

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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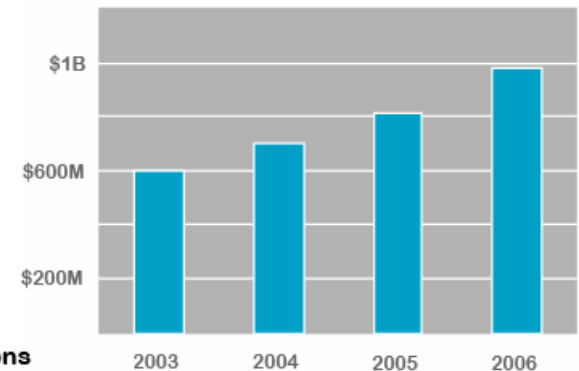
## **ALL Student Loan Mission**

- 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

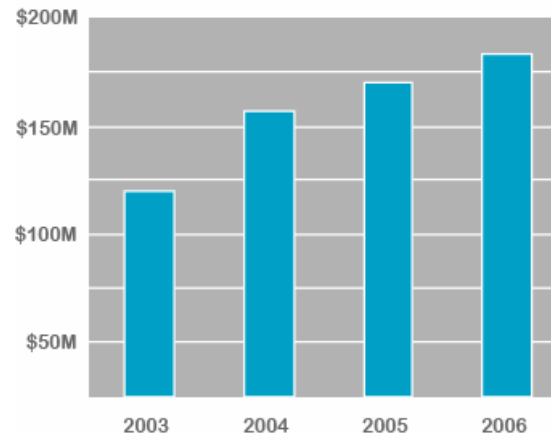
