



Architecture diagrams for hospitality

Property Optimizer for Lodging



Property Optimizer for Lodging: Architecture diagrams for hospitality

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