

SUCCESS STORIES - SUMMARY

Project Name	Client	Brief Description	Services
Integration of healthcare EMR system to Azure data warehouse	Women's healthcare provider	Integrated both On-premises and Cloud Hosted eCW (eClinicalWorks) servers with Azure Synapse Data Warehouse environment	<ul style="list-style-type: none">• Data integration of healthcare EMR (eClinicalWorks) system in Azure data warehouse• Secure bridge between eCW and Azure DW using Azure resources and custom processes

INTEGRATION OF EMR SYSTEM WITH AZURE DW FOR A WOMEN'S HEALTHCARE PROVIDER

ABOUT THE CLIENT

Client is a U.S. based leading specialty women's health physician group offering patient care in obstetrics and gynecology.



SITUATION

- Client lacked direct access to RCM and EMR data present on eClinicalWorks (eCW) platform and only relied on Enterprise Business Optimizer (EBO) for custom reports.
- Merilytics partnered with the client to **build data pipelines** for bringing EMR data from eCW into Enterprise Data Warehouse on Azure Synapse



VALUE ADDITION

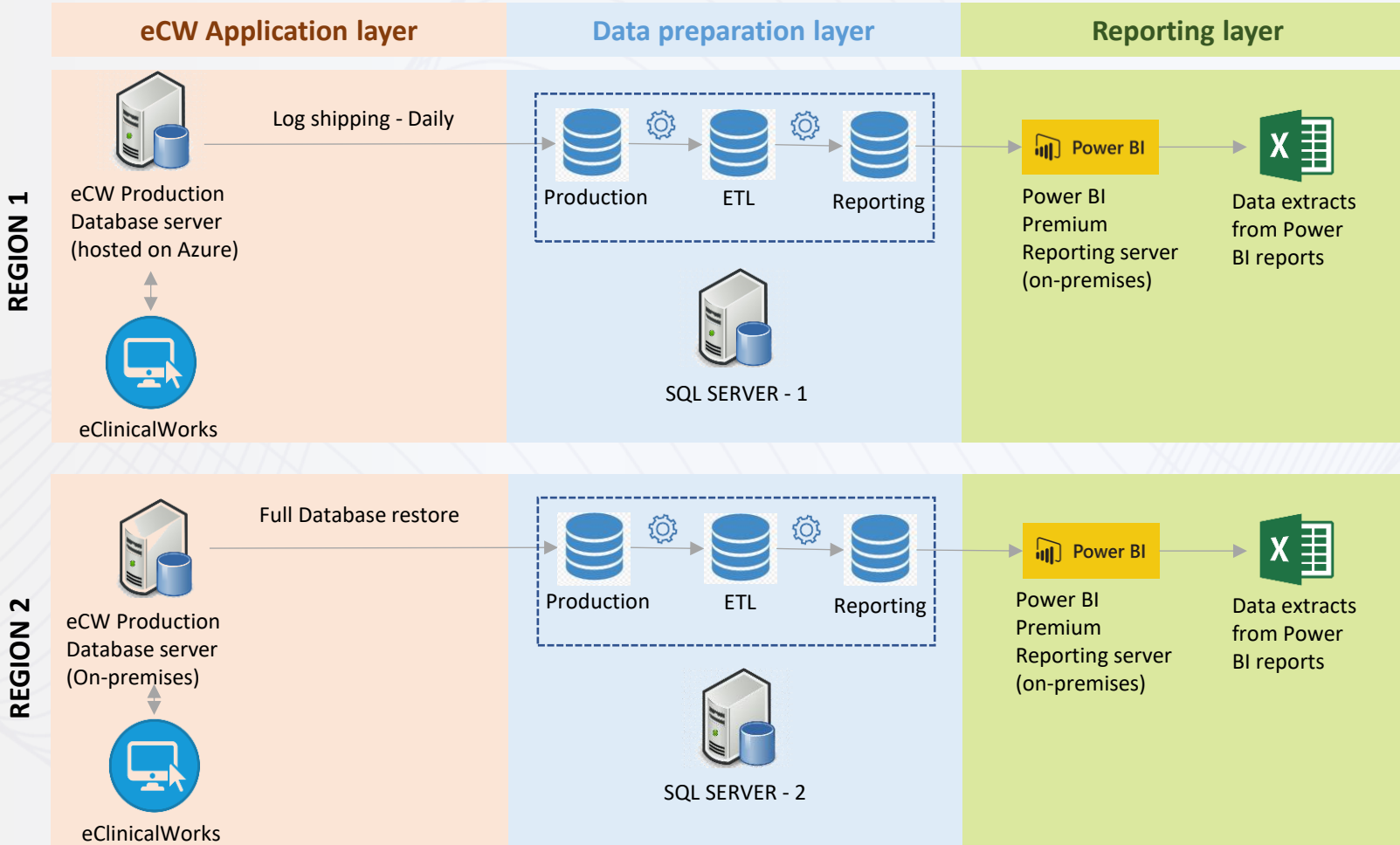
- Assessed the current data architecture of Azure Synapse data warehouse and the eCW platform
- Analyzed security restrictions on moving data from both eCW production environments – On-premises and Cloud Hosted
- Created a cloud-based log shipping process using Azure VM for cloud hosted eCW server
- Created Integration runtime link with Azure Synapse to transfer data from On-premises eCW server



