**Solution Development Plan**

Solution: Publication Industries Sales

Owner: RRoot

Date: 01/01/12

Change Log

|  |  |  |
| --- | --- | --- |
| Who | When | What |
|  |  |  |
|  |  |  |

Summary

The Publication Industries Company wants a BI Solution that will provide sales information to managers and some employees. Currently reports have become more inaccurate and the solution must assist in solving that problem.

Expectations

1. The solution will store and present verified data.
2. The solution will allow for simple ad hoc queries.
3. The solution must include a data warehouse that is easy to use.
4. The solution should include an OLAP cube.
5. The solution should be simple to keep development and maintenance costs at a minimum.
6. A working prototype should be available in a short period of time.

OpenIssues

|  |  |  |
| --- | --- | --- |
| Who | When | What |
|  |  |  |
|  |  |  |

Closed Issues

|  |  |  |
| --- | --- | --- |
| Who | When | What |
|  |  |  |
|  |  |  |

# Solution Naming Conventions

ETL Staging Database (SQL Server)

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Convention | Example | Description |
| Table | EtlTableName | EtlTimeTable | A table used to temporarily hold data for the ETL process |
| View | vEtlViewName | vEtlCastAuthorsData | A saved select statement that provides ETL data |
| Stored Proc. | pEtlProcedureName | pEtlTransformAuthorNames | A set of saved statements that provides ETL data |
| Function | fEtlFunctionName | fEtlLookupValues | A saved select statement that provides ETL data |
| … |  |  |  |

Data Warehouse Database (SQL Server)

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Convention | Example | Description |
| Fact Table | FactTableName | FactSales | A table that holds measures and dimensional keys |
| Dimension Table | DimTableName | DimAuthors | A table that holds dimensional keys and descriptive dimensional attributes |
| View | vRptViewName | vRptSalesByTitle | A saved select statement used for reporting |
| Stored Proc. | pRptProcedureName | pRptSalesByTitle | A saved set of statements used for reporting |
| Function | fRptFunctionName | fRptSalesByTitle | A saved select statement used for reporting |
| … |  |  |  |

ETL Processing Objects (Integration Services)

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Convention | Example | Description |
| File Connection | NameOfFile | ZipCodeList.txt | A SSIS File connection object |
| Database Connection | ServerName.DatabaseName | LocalHost.Pubs | A SSIS DB connection object |
| Task | ObjectTypeObjectName | DataFlowLoadDimTitles | A SSIS task object |
| Container | ObjectTypeObjectName | SequenceContainerLoadFactTables | A SSIS container object |
| … |  |  |  |

OLAP Cube Database (Analysis Server)

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Convention |  | Description |
| Data Source | NameOfDataWarehouse | DWPubs | A SSAS Data Source |
| D.S. View | NameOfConnectionNameOfSubject | DWPubsSalesFacts | A SSAS Data Source View |
| Dimension | DimNameOfSubject | DimTitles | A SSAS Dimension |
| Cube | NameOfSubject | CubeSalesFacts | A SSAS Cube |
| … |  |  |  |

Report Objects (Reporting Services)

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Convention |  | Description |
| Shared Data Source | SharedObjectTypeNameOfSource | SharedDataSourceDWPubs | A DataSource that is shared between reports |
| Local Data Source | ObjectTypeNameOfSource | DataSourceDWPubs | A DataSource that is part on a individual report |
| Shared Data Set | SharedObjectTypeNameOfSubject | ShareDataSetSalesByTitles | A DataSet that is shared between reports |
| Local DataSet | ObjectTypeNameOfSource | DataSetSalesByTitles | A DataSet that is part on a individual report |
| Report Component | ObjectTypeNameOfSubject | TableSalesByTitles | A SSRS Report Component |
| … |  |  |  |

# ETL Staging Objects

ETL Staging Database Tables

None

ETL Staging Database Views

None

ETL Staging Database Stored Procedures

None

# Data Warehouse Objects

Data Warehouse Tables

Table Name: FactSales

Description: Holds fact about sales

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| OrderNumber | nVarChar(50) | A1234 | NA | NA | -1 |
| OrderDateKey | Int | 1 | Int Max | Int Min | A |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| StoreKey | Int | 1 | Int Max | Int Min | A |
| SaleQuantity | Int | 1 | Int Max | 1 | A, -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| OrderNumber | Yes | No | Yes | No | Yes | No |
| OrderDateKey | Yes | Yes | Yes | No | Yes | No |
| TitleKey | Yes | Yes | Yes | No | Yes | No |
| StoreKey | Yes | Yes | Yes | No | Yes | No |

