

# DATA WAREHOUSING in Profitbase Tool

## ABOUT THE CLIENT

Client is a **Durable Medical Equipment (DME) company** based in the U.S. and operating in almost all the states

### SITUATION



- Client had an opportunity to build a new database structure by restructuring the existing reporting infrastructure and migrate the Tableau reporting infrastructure of the newly acquired entity on Profitbase environment in order to improve the ease of data consumption & streamline the data flow.
- Merilytics partnered with the client to align their new Tableau reports with the existing reporting structure. Also, restructured the existing Data Warehouse to build Dimension and Fact tables to improve the overall quality of reporting.

### VALUE ADDITION



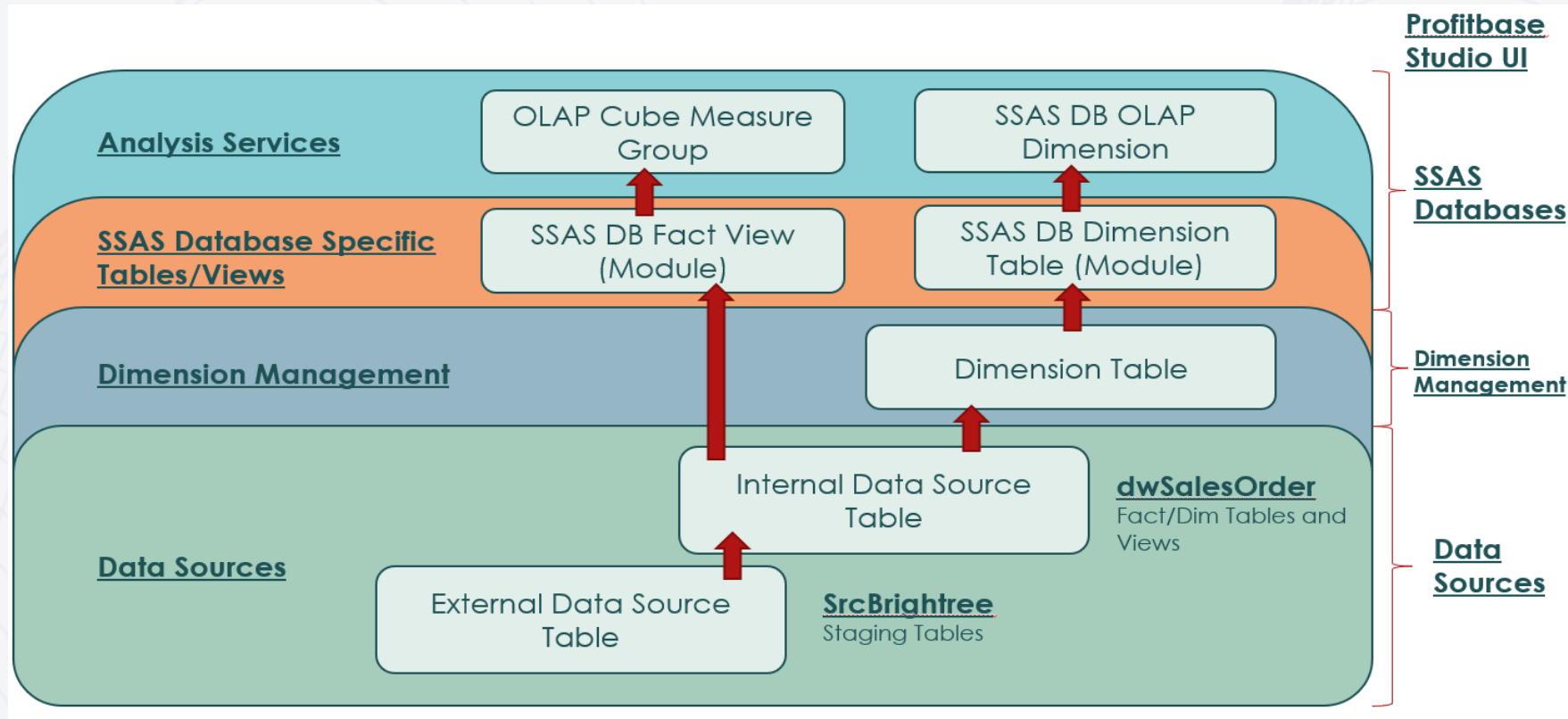
- Easy to maintain consolidated data. Profitbase UI is very easy on the eye and very intuitive, no need to write very large codes to build a data warehouse only a drag and drop will be sufficient.
- The automation of data flow was easily done using Profitbase studio data management system
- Profitbase has in-built ETL processes to streamline the data flow and building the customized multidimensional cube easily