## ALL Performance

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

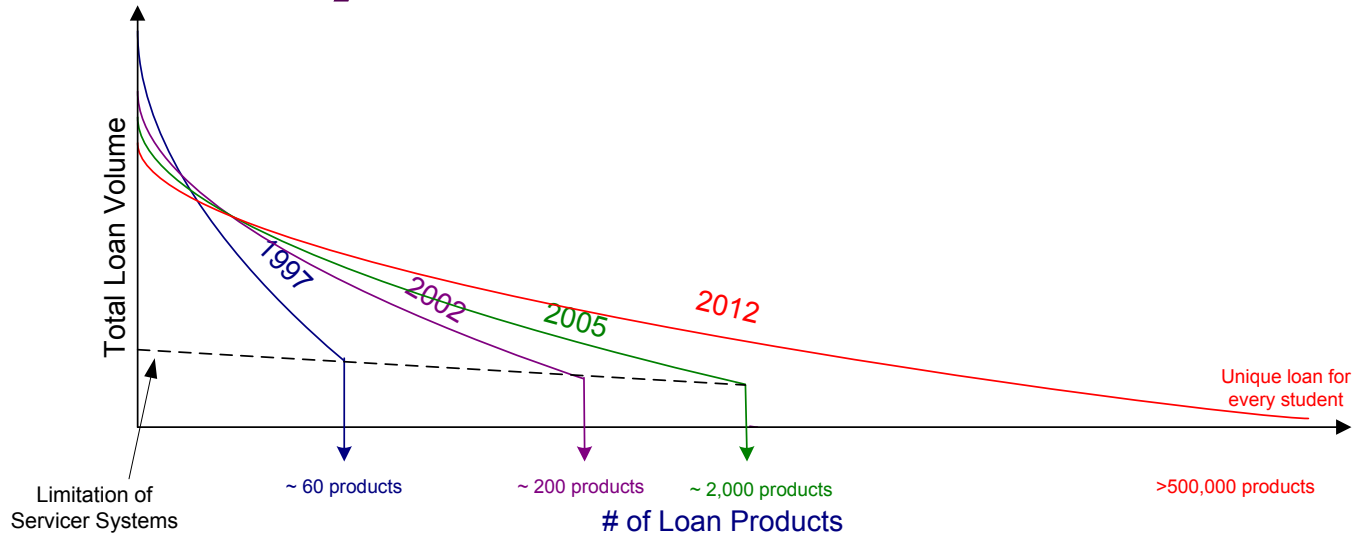
ALL Student Loan Portfolio Growth



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

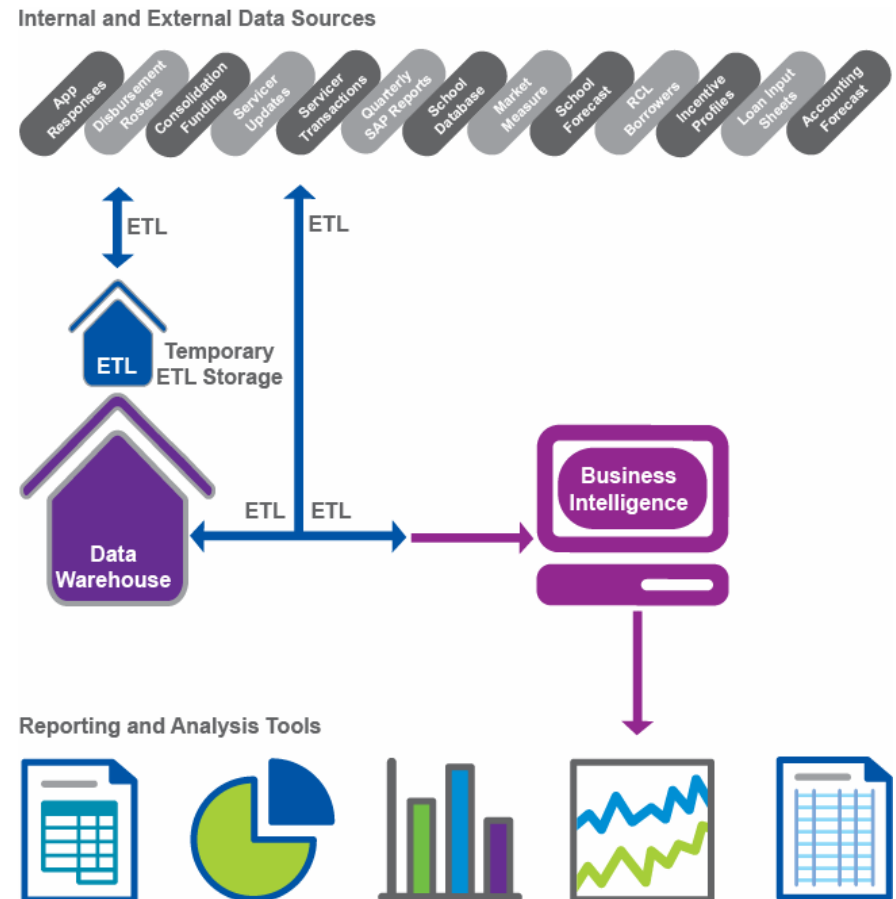
## How ALL Implemented BI

- 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”