Table Name: DimStores

Description: Holds data about stores

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| StoreKey | Int | 1 | Int Max | Int Min | A |
| StoreId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| StoreName | nVarChar(50) | ABC | NA | NA | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| StoreKey | Yes | No | Yes | No | Yes | No |

Table Name: DimTitles

Description: Holds data about titles

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| TitleId | nChar(6) | AB1234 | AA0001 | ZZ9999 | -1 |
| TitleName | nVarChar(100) | ABC | NA | NA | -1 |
| TitleType | nVarChar(50) | ABC | NA | NA | -1 |
| TitlePublisherKey | Int | 1 | Int Max | Int Min | A |
| TitlePrice | Decimal(18,4) | 1.0000 | Decimal Max | > 0 | -1 |
| PublishedDateKey | Int |  | Int Max | Int Min | A |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| TitleKey | Yes | No | Yes | No | Yes | No |
| TitlePublisherKey | No | Yes | Yes | No | No | No |
| PublishedDateKey | No | Yes | Yes | No | No | No |

Table Name: DimPublishers

Description: Holds data about publishers

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| PublisherKey | Int | 1 | Int Max | Int Min | A |
| PublisherId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| PublisherName | nVarChar(50) | ABC | NA | NA | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| PublisherKey | Yes | No | Yes | No | Yes | No |

Table Name: DimTitlesAuthors

Description: Holds data about the relationship between titles and authors

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| AuthorKey | Int | 1 | Int Max | Int Min | A |
| AuthorOrder | Int | 1 | Int Max | Int Min | A |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| TitleKey | Yes | Yes | Yes | No | Yes | No |
| AuthorKey | Yes | Yes | Yes | No | Yes | No |

Table Name: DimAuthors

Description: Holds data about authors

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| AuthorKey | Int | 1 | Int Max | Int Min | A |
| AuthorId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| AuthorName | nVarChar(50) | ABC | NA | NA | -1 |
| AuthorState | nChar(2) | WA | AA | ZZ | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| AuthorKey | Yes | No | Yes | No | Yes | No |

Table Name: DimDates

Description: Holds data about dates

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| DateKey | Int | 1 | Int Max | Int Min | A |
| Date | Datetime | 01/01/1900 | Datetime Max | Datetime Min | -1, A |
| DateName | nVarChar(50) | ABC | NA | NA | -1 |
| Month | Int | 1 | Int Max | Int Min | A |
| MonthName | nVarChar(50) | ABC | NA | NA | -1 |
| Quarter | Int | 1 | Int Max | Int Min | A |
| QuarterName | nVarChar(50) | ABC | NA | NA | -1 |
| Year | Int | 1 | Int Max | Int Min | A |
| YearName | nVarChar(50) | ABC | NA | NA | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| DateKey | Yes | No | Yes | No | Yes | No |

Data Warehouse Views

View Name:

Description:

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Source | Example | Max Value | Min Value | Invalid Examples |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

View Name:

Description:

Columns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Source | Example | Max Value | Min Value | Invalid Examples |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Data Warehouse Stored Procedures

Stored Procedure Name:

Description:

Input Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Output Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Selected Values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Return Codes

|  |  |  |
| --- | --- | --- |
| ID | Status | Description |
|  |  |  |
|  |  |  |

Error Codes

|  |  |  |
| --- | --- | --- |
| ID | Error Name | Error Message |
|  |  |  |
|  |  |  |

# OLAP Cubes Database Objects

OLAP Cubes

Cube Name:

Description:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Measure Name | Data Type | Example | Max Value | Min Value | Description |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Dimensions

|  |  |
| --- | --- |
| Dimension | Dimension Key |
|  |  |
|  |  |

OLAP Dimensions

Dimension Name:

Description:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Data Type | Example | Max Value | Min Value | Description |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Dimension Name:

Description:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Data Type | Example | Max Value | Min Value | Description |
|  |  |  |  |  |  |
|  |  |  |  |  |  |