### IMPACT



- Enabled the client to use a data source for multiple reports instead of creating multiple views, and reduced the duplication of the data
- Reduced the transition time of any new company acquisitions
- Enabled fail secure data refresh process

# APPROACH AND METHODOLOGY USED IN CREATING A DATA WAREHOUSE IN PROFITBASE



- There are three main areas in a Profitbase Studio solution: **Data Sources**, **Dimension Management**, and **SSAS Databases**. Data arriving in the solution is first staged in an External Data Source table. From there the data can be moved into another Internal Data Source table where additional transformations may be applied. From here the data can take one of two paths (see Figure 1 above).
- Dimension data is saved in two additional places on the way to Analysis Services: a general, “template” dimension table and a SSAS module (database) specific dimension table. There is no additional UI that provides visibility into the contents and status of the SSAS module specific dimension table. In order to browse the data available in a module specific dimension table one must query it from SQL Server Management Studio.

# PROFIT BASE MAIN VIEW

Profitbase Studio 6.5

File Tools Help

Navigator

- Adapt Health
  - SSAS Databases
    - Adapt Health OLAP
    - Long Term Revenue Trends OLAP
    - Long Term Revenue Trends OLAP Validation
    - Merilytics OLAP
  - Data Warehouse Output
  - Dimension Management
    - Dimensions
    - Time Dimensions
  - Data Sources
    - dwARActivity
    - dwCommon Dimensions
    - dwResource Library V2
    - dwSalesOrders
    - rptTableau
    - srcAHRReporting
    - srcBrighttree
    - srcBrighttreeExtracts
    - srcMDS\_AdaptHealth
    - srcMerilytics
    - srcMPCS
  - Operation Management

Start

Main

Solution Management

Module Management

Dimension Management

Data Source Management

Operation Management

Templates, Name Definitions

Activities

Status Overview Comments / ToDo List

Solution: Adapt Health Created 2/15/2020 by QMES\zleblanc

### Modules

- Merilytics OLAP**  
Status: ✓ ✓  
Number Of Cubes: 0  
Last Processed: 8/27/2020 2:36 PM
- Long Term Revenue Trends OLAP Validation**  
Status: ✓ ✓  
Number Of Cubes: 0  
Last Processed: 8/27/2020 2:35 PM
- Long Term Revenue Trends OLAP**  
Status: ✓ ✓  
Number Of Cubes: 0  
Last Processed: 8/20/2020 4:57 PM
- Adapt Health OLAP**  
Status: ✓ ✓  
Number Of Cubes: 0  
Last Processed: 8/27/2020 2:35 PM

### Dimensions

- Touch Type**  
Status: ✓  
Last Generated: 6/4/2020 3:00 PM
- TimeFunction**  
Status: ✓  
Last Generated: 2/19/2020 2:00 PM
- Tableau**  
Status: ✓  
Last Generated: 9/2/2020 12:00 PM
- Stop Hold**  
Status: ✓  
Last Generated: 9/2/2020 12:00 PM
- SODimSmall**  
Status: ✓  
Last Generated: 7/27/2020 9:33 AM
- SODim**  
Status: ✓  
Last Generated: 9/2/2020 4:56 AM
- SalesRep**  
Status: ✓  
Last Generated: 9/2/2020 4:55 AM

### Data Sources

- srcMPCS**  
Status: ✓  
Last Data Update: 4/22/2020 10:41 AM
- srcMerilytics**  
Status: ✓  
Last Data Update: 9/2/2020 12:00 PM
- srcMDS\_A**  
Status: ✓  
Last Data Update: 9/2/2020 12:00 PM
- srcBrighttree**  
Status: ✓  
Last Data Update: 9/2/2020 5:09 AM
- srcBrighttree**  
Status: ✓  
Last Data Update: 7/30/2020 5:12 PM
- srcAHRReporting**  
Status: ✗  
Last Data Update: 8/25/2020 1:51 PM
- rptTableau**  
Status: ✓  
Last Data Update: 8/26/2020 3:50 PM