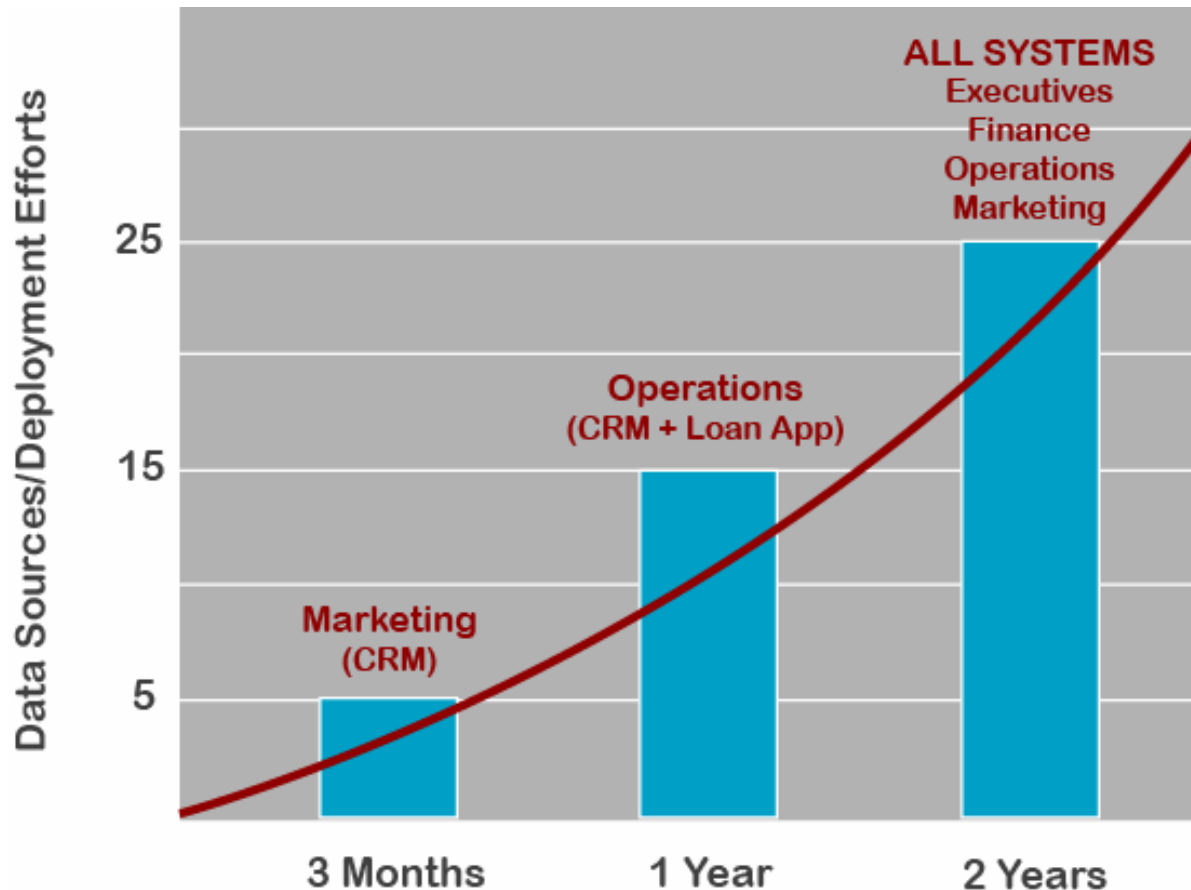
## Best Practices for BI Deployment

- 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 1<sup>st</sup>...Walk 2<sup>nd</sup>...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

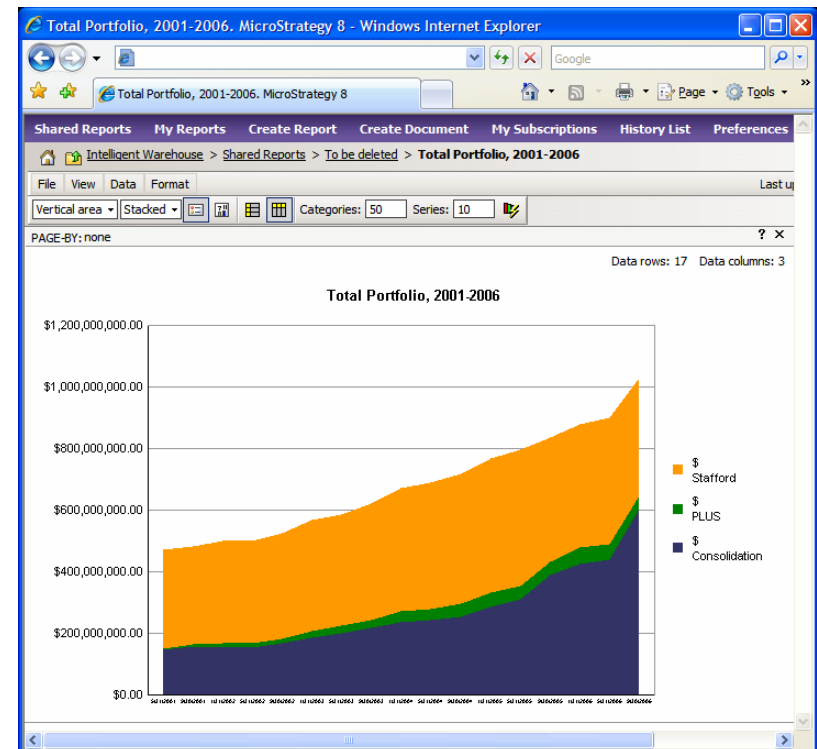
- ETL architecture
  - Separate business rules
  - Exception reporting
  
- Configuration Tool to manage data sources
  - Align disparate sources
  - Control ingestion of data & ETLs
  
- Security at every level of data access, reporting, etc.

