

UseeData Centric Demand Forecast

FPT Software 2021June



Agenda

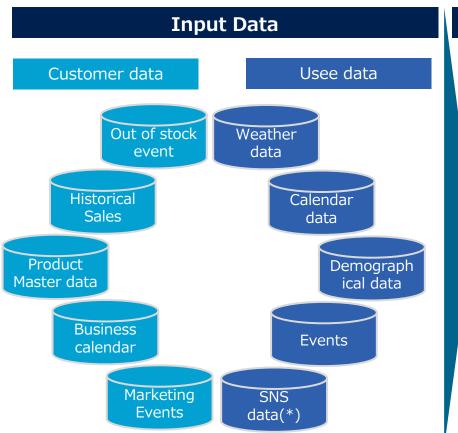


- 1. What is Usee?
- 2. Usee-E2E Service
- 3. Questions We Answer
- 4. Main Function
- 5. Our Values to Customer
- 6. Solution Differentiator
- 7. Azure Architecture
- 8. Security Architecture
- 9. Integration with S&OP Solution
- 10. How our solution is being leveraged in enterprises
- 11.Use Cases

What is Usee?



Grow with our customers Accuracy-guaranteed demand forecasting service.





Output: Demand Forecast Result Insight Dashboard Forecast Train Train



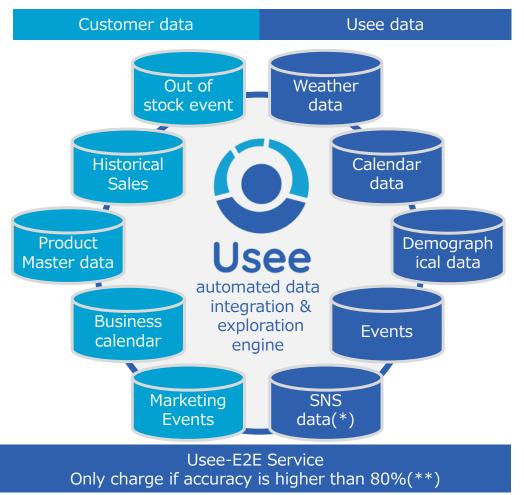




Usee-E2E Service



Grow with our customers Accuracy-guaranteed demand forecasting service.



(*)Based on customer provided key words

(**)About accuracy

Formula

$$1 - \frac{1}{5} \sum_{t=1}^{5} \frac{\left| Actual_t - Forecast_t \right|}{Forecast_t}$$

$$\forall Forecast_t \neq 0$$

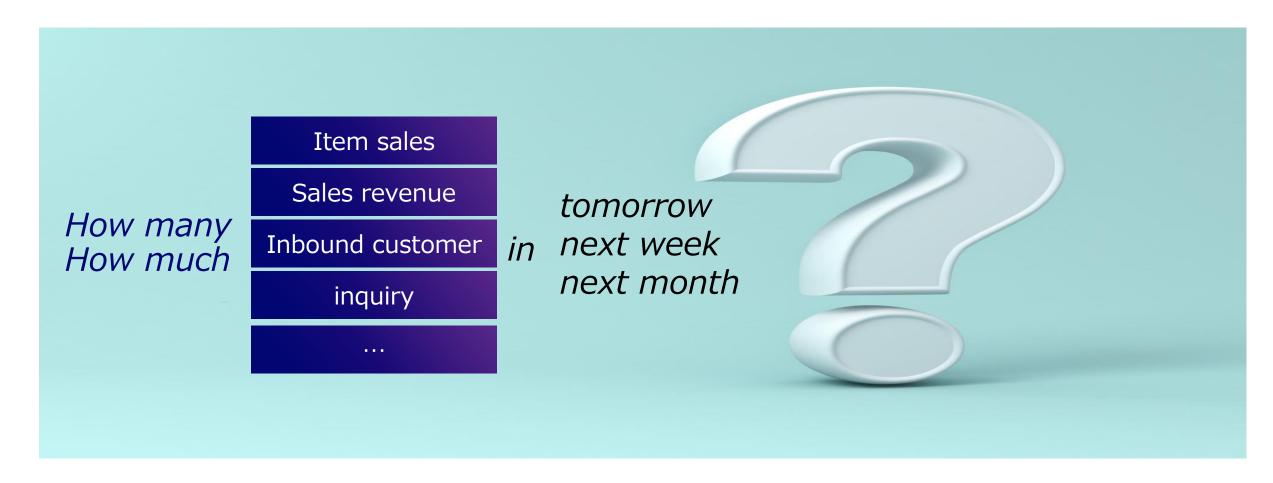
- Time step for accuracy calculation: 5 time steps.
 Eg: for daily forecast, it would be 5 days period.
 For weekly forecast, it would be 5 weeks period
- If input data (condition) for making forecast is changed, the accuracy calculation period is shortened to the closed time point before the condition changed