IMPACT

- Integration of eCW data into Azure data warehouse reduced the data availability lag from 2 days to 1 day, and thus, making prior day's data available for reporting purposes
- Integration of both cloud hosted and on-premises data server enabled the client to have a single source of truth and provided the accessibility to data across all regions at one place.

PRIOR DATA ARCHITECTURE



Observations on prior architecture:

Data Structures



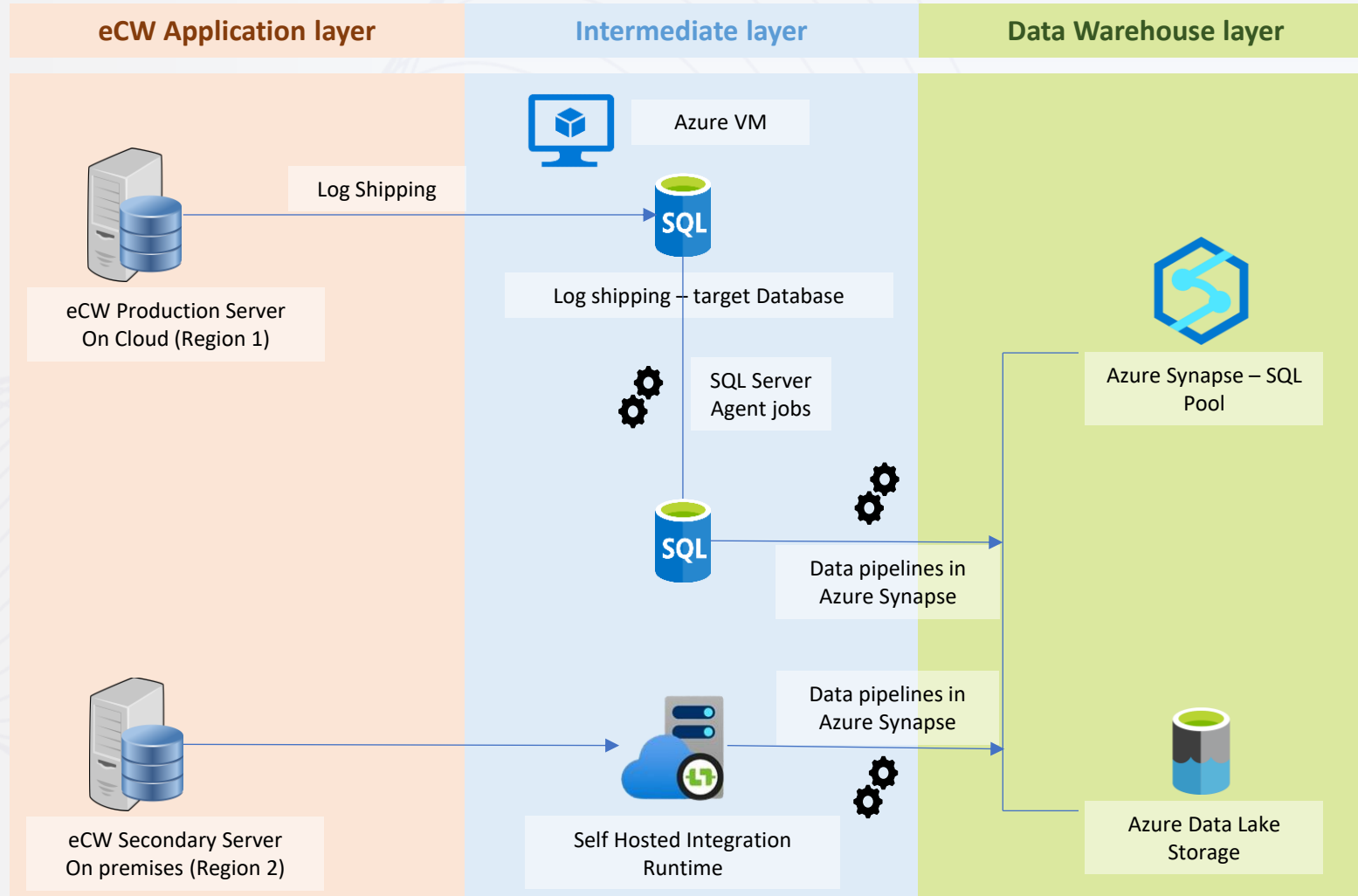
- Production database was hosted on **Azure cloud** for Region 1 and **on-premises server** in Region 2
- Client was restoring data in the on-premises environment using **incremental logs in Region 1** and **full database backup restore in Region 2**
- Set of 3 databases were used for data movement using SSIS packages and stored procedures

