



Microsoft Business Intelligence Tools (SSRS, SSIS & SSAS Technologies) – Case Study

Author	Madhu Bhushan. S
Reviewer	Dilip R
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Document History

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1. Introduction

SSRS stands for SQL Server Reporting Services. SSRS is used to create and manage Web-enabled reporting service. It is used to create and generate reports, to retrieve data from various data sources, and to publish reports in various formats.

SSIS stands for SQL Server Integration Services. SSIS has the ability to gather data from various resources in different kinds of formats, process this data, transform data and convert the processed data into any shape that you can use in your daily business as well as for data-mining and data warehouse applications.

SSAS stands for SQL Server Analysis Services. It stores, processes and secures data. It delivers OLAP (Online Analytical Processing) and data mining functionalities for applications. It is used to design, create and manage multi-dimensional structures that contain data aggregated from other data sources.

2. Client

Aspen Marketing Services:

Aspen Marketing Services highly operates on the Marketing services, which has clients like General Motors, AT & T and Autonation. This project is mainly concerned about the sales and services provided to the customers from dealers of the General Motors on a daily basis.

3. Requirement

ASPEN Reporting Portal is an easy to use, clutter free portal designed for the ASPEN Marketing services to help them evaluate the effectiveness of Smart Touch 2.0 program. The Portal provides a set of reports categorized into Marketing, Services and Sales verticals. Reports are generated at both the Corporate and the individual Dealer levels. The reporting features include filtered based search and drill down on data at different levels and dimensions. The portal is designed to have a secure and privileged access to data Built on the SQL server reporting, analysis and Integration services, these reports were provided with significant flexibility and scalability.

- Downloading the Files from FTP.
- Importing the data from the files into database and processing them.
- Showing the Information of the customers for each dealer according to the Sales or Service Category.
- Sending emails to customers based on the subscription intervals.
- Generating the Sales ROI.
- Role based Reports Accessing.

Dealer Marketing Programs:

Aspen Portal is a groundbreaking all-inclusive Web interface for automotive dealers and features Aspen's leading proprietary tools including: **e-Strike, Dealer Advantage, Business Central Advantage, Quick Strike, INP and Recall programs**. Combining all of these components in one place, affords dealers access to today's most complete user-friendly and state-of-the-art technology solution for security level, enrollment and reporting in the automotive industry. **Aspen CRM** platform allows dealers to create email, mail and personalized telephone service campaigns for both sales and services that ensure customers always reach a representative to schedule services such as sales, maintenance appointments and oil changes. Within Aspen Portal, these tools combine to help dealer's foster successful longstanding relationships with clients while realizing legitimate **ROI** goals on marketing dollars spent.

- Downloading the Files from FTP.
- Importing the data from files into the database and processing them.
- Dynamically generating the tables based on the campaign being processed.
- Generating the production files and uploading them to Client FTP site.
- Reports for showing the Production file counts for each dealer.
- Reports for showing the Manifest counts for each dealer.

4. Solution

ARS Project:

Downloading the files from FTP:

For downloading the files from FTP we have written a service to monitor the FTP and fetch the file from source FTP location to the destination local system and process them.

Automated Daily Feed Processing:

The daily data feed has been automated using the SSIS packages which includes the ETL, Staging and processing the master data for the reports.

High Performance Reporting:

The reports are developed using SSRS and SSAS which have enabled a faster retrieval and ease to access data.

Report Subscription:

Report Subscription facility enables privileged users to configure for periodic subscriptions of various reports and be able to receive up to date report information in the format selected on a regular basis through E-mails.

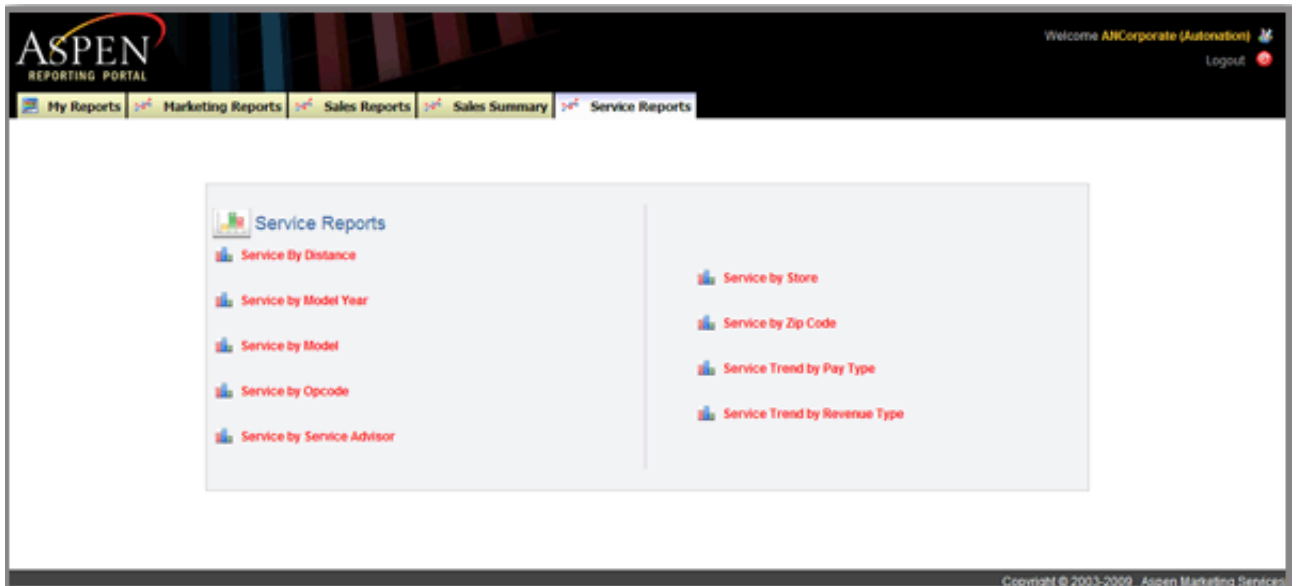
Analyzing the data from Database:

Using the SSAS we create cubes, based on the requirement, like viewing the number of sales for a dealer in a particular region during a year, or Number of sales during a week or number of Sales in a Day etc.,

Role Based Report Accessing:

Using SSRS, we can create role based access to the users that is, we can restrict the user from viewing the reports which has secured information based on the role assigned for the users.

Reports landing page:



Drill through Report:

Print Back Forward Email Subscribe Select Dealer Refresh

Period: Year To Date From Date: 1/1/2009 To Date: 7/2/2009

Campaign Type: All Campaign: All Brand: All Make: All

SmartTouch 2, Program ROI for Automation
Year to Date: From 1/1/2009 to 7/2/2009
Campaign Type: All, Campaign: All, Brand: All, Make: All
Campaign response measurement is not complete until all data through 5/15/2009 is analyzed

Drill down component

Action	Solicitation Method				Total Sales	Total Gross	Response						
	Total	Mail	Direct Mail	Phone			Orders	Response Rate	Response	Response Rate	Response	Response Rate	Response
Web-based Response													
Direct Mail (Direct Mail)	10,195	10,195	2,202	0	\$20,588	\$146,367	1,444	1,171	11.7%	\$28.10	\$10.10	\$8.72	\$46.55
Marketing Quizzes Welcome	25,443	25,443	2,477	0	\$554,065	\$495,643	2,524	2,240	8.8%	\$381.65	\$205.41	\$7.27	\$52.50
Total	35,637	35,637	4,679	0	\$1,185,458	\$992,712	4,132	3,482	9.9%	\$340.50	\$174.23	\$5.72	\$59.27
Web-based Response (Phone)													
Marketing Quizzes (Phone)	475,466	475,466	40,188	0	\$9,185,150	\$4,369,222	22,428	24,121	11.8%	\$383.54	\$143.41	\$5.21	\$47.24
Follow-up (Phone)	87,847	87,847	27,540	0	\$7,264,666	\$1,471,478	74,840	27,240	15.1%	\$264.70	\$140.76	\$4.01	\$30.03
Total	563,313	563,313	67,728	0	\$16,449,816	\$5,840,700	97,268	51,361	17.5%	\$324.13	\$142.10	\$3.70	\$31.11
Web-based Response (Email)													
Web-based Response (Email)	15,777	15,777	1,690	0	\$366,439	\$138,151	1,000	1,045	9.7%	\$264.47	\$241.74	\$6.93	\$35.01
Total	15,777	15,777	1,690	0	\$366,439	\$138,151	1,000	1,045	9.7%	\$264.47	\$241.74	\$6.93	\$35.01
Web-based Response (Other)													
Direct Mail (Other)	10,100	10,100	3,200	0	\$1,112,708	\$5,210,192	1,000	2,721	0.0%	\$100.10	\$221.02	\$8.27	\$11.02
Marketing Quizzes (Other)	10,100	10,100	1,000	0	\$4,000,000	\$7,000,000	1,000	1,000	1.0%	\$400.00	\$700.00	\$10.00	\$10.00
Direct Mail (Other)	10,100	10,100	1,000	0	\$1,112,708	\$5,210,192	1,000	2,721	0.0%	\$100.10	\$221.02	\$8.27	\$11.02
Total	30,300	30,300	5,200	0	\$6,225,416	\$17,420,384	3,000	6,442	0.0%	\$200.20	\$422.02	\$16.54	\$22.02
Overall Response Totals	726,230	726,230	87,074	0	\$22,675,164	\$12,202,710	37,132	75,703	10.7%	\$287.56	\$147.26	\$6.32	\$47.32

Dealer Advantage and Business Central Advantage:

DA & BCA are two programs designed to get the enrollment information of the dealer on to the portal. The Dealer undergoes 5 enrollment steps to get enrolled in a campaign. Once the dealer gets enrolled he can update the information regarding the total number of mailings for customers to that particular campaign.

Automating the Production Files Generation Process:

- Downloading the FTP Files using FTP File Watcher Service.
- Using SSIS Packages to load the data to ETL Database.
- Moving the data from ETL Database to the ProductionTables generating these tables dynamically.
- Generating the Production Files and uploading them to the Client FTP location using SSIS Packages.
- Creating Stored procedures and functions (as per Requirement).
- Generating the SSRS Reports for the Production Table data.

SSIS Packages:

