

BBank Data Warehouse.

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About BBank

Location: 210 Whatever street, Syracuse NY

Main Products: Checking accounts, savings accounts and student loans.

Market: Undergraduate and Graduate students from Syracuse area.



20% Mission Statement

- Small, local bank focused on students (grad and undergrad) in Syracuse area.
- Main services provided are: checking accounts, savings accounts, student loans.

Business Reasons

- Our sponsors want to expand their online services and to improve reliability, performance and security.

Market

Smaller banks offer personalized services with little online support



Business Case

- BBank is looking to build a new Data Warehouse that supports the current system.
- They are not looking for to develop a new interface or change the existing systems.
- The new system should comply with GDPR and should be accessed all times of the day.

Expectations

- We intend to deal with expectations by documenting the solutions we are going to propose and by being clear and honest about its` capabilities and limitations.
- No development will be done until the project is clear and approved.

Business Process

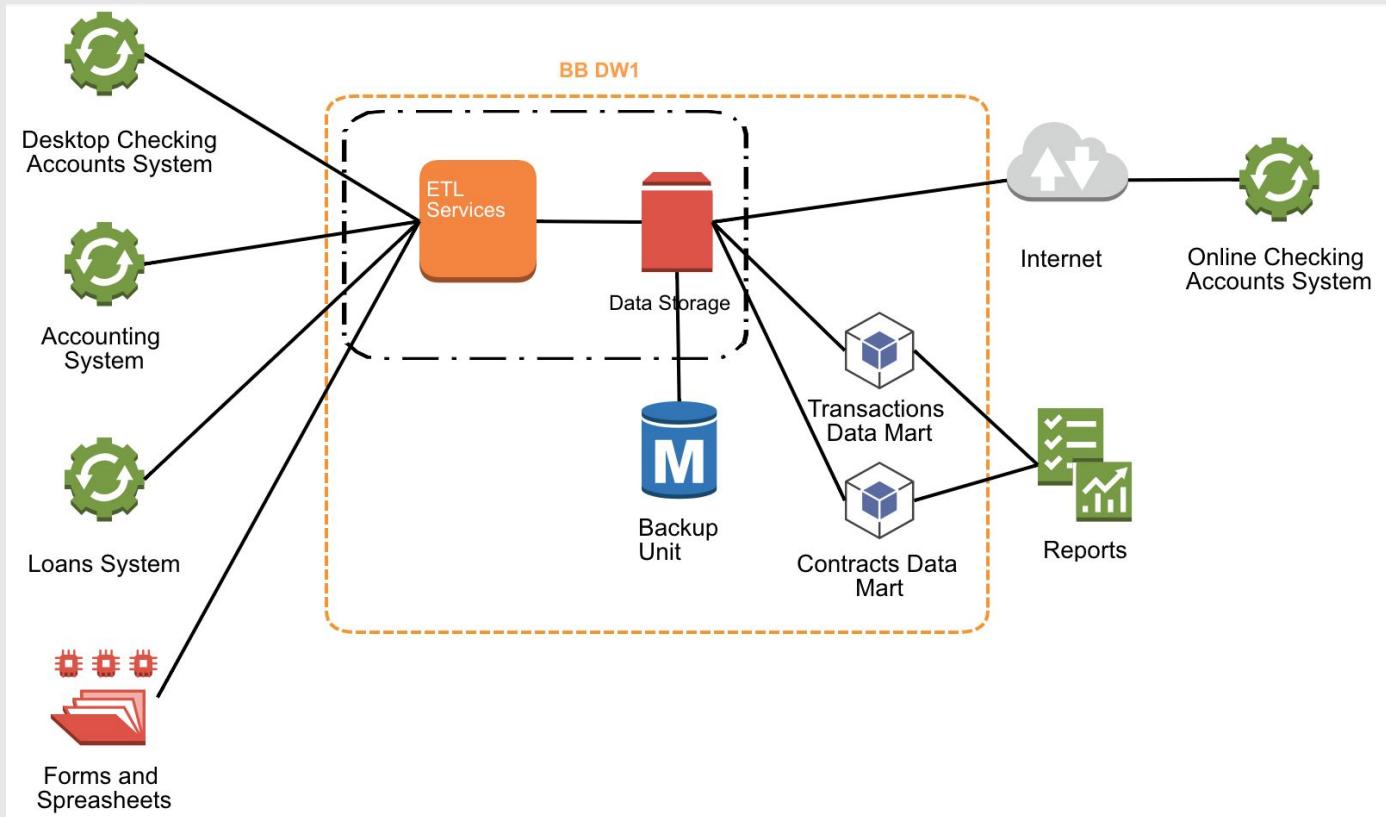
Interview Questions

- A. Why do you need to this data warehouse?
- B. When do you want this data warehouse?
- C. What are some of the requirements you want to implement?

Business Process:

- 1) Open/Close Checking Account: This process involves opening and closing new/ old checking account
- 2) Bank Transactions: Bank transactions is the process wherein transactions which are done get recorded
- 3) Hire student loan
 - a) Sign loan contract
 - b) Monitor payments
 - c) End contract
- 4) Monitor transactions - outliers

Project Overview



In Scope and Out of Scope Activities

In Scope

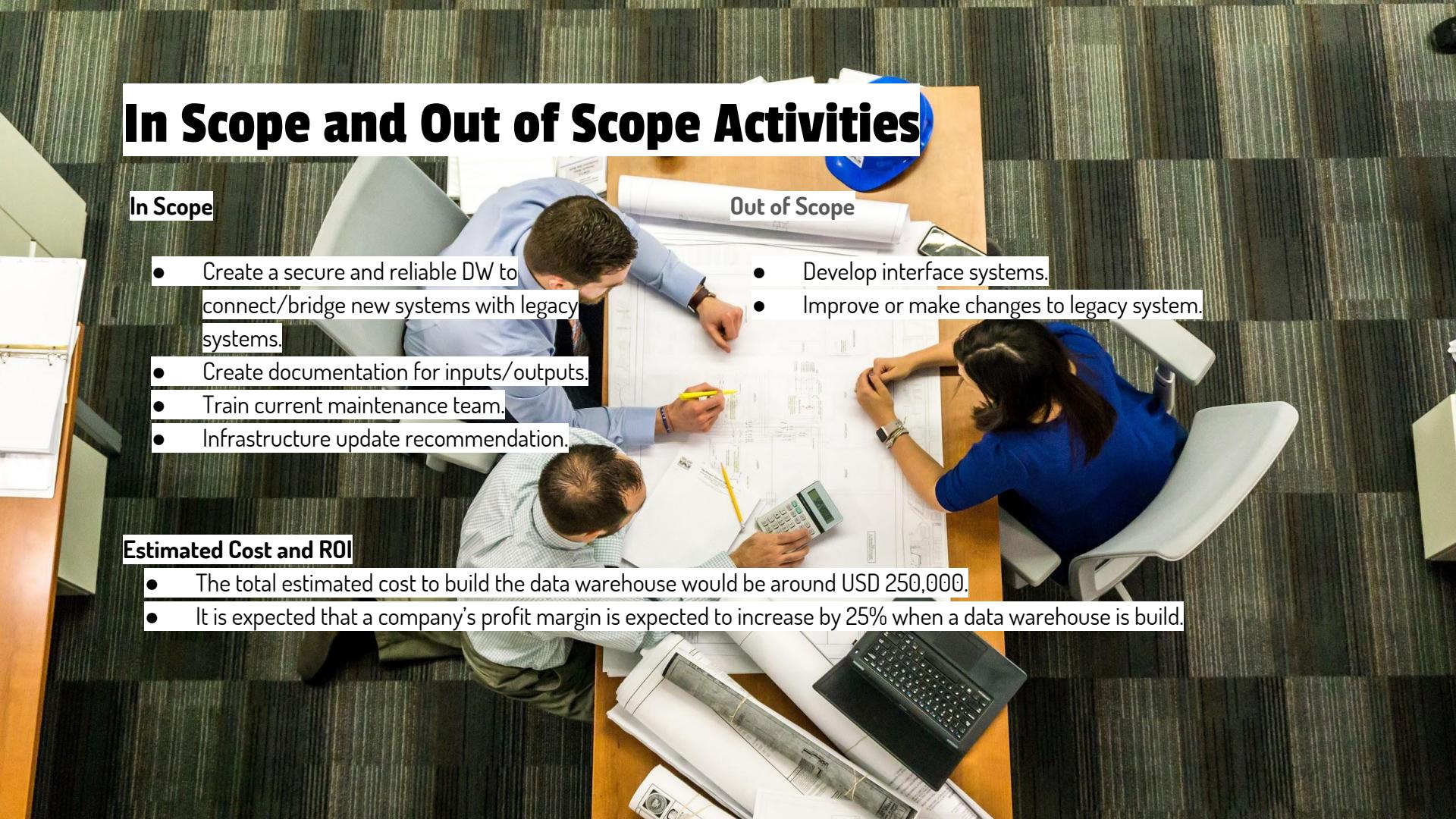
- Create a secure and reliable DW to connect/bridge new systems with legacy systems.
- Create documentation for inputs/outputs.
- Train current maintenance team.
- Infrastructure update recommendation.

