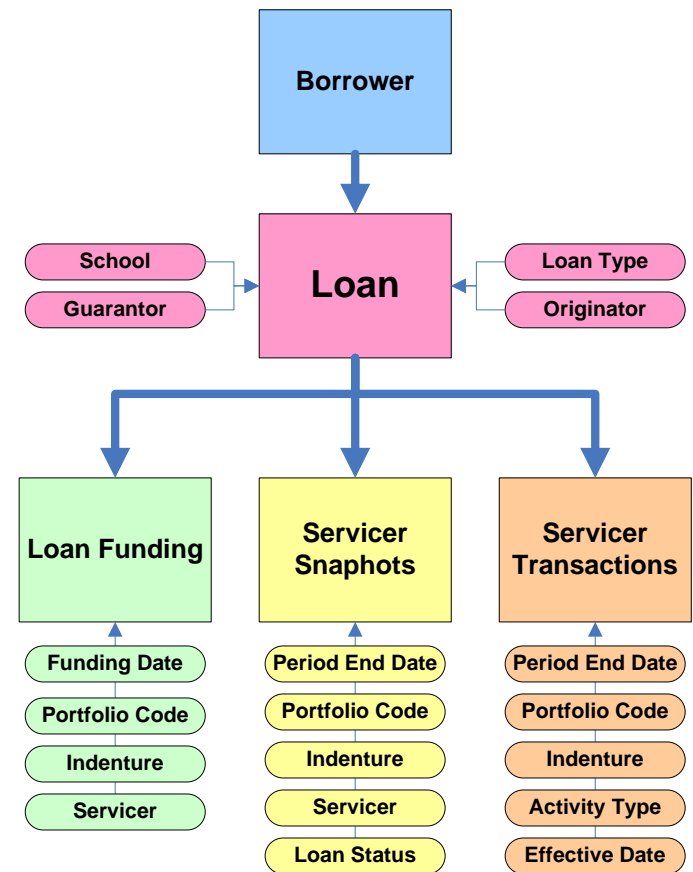
- Connecting disparate data from originators and servicers
- Aligning proprietary data formats from multiple servicers
- Tracking aligned data back to its original source
- Maintaining history of application and servicing activity

Connecting Disparate Sources

- Use information that is common across data sources
- Use information that does not change over time
(e.g. Borrower SSN, Loan Type, Financial Award ID, Financial Award Begin and End Dates, Guarantor Loan ID, Guarantee Date)
- Matching function should be available from any application
- Requires Borrower SSN and Loan Type, and at least one other common field
- Match is successful if all of the provided fields match an existing Loan record

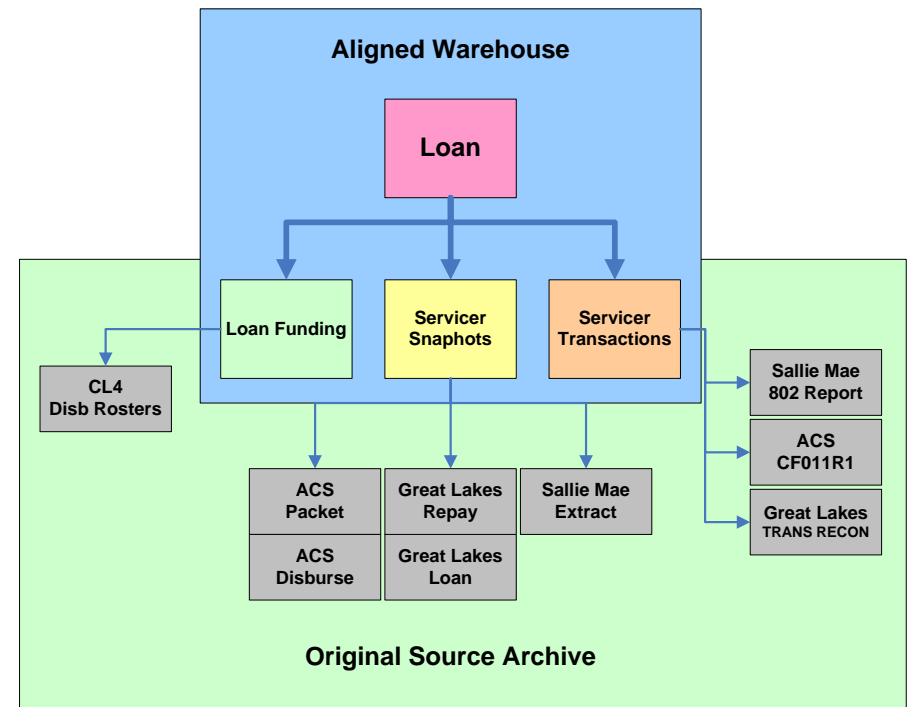
Advantages of Relational OLAP

- Loan record acts as the connector between the disparate sources
- Information is always inserted, never updated, providing complete history
- Child entities automatically inherit the attributes of parents
- New entities added more easily than in a Traditional OLAP environment
- Extremely flexible and intuitive reporting



Auditing Aligned Data

- Maintain a complete data-typed archive of original source data
- Aligned records (e.g. Servicer Snapshots) are connected directly to the original source record
- Allows for complete auditing of aligned data
- Allows for easy repopulation of aligned data from original source records
- New columns can be added to aligned tables without reloading source data, without affecting existing aligned columns
- New aligned tables can be created without reloading source data



Post-BI Strategic Advantages

- Predictive analytics
 - Default Risks
 - Product Development (benefit utilization)
 - Pre-payment behaviors

- Cohort modeling
 - Optimize indenture placements
 - Pre-stress testing for bond ratings

- ∞ possibilities...
 - Stochastic modeling
 - Early default aversion

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Questions?

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THANK YOU