Eg: a new digital marketing plan was planned in next 4 weeks, but then moved earlier to 3 weeks later, then the accuracy guarantee period is reduced to 2 weeks period.

Questions We Answer



Usee looks for answers to the following questions in Customer's data and external data



Key Features



Usee has 6 key feature

6. Auto-ML Experiment

Automatically preprocess data, estimate prediction problems, train and test data, training various models, execute ensemble models, and create the optimal AI model.

5. Demand Forecast Experiment

Run multiple forecast models and view multiple forecast results and KPIs. Display detailed forecast results and Deploy API for each model. Setting re-training for deployed models (Data re-upload trigger or schedule)

4. Explanatory Data Analysis

Automatically displays the characteristics of data source (changes in time series information, trends, seasonality, residuals, etc.) on the chart

1. User management

Usee

User Registration /User Approved /Set permission Edit profile / Change Password User authentication authorization User access history

2. Data Management

Create Data source (Upload , re-Upload) Monitoring Query log Delete Data source

3. Workspace Management

Create & share Shared-workspace Delete Shared-workspace



Our Values to Customer



Not only model, but also data value exploration, and reducing operation cost with SaaS model.

Shorter time to market

Months \Rightarrow Weeks

Automated external data Exploration

Weather, demographical, SNS...

Accuracy based pricing model

Cost only calculated if accuracy >= 80%

NoOps

Use SaaS

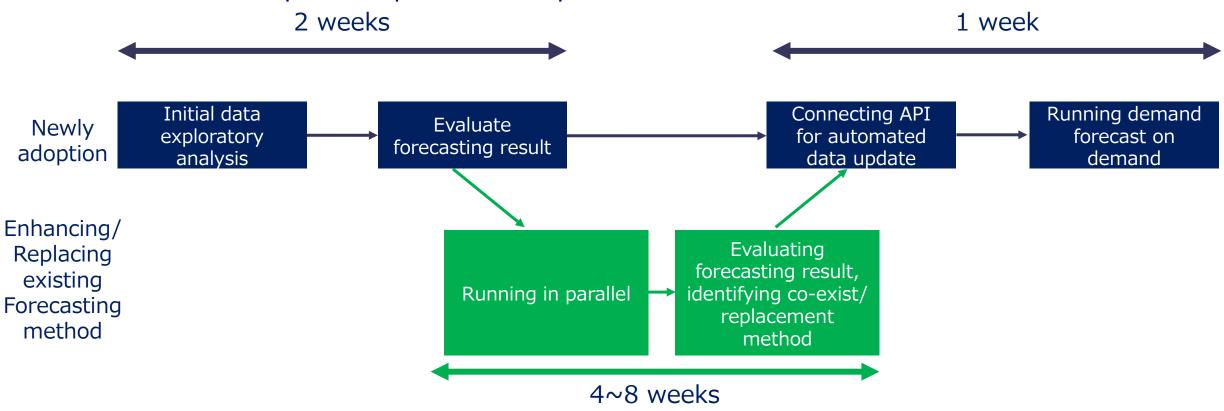


Solution Differentiator



Speed and Ease of Deployment & Management

From first touchpoint to production operations: in weeks vs months



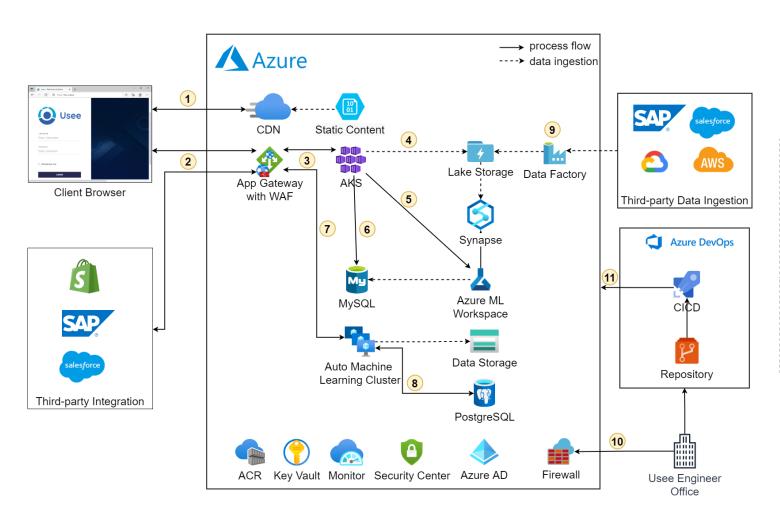
Self-maintaining: once in Production Operations, your forecasting models are automatically tuned



Azure Architecture



Usee offers services in the following architectures in Azure



- User access static web application that distributed by CDN backed by Azure blob storage
- 2 Usee provide APIs for portal and third-party can integrate
- API distributed by Application Gateway, protected by WAF

 3 based on OWASP core rule sets.

 Application servers hosted on AKS and Azure virtual machine

Demand forecasting feature

- Data uploaded by customers store on Azure Lake Storage. All data encrypted and restrict access
- App server triggers model training/forecasting pipeline on Azure ML workspace

 Using Azure synapse to query data in lake storage

 The model training/forecasting result will save on RDBMS
- 6 App server query forecasting results on RDBMS then send back to clients

Automation machine learning feature

- Request to auto machine learning servers through app gateway
- 8 Servers using data from storage account and generate model then store results in RDBMS then send back to clients
- 9 Using Azure Data Factory to Ingest data from third-party environment
- Using Azure Firewall to allow restrict access only from User engineers for deploy/maintain system
- (11) Using Azure DevOps store system assets and construct CI-CD solution