Out of Scope

- Develop interface systems.
- Improve or make changes to legacy system.

Estimated Cost and ROI

- The total estimated cost to build the data warehouse would be around USD 250,000.
- It is expected that a company's profit margin is expected to increase by 25% when a data warehouse is build.



Implementation Plan

Step 1 : Step up development environment for the Data Warehouse

Step 2 : Hold our first sprint meeting about what should needs to be done with Data Warehouse this includes backlogs.

Step 3 : Make any development iterations to the Data Warehouse

Step 4 : Review current project process of the Data Warehouse

Step 5 : Make any development iterations

Step 6 : Benchmark the current Data Warehouse

Step 7 : Finish the current infrastructure setup

Step 8 : Make final development iterations

Step 9 : Benchmark (Test and Tune) Data Warehouse

Step 10 : Load in Legacy Data into Data Warehouse

Step 11 : Deploy Data Warehouse



BI Plan

Step 1: Interview Stakeholders to determine current and desired process and create summary of business requirements

Step 2: List out crucial business questions that need to be answered

Step 3: Draft of some of the first dashboards, list out the facts, dimensions and filters

Step 4: Closing



Project Teams

Implementation Team - More Technical

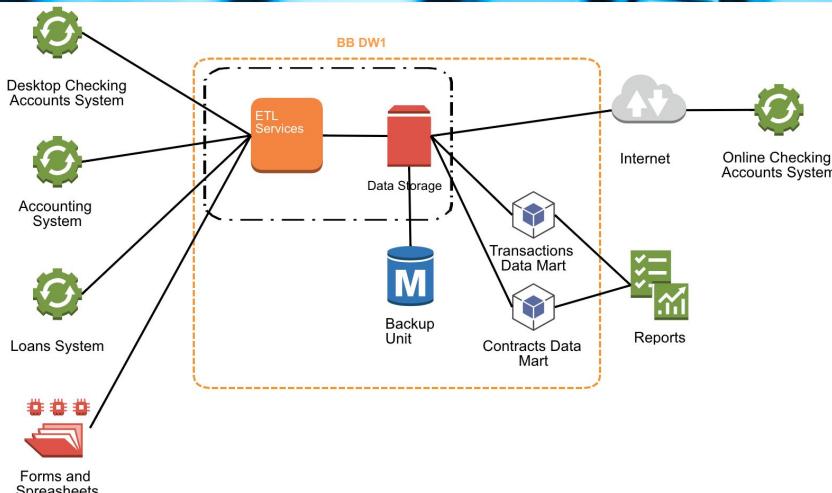
- 1 DW Designer
- 1 DW Developer
- 3 DQ Analyst (One from the bank)

Management Team - More Business Forward

- 1 Project Manager
- 1 Budget and Procurement Officer
- 1 Project Sponsor
- Board of the Directors

Bus Matrix

Design



Internet Interface - This is a two way interface where the online system may produce new data and input it through ETL process.

