CASE STUDY

STREAMLINING VERTICAL DATA INTEGRATION FOR AB INBEV

ANHEUSER BUSCH INBEV

AB InBev world's largest brewer. AB InBev is a multinational drink and brewing company based in Leuven, Belgium. AB InBev has a global functional management office in New York City, and regional headquarters in São Paulo, London, St. Louis, Mexico City, Bremen, Johannesburg and others.

INDUSTRY
Food & Beverage Manufacturing

INTEGRATORS
Advansys & Next Integration

PROBLEM

AB InBev needed to migrate from a disjointed collection of breweries throughout Africa to a unified Zone where comparisons are made like-for-like.

Key drivers:

+ Standardization in regions' routines and reporting.
+ Improving efficiency at plant level.
+ Getting the data to a central location in a unified format for rapid SIC.

Pain points AB InBev faced:

+ Inefficiencies due to employees using different/disparate systems for reporting.
+ Data can be lost/corrupted easily.
+ Single point of truth tends to be difficult to implement.
+ Poor standardization of KPIs across breweries. Some reporting on 10 KPIs, others on 40 KPIs. A definite need to streamline KPIs that are deemed critical to optimal plant operation.
+ Poor standardization within KPI definitions. Although in name the same...differing calculations.
+ Very difficult to get CORRECT data up to Zone HQ for analysis:
  - Very slow transfer of data, only at a Monthly interval.
  - Time (and resources) spent putting data together in single format.

SOLUTION

Phase 1: Flow to regions (Tier 1)

+ A Flow instance was created at each plant.
+ Training given to each plant from a UI point of view.
+ The use of excel for reporting immediately decreased.

Problems Resolved:

+ Employees are now entering data into the same tool onsite:
  - Automated data entry where possible.
  - Audit Trail of WHO and WHY.

Phase 2: Flow as a Template

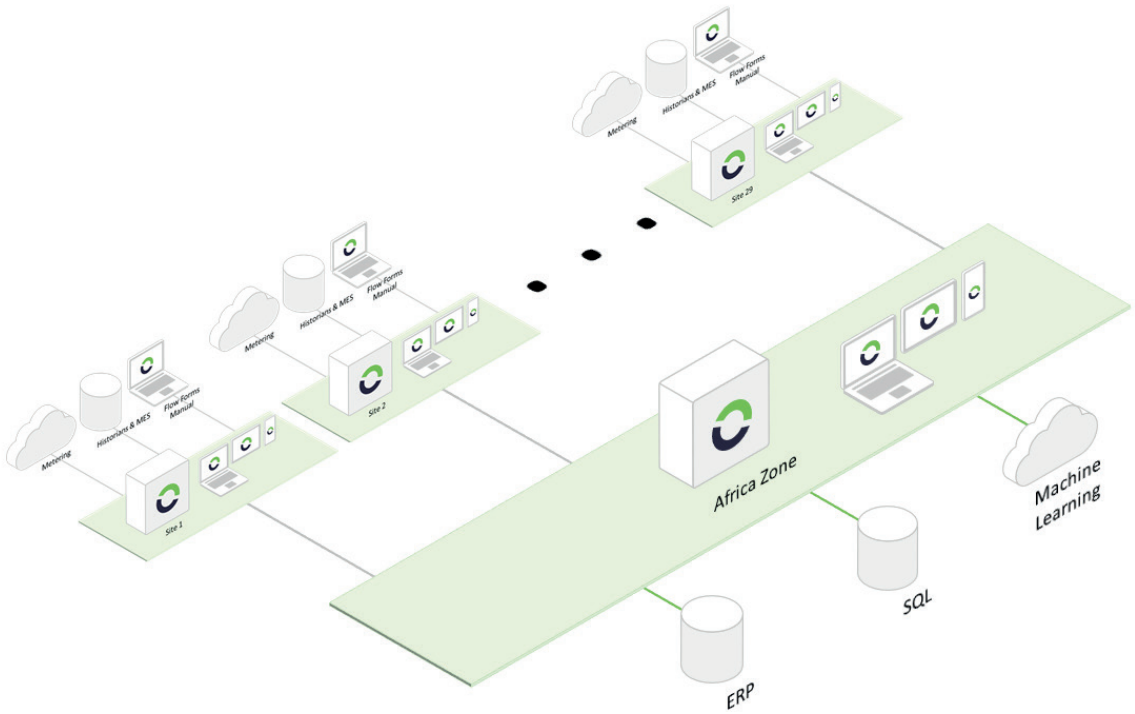
+ Template Flow instance created at Zone HQ – Template Server (TS).
+ Standardized Metrics and Measures/KPIs created on the template server.
+ Department-specific Reports and Dashboards, as well as data entry Forms created on the template server.
+ All brewery instances have template server configured and pull the templates down.