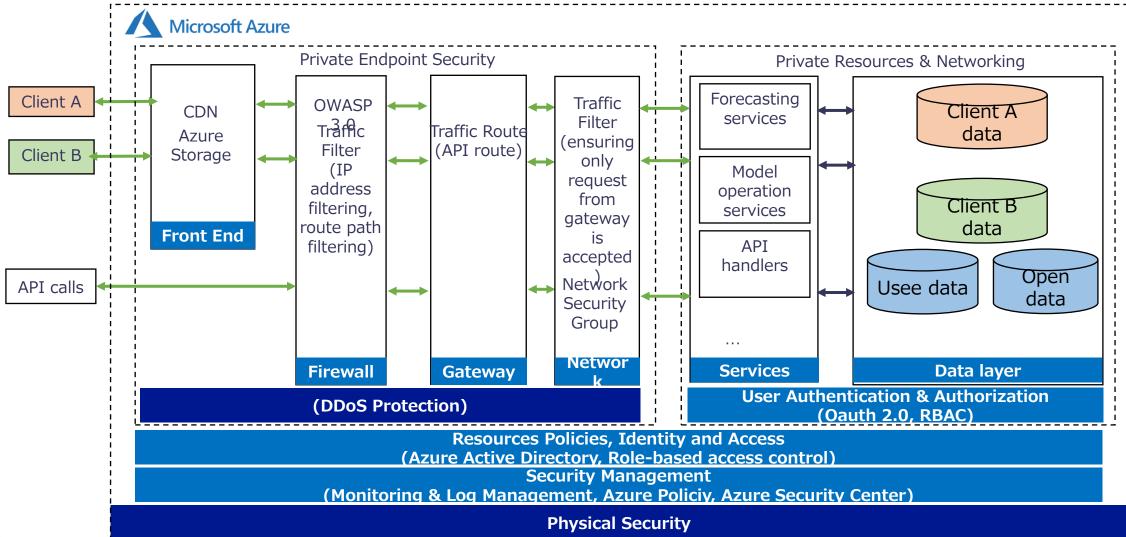
Security Architecture







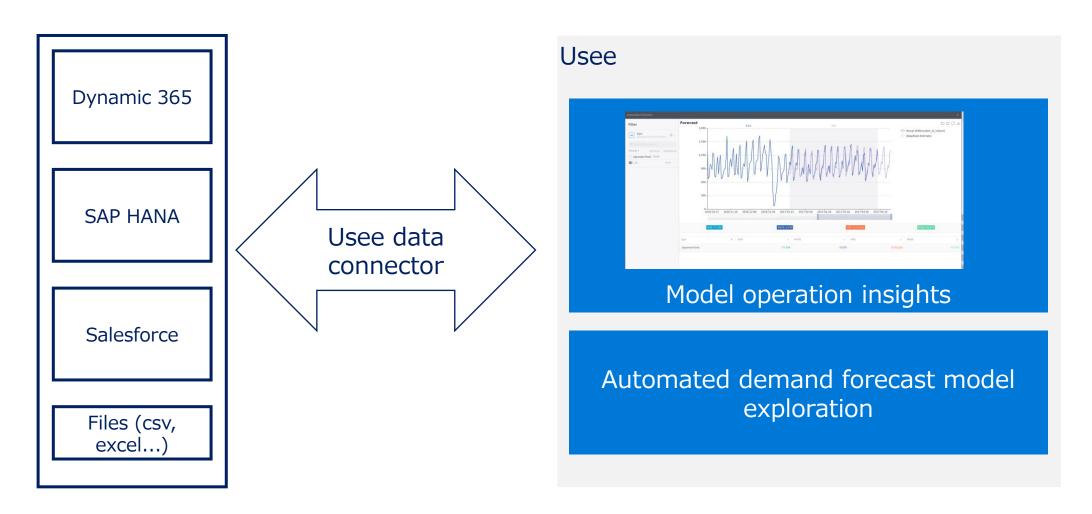
Usee protects your data in the Azure environment as follows



Integration with S&OP Solution



Integrate with any S&OP solution by Usee data connector

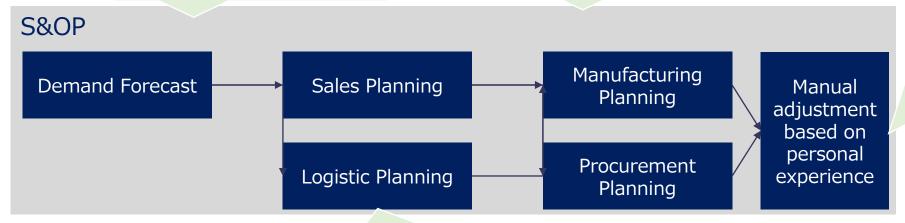


How our solution is being leveraged in enterprises



Use case 1: Forecasting demand of truck/ bus maintenance parts to reduce stocking volume. Saving ~23% stocking cost

Use case 3: Forecasting inbound customer of mobile phone's store to reduce out of stock. Reducing ~18% out of stock cases



Use case 4: Forecasting pharmacy demand of pharmacy distribution company, helping pharmacy store optimizing stocking volume Reducing 33% stocking volume

Use case 2: Forecasting warehouse inbound/ outbound of logistic company to optimize resource planning Saving **50%** running cost, Reducing **12%** staffing cost



Use Cases



Prescription forecast



for stocking optimization

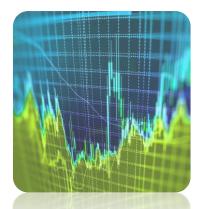




for sales visit planning



Vending machine sales forecast



for restock planning

Automobile parts forecast



for stocking optimization

Late payment forecast



for insurance rate optimization

Gas consumption forecast



to avoid out of gas for propane users

