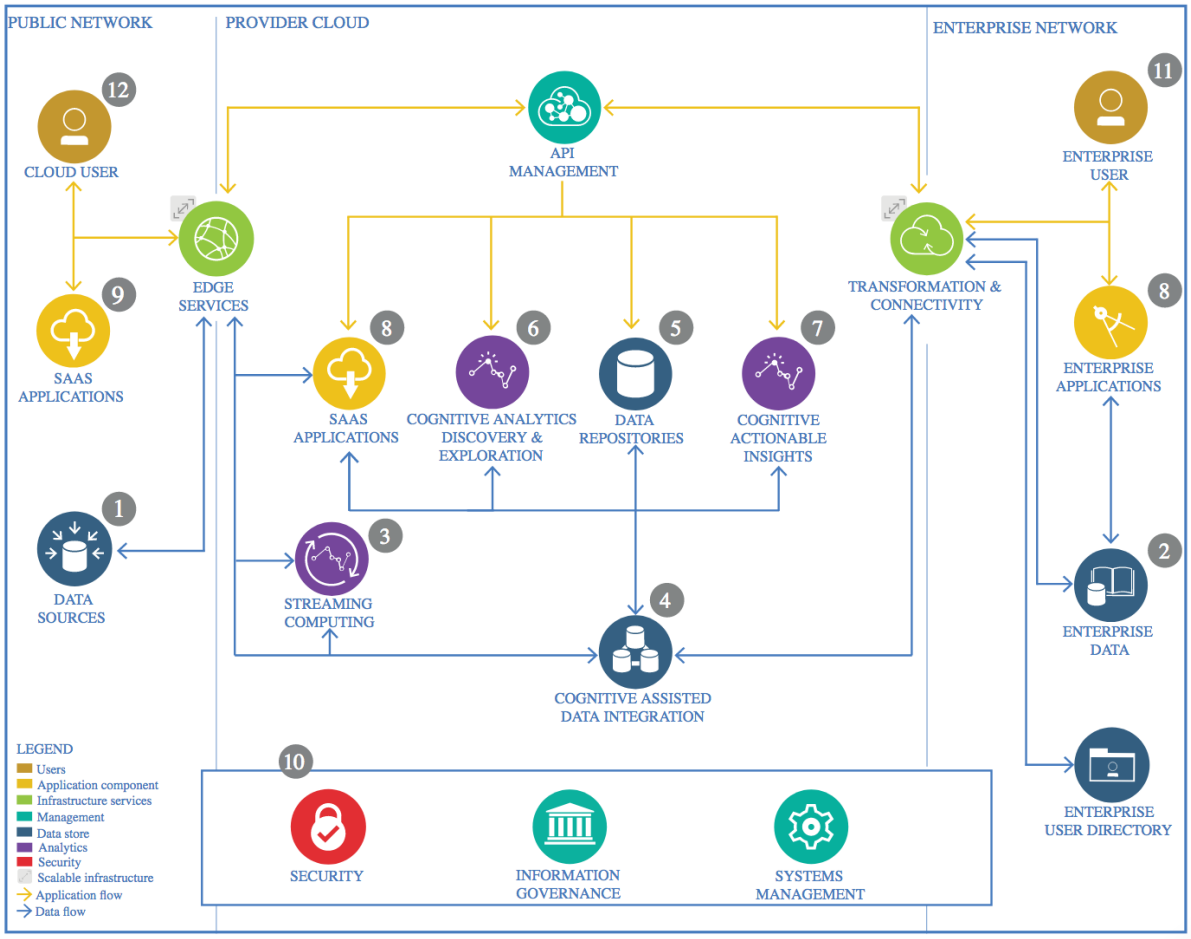
The Lightweight IBM Cloud Garage Method for Data Science

Architectural Decisions Document Template

1 Architectural Components Overview



IBM Data and Analytics Reference Architecture. Source: IBM Corporation

1.1 Data Source

The data source is yahoo.finance.com Amazon.com stock historical price data.

1.1.1 Technology Choice

The technology of choice is the internet.

1.1.2 Justification

I used it because it is a reliable place to find financial historical information. It is free and easy to use as well.

1.2 Enterprise Data

NA

1.2.1 Technology Choice

NA

1.2.2 Justification

NA

1.3 Streaming analytics

NA

1.3.1 Technology Choice

NA

1.3.2 Justification

NA

1.4 Data Integration

NA

1.4.1 Technology Choice

NA

1.4.2 Justification

NA

1.5 Data Repository

Yahoo.finance

1.5.1 Technology Choice

Yfinance API is the web scraping tool which enable me to access the data.

1.5.2 Justification

Ease of use, access and reliability.

1.6 Discovery and Exploration

ETL and Visualization

1.6.1 Technology Choice

The technologies of choice are: Python, Pandas, Numpy, Math, MatplotLib, Seaborn.

1.6.2 Justification

These tools enable me to extract, transform, load the data as well as showing graphs and correlations.

1.7 Actionable Insights

Exploratory data analysis & feature engineering

1.7.1 Technology Choice

SkLearn, Tensorflow, Keras, Pandas, Seaborn.

1.7.2 Justification

To understand attributes, price evolution, cross-correlation, metrics and feature formatting for modeling.

1.8 Applications / Data Products

Project's .inpg coordination and more.

Technology Choice

SkLearn, Tensorflow, Keras, Pandas, Seaborn.
IBM Cloud, IBM Watson, Jupyter notebook, .pdf, PPT

1.8.1 Justification

Enabling the project to come together under one umbrella.

1.9 Security, Information Governance and Systems Management

NA

1.9.1 Technology Choice

NA

1.9.2 Justification

NA