Reports - Those are internal or external reports built to provide information for the bank, customers or suppliers.

Data Sources - Desktop Checking Account System, Accounting System and Loans Systems.

ETL Systems - Specific ETL systems will be developed for each group of data on each source. ETL systems will extract the data from sources, make this data adequate to the DW, and then populating it.

Data Storage - This is the data base unit that will centralize all the data on the DW. The design of the dimensional database will be detailed on further topics of this report.

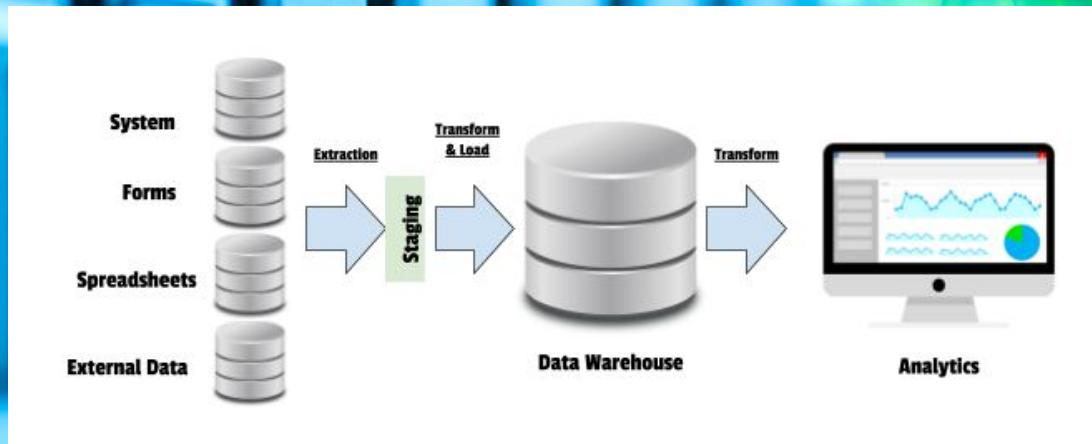
Backup Unit - Backup systems.

Data Marts - On the current version of the DW there will be two data marts, one for transactions and one for loan contracts.

Issues List

- Funding the project
- Purchasing the Infrastructure
- Not enough time to build the Data Warehouse
- Training the current employees on the Data Warehouse
- Making sure the legacy works with the new Data Warehouse we plan to implement
- Making sure the legacy data works with the new Data Warehouse we plan to implement
- Making sure the legacy and current data is secure
- Making sure the Data Warehouse complies with Business Regulation
- Maintaining the Data Warehouse we plan to implement
- Making sure that users of the Data Warehouse accept us build or/and support the new Data Warehouse
- Making sure the Data Warehouse is what the Banks wants
- Making sure the Data Warehouse is built with quality not just something that is put together.
- Making sure the Data Warehouse gets support from the stateholders
- Making sure we document everything that goes on with the Data Warehouse