# DIMENSION TABLE

rw_IntdwCommonDimensions_DimW_Mer_Dim_Facility											
<div> <div>Refresh</div> <div>View</div> <div>Timeout: 60</div> <div>Row limit: 10000</div> <div>Row Count: 10000</div> </div>											
DataSourceID	FactSourceTableID	uFacilityid	FacilityKey	dwFacilityID_SKEY	InitialReferralDate	InitialSalesRepKey	FacilityName	FacilityID	FacilityName	FacilityID	FacilityName
dwcommondimensi897	merdimfacility1576	131885	82061	1			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	44973	27256	2	Friday, April 4, 2014 1...	144	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	29166	2830	3	Friday, May 25, 2018 9...	202	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	19298	9101	4	Tuesday, July 11, 2017...	147	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	119211	2203	5	Monday, February 5, 20...	166	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	111799	102073	6	Wednesday, May 22, 2...	128	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	42785	24707	7	Wednesday, March 6, 2...		Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	129484	33545	8	Tuesday, June 26, 201...	118	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	57500	76225	9	Monday, February 18, 2...	123	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	24612	281	10	Monday, May 22, 2017...	163	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	66161	56147	11			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	17567	6893	12	Wednesday, April 6, 20...	179	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	114673	44624	13	Monday, July 16, 2018...	129	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	103591	50166	14	Monday, March 5, 2018...	144	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	67100	81062	15	Friday, June 28, 2019 1...	120	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	14076	2280	16	Tuesday, March 11, 20...	142	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	24969	669	17	Tuesday, January 24, 2...	116	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	123819	27312	18	Thursday, March 22, 20...	133	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	135502	29747	19	Tuesday, March 13, 20...	138	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	140733	21132	20	Thursday, March 22, 20...	107	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	97946	35209	21	Wednesday, March 21, ...	126	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	11605	929	22	Monday, September 20...	122	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	170	321	23			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	54471	94801	24	Monday, March 12, 201...	167	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	59562	36148	25			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	152621	25701	26	Monday, January 28, 2...	139	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	130707	16270	27	Wednesday, March 7, 2...	145	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	34994	20077	28	Thursday, January 10, ...	281	Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	146219	100454	29			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	155681	54377	30			Churchville CH...	131885	CH...	131885	CH...
dwcommondimensi897	merdimfacility1576	4400	590	31	Thursday, October 4, 2...	132	Churchville CH...	131885	CH...	131885	CH...

Facility Dimension table to maintain all the attributes of the Facility in a single place.

# FACT TABLE

vw_AdaptHealth_IntdwARActivity_Fact_ARActivity												
DataSourceID	FactSourceTableID	AA	Adjust	Allow	AppliedPayment	Charge	CostAmt	dwBranchID	dwBranchID_SKEY	dwConfirmedByID	dwCreatedByID	
dwaractivity1942	aractivity1963		-5.83					108StLukesHS	114	9123	28444	
dwaractivity1942	aractivity1963			83.27		166.54		107StLukesHS	102	9123	13904	
dwaractivity1942	aractivity1963		9.22					1170HH	183	7242	15025	
dwaractivity1942	aractivity1963		-10.37					1200HH	198	7242	15025	
dwaractivity1942	aractivity1963							1170HH	183	10414	15025	
dwaractivity1942	aractivity1963							1020HH	14	4758	32932	
dwaractivity1942	aractivity1963		-1.21					193StLukesHS	397	9123	18931	
dwaractivity1942	aractivity1963		-2.44					190StLukesHS	391	9123	32649	
dwaractivity1942	aractivity1963							200StLukesHS	407	9123	24266	
dwaractivity1942	aractivity1963		17.47					190StLukesHS	391	9123	26442	
dwaractivity1942	aractivity1963		6.06					198StLukesHS	405	9123	34149	
dwaractivity1942	aractivity1963							190StLukesHS	391	22446	32649	
dwaractivity1942	aractivity1963							190StLukesHS	391	9123	32649	
dwaractivity1942	aractivity1963		-17.32					193StLukesHS	397	9123	25957	
dwaractivity1942	aractivity1963				19.64			164StLukesHS	333	9123	17278	
dwaractivity1942	aractivity1963							136StLukesHS	249	9123	26414	
dwaractivity1942	aractivity1963							193StLukesHS	397	9123	18931	
dwaractivity1942	aractivity1963		-1.15					220StLukesHS	427	9123	17249	
dwaractivity1942	aractivity1963							108StLukesHS	114	9123	4931	
dwaractivity1942	aractivity1963							108StLukesHS	114	9123	33795	
dwaractivity1942	aractivity1963	0.30						108StLukesHS	114	9123	26474	
dwaractivity1942	aractivity1963			4.22		5.49	0.00	198StLukesHS	405	9123	25957	
dwaractivity1942	aractivity1963							190StLukesHS	391	9123	23758	
dwaractivity1942	aractivity1963		10.60					1020HH	14	7242	31475	