Reporting and Analytics



- Data from reporting database was used to feed **“paginated reports” (RDLs) on the Power BI reporting server (on-premises)**

DATA ARCHITECTURE IMPLEMENTED



Region 1 – Cloud hosted eCW Server

- Hosted two SQL Databases on Azure VM, where the log shipping process is carried on; and restored the Region 1 database.
- The selected tables for reporting are copied into a copy database.
- Data pipelines are created to ingest data into Azure Synapse on daily basis.
- Overall restoring and data capturing time is reduced to 1 day due to faster compute power on cloud and selective copy process instead of complete database restore.

Region 2 – On premises eCW Server

- Integration runtime is installed on Azure VM which creates link between Azure Synapse and Secondary server on eCW (eCW doesn't allow direct access to production from security standpoint).
- Data pipelines are created to ingest data into Azure Synapse on daily basis.

Data from Azure Synapse is then further used for data modeling and reporting.

EXHIBITS #1 Old Report

Separate report for each Region
with no user selected slicers

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<div>merilytics</div> <div>VISIT ENCOUNTERS REPORT</div> <div>Executed On Executed By</div> <div>Selected Date Merilytics</div>												
Unit	Dec.	Nov.	Oct.	Sep.	Aug.	Jul.	Jun.	May.	Apr.	Mar.	Feb.	Jan.
WCF Total	52,416	54,784	55,855	57,152	56,623	52,432	58,172	52,628	56,122	59,124	52,401	50,331
Unit 1	1,021	1,133	1,110	1,177	1,290	1,132	1,313	1,127	1,269	1,243	1,108	1,156
Unit 2	2,917	3,238	3,266	3,340	3,016	2,808	3,090	2,878	3,243	3,288	2,849	2,985
Unit 3	1,895	2,077	1,942	1,814	1,698	1,703	1,970	1,894	2,090	2,024	1,522	
Unit 4	2,739	3,084	3,050	3,044	3,039	3,003	3,357	3,000	3,040	3,414	2,920	3,010
Unit 5	1,985	1,861	2,077	1,997	1,988	1,961	2,109	1,882	2,151	2,063	1,814	1,847
Unit 6	1,379	1,319	1,462	1,402	1,188	1,146	1,355	1,142	1,122	1,438	1,191	1,066
Unit 7	1,173	1,129	1,215	1,177	1,175	963	1,239	1,074	1,167	1,213	1,197	1,152
Unit 8	2,632	2,982	2,994	3,098	3,169	2,756	3,178	2,909	2,978	3,196	2,784	2,506
Unit 9	1,556	1,817	1,787	2,002	1,734	1,990	2,180	2,141	2,210	2,205	2,104	1,905
Unit 10	2,649	2,745	2,779	2,923	2,970	2,851	2,886	2,430	2,629	2,711	2,351	2,438
Unit 11	2,170	2,157	2,304	2,219	2,256	2,133	2,159	2,011	1,919	2,205	1,922	2,009

EXHIBITS #1 New Dashboard

Single dashboard for all Regions
with other data slicers