ETL Process

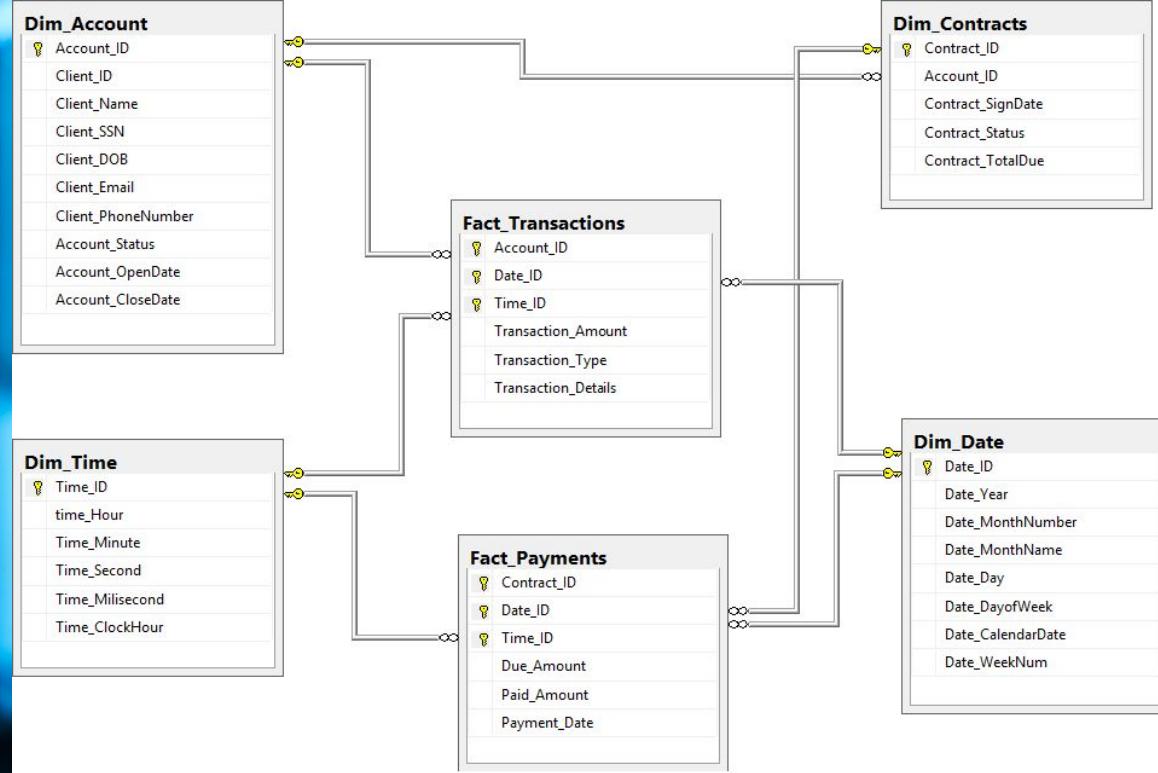


- There is going to be 4 databases (System, Forms, Spreadsheets, External Data)
- These sources need to be extracted and staged to be able to transformed and load into the data warehouse which can be transformed into Analytics.
- When data is extracted, we have to make sure the data is not redundant and making it is good consistent

SSIS



Star Schema



Data Dictionary

1. Dim_Accounts - Potential Clients and Market Opportunities

Column Name	Opt.	Format	Length	Description	Type of Key
Account_ID	yes	INT	Default	Unique ID for the dimension table	PK
Client_ID	no	INT	Default	Unique ID for a potential client	
Client_Name	no	VARCHAR	99	Potential client name	
Client_DOB	no	DATE	Default	Potential client birth date	
Client_SSN	no	INTEGER	9	Potential client social security number	
Client_PhoneNumber	yes	VARCHAR	10	Potential client phone	
Client_Email	yes	VARCHAR	50	Potential client email address	
Account_Status	no	BIT		Potential client account status	
Account_OpenDate	no	DATE		Potential client open date	
Account_CloseDate	no	DATE		Potential client close date	

Trends and Visualizations

1. Balance Report

- Users are the clients
- Transaction Information calculated to daily (available) balance

2. Accounting Report

- Users are accounting employee
- Transaction for all the clients
- Biggest transactions and outliers

3. Contracts

- Each clients and billing employee
- Data: Payments done, Payments due, Active Contracts



Maintenance and Support

Purge Data: The current plan is to move the older data out of the system by moving it to some less-expensive means of archival storage.

Tune the Performance: There may be times when we have to even revisit the data warehouse design and restructuring data. There may be times where we will need to defragment and rebuild indexes. We will need to clear out obsolete logs and other historical data.

Looking Deeper into Data insights: The stakeholders would require new reports which answers key business questions. To do this, we would dedicate a team that would look into the data, analyze it and then generate reports.