ARActivity Fact table to maintain all the measures, and only foreign keys to reduce the processing and the storage



# PROFIT BASE DATA SOURCE (ARActivity)

Profitbase Studio 6.5

File Tools Help

Navigator

- Adapt Health
  - SSAS Databases
  - Data Warehouse Output
  - Dimension Management
  - Data Sources
    - dwARActivity
      - Dimension Tables
      - Parent/Child Dim Tables
      - Fact Tables
        - ARActivity
        - ARActivityFact
        - ARActivityFact\_LTRTrend
        - RevenueBudget
        - RevenueBudgetV1
      - Other Tables
      - Tag Value Tables
    - dwCommon Dimensions
    - dwResource Library V2
    - dwSalesOrders
    - rptTableau
    - srcAHRReporting
    - srcBrighttree
    - srcBrighttreeExtracts
    - srcMDS\_AdaptHealth
    - srcMerilytics

Start

Main

Solution Management

Module Management

Dimension Management

Data Source Management

Operation Management

Templates, Name Definitions

Data Source Table

Save Reset Process Tasks and Data

Main Settings

Name: ARActivity

Type: Fact (Fact Table)

Description:

Comments:

Status Source Mappings Options Script Extensions

Source Settings

Edit Source Query View Source Table

Source location: Data Warehouse

Source data: ☐ Table or view ☒ SQL source query ☐ Edit table ☐ PoSh source script

SQL expression: SELECT t1.AA, t1.Adjust, t1.Allow, t1.AnnliedPavment.

Column Mapping

New Delete Map Source Columns Multi Column PK/Index Edit Column Expression View SQL Expression Preview Table Show Source Mapping Pane

Fact Column	Primary Key / Index	Source Expression	Comments
AA		AA	
Adjust		Adjust	

Reload Settings

# PROFIT BASE CUBE (LONG TERM REVENUE TRENDS OLAP)

Profitbase Studio 6.5

File Tools Help

Navigator

- SSAS Databases
  - Adapt Health OLAP
  - Long Term Revenue Trends OLAP**
    - Long Term Trends
      - AR Activity
      - brEmployeeBTUser
      - Revenue Budget
      - SalesOrder
      - TableauAccess
      - TableauAccessBudget
      - TimeMeasures
      - Unique Sales Orders
    - Script Extensions
    - Assign User Access
  - Long Term Revenue Trends OLAP Validation
  - Merilytics OLAP
- Data Warehouse Output

SSAS Multidimensional Database Settings

Save Reset Tasks and Data

Main Settings

Name: Long Term Revenue Trends OLAP Description:

Start date: Wednesday, January 1, 2014


End date: Friday, January 1, 2021


Language(s): ☒ (EN) English

Comments:







Status Dimension Settings SSAS Connection Settings Advanced SSAS Settings Target DW Connection Settings Script Extensions

Module Status: [History](#) [Log](#) [Dependent On](#) [Used By](#) [Override Status](#) [Documentation](#) SSAS Status: [History](#) [Log](#) [Dependent On](#) [Override Status](#)

 DW: SSAS Database: Long Term Revenue Trends OLAP (longtermrevenue2232)  
Auto Update Processing completed OK.  
Processing started: 8/20/2020 4:57 PM, duration: 00:00:12  
Note: Configuration has changed after last processing.

 SSAS Database Consumer: Long Term Revenue Trends OLAP  
NA Processing completed OK.  
Processing started: 9/2/2020 5:27 AM, duration: 00:04:45

Load detailed SSAS status ☒ Sync status

Item	Type	Status DW	Processed DW	Status SSAS	Processed
pbOLAP_LongTermRevenueTrendsOLAP	SSAS Database	Processed OK, config newer!	8/20/2020 04:57:28	Processed	 8/27/2020
+ Long Term Trends	Cube	Processed OK	9/2/2020 05:27:57	Processed	 9/2/2020 0
+ + Unique Sales Orders	Measure Group	Processed OK	7/14/2020 06:39:43	Processed	 9/2/2020 0
+ + Revenue Budget	Measure Group	Processed OK	4/28/2020 03:34:37	Processed	 9/2/2020 0
+ + brEmployeeBTUser	Measure Group	Processed OK	6/4/2020 10:39:33	Processed	 8/27/2020
+ + SalesOrder	Measure Group	Processed OK	7/14/2020 06:39:43	Processed	 9/2/2020 0

# PROFIT BASE ETL PROCESS (SALES ORDER)