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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

**Funding Details - Windows Internet Explorer**

Loan Accounting | Logout | Logged in: sgalfano

User Administration | Loan Adjustment

Loan Accounting > Funding Rosters > Funding Details

Funding Type: AppWorks NDN Roster | Load Date: 04/09/2006 10:43:05 | Funds Release Date: 4/7/2006  
 Source: ALL Student Loan | Excluded: 0

**Summary**

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
<b>Total</b>			<b>27</b>	<b>49</b>	<b>54</b>	<b>\$234,658.51</b>	<b>\$7,039.75</b>	<b>\$0.00</b>	<b>\$6,864.87</b>	<b>\$234,483.63</b>

**Global Modification**

**Funding Details**

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

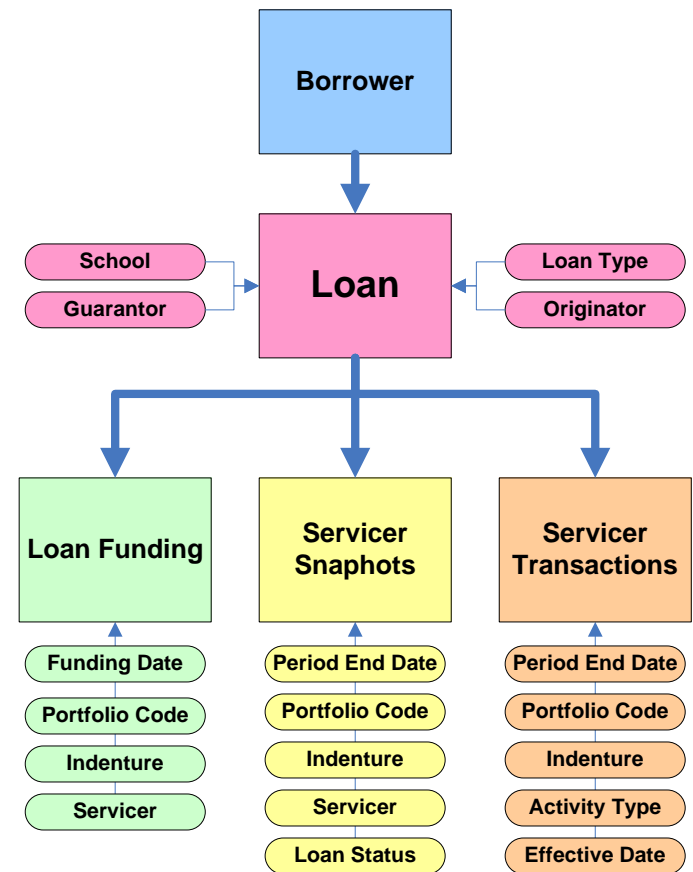


## Connecting Disparate Sources

- 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

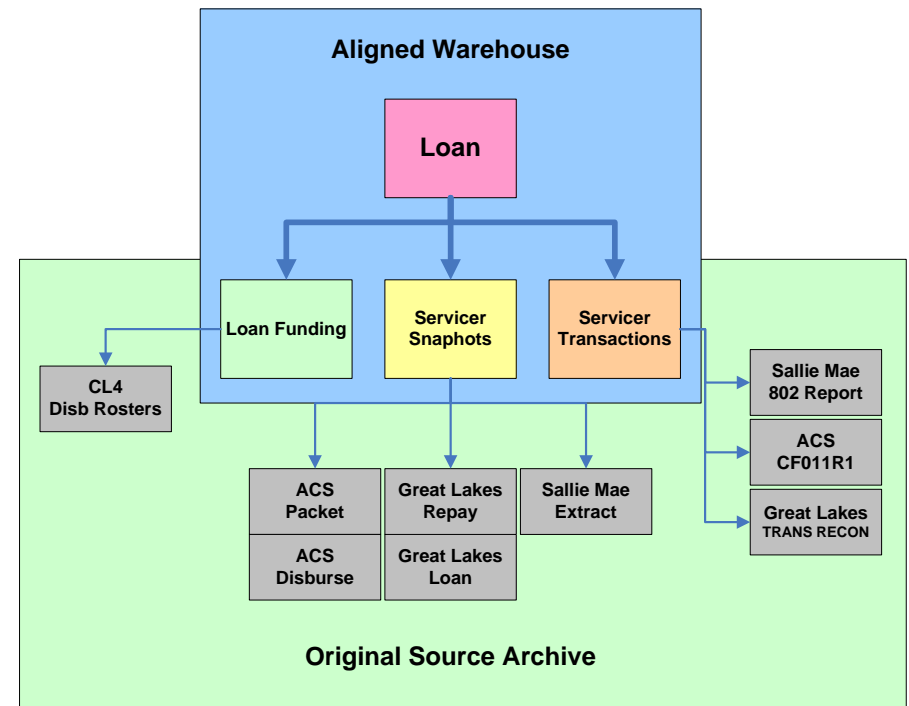
## Advantages of Relational OLAP

- 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**