Problems Resolved:

+ Standardization of KPIs across Africa. What was being reported and when.
+ KPI definitions are standardized. Comparing like-for-like focusses attention where it should be.

Phase 3: Regional to Zone Replication (Tier 2)

+ A Flow instance was created at the zone for data replication and reporting, the Africa Report Server (RS).
+ Bulk Replication Configuration was done at each site (100 000 measures).
+ Each site posts data up to a corresponding measure within the RS.
  - The data posting is triggered when the source data changes.
  - The Tier 1 server is responsible for replication to the Tier 2 server.



AB InBev Africa Architecture

Problems Resolved:

+ Data is replicated to the zone within minutes of changing at any brewery.
  - Analysis is rapid and upper level management can make the best decisions quicker.
  - Data is also always the latest and most recent…if it changes at the plant, it will re-post to the Tier 2 server.
+ Data comes through in the same format onto already configured Dashboards.
  - Middle management no longer need to spend hours collating data.

RESULTS:

The Future - Big Data

Data Value through visualization

+ AB InBev has a central Flow server that has plenty of data they can utilize.
+ AB InBev are looking at using graphical tools within Flow much more.
+ Flow admittedly does not seek to be a Power BI or QlikView – Flow provides the mechanism to provide its data via Data Consumers to other visualization systems, so one can use those tools' visualization capabilities while leveraging Flow's data acquisition and transformation strengths.

Data to cloud

+ Standardized way of posting data to the cloud via MQTT consumer.
  - No more Excel dumps, SQL DB replication, etc.
+ The data can be utilized by machine learning solutions that are specifically focused on how to use data effectively.
  - "We are busy interfacing with our global structures about getting data globally into a Sustainable Development algorithm."
  - Reverse Osmosis/Water Treatment companies that are seeking to use the data to decrease brewery maintenance costs.

PROJECT INFO:

- 29 sites
- 4150 events (total)
- 542 500 measures (total)
- Connected to different data sources:
  - Microsoft SQL Database
  - Aveva Historian
  - Metering Online
  - OPCUA Historian
  - Web Service
- Reports that have been generated so far:
  - 1680 charts (template chart instances across all sites)
  - 721 charts (Zone/HQ-specific)
  - 285 dashboards
- Flow is used to integrate with third party applications including Flow Consumer, Microsoft SQL Database and PostgreSQL Database.
- Flow tiering, an Enterprise decision making solution is used extensively at AB InBev. Approximately 5500 measures being replicated from each of the 29 sites.
- We have a template server which all sites pull their templates from. Flow templates are used to ensure standardization and governance.
- More than 500 people across all the 29 sites are using Flow reports and dashboards daily.

> "When I initially arrived at SAB, my concept of data transmission was an excel file on a USB flash drive. That has changed drastically with the incredible need for easily accessible, accurate and real-time data. Flow has really become a standard tool within AB InBev Africa - all our breweries use Flow for real time information and reporting."

Rowan Ray, Tech Supply Specialist @ AB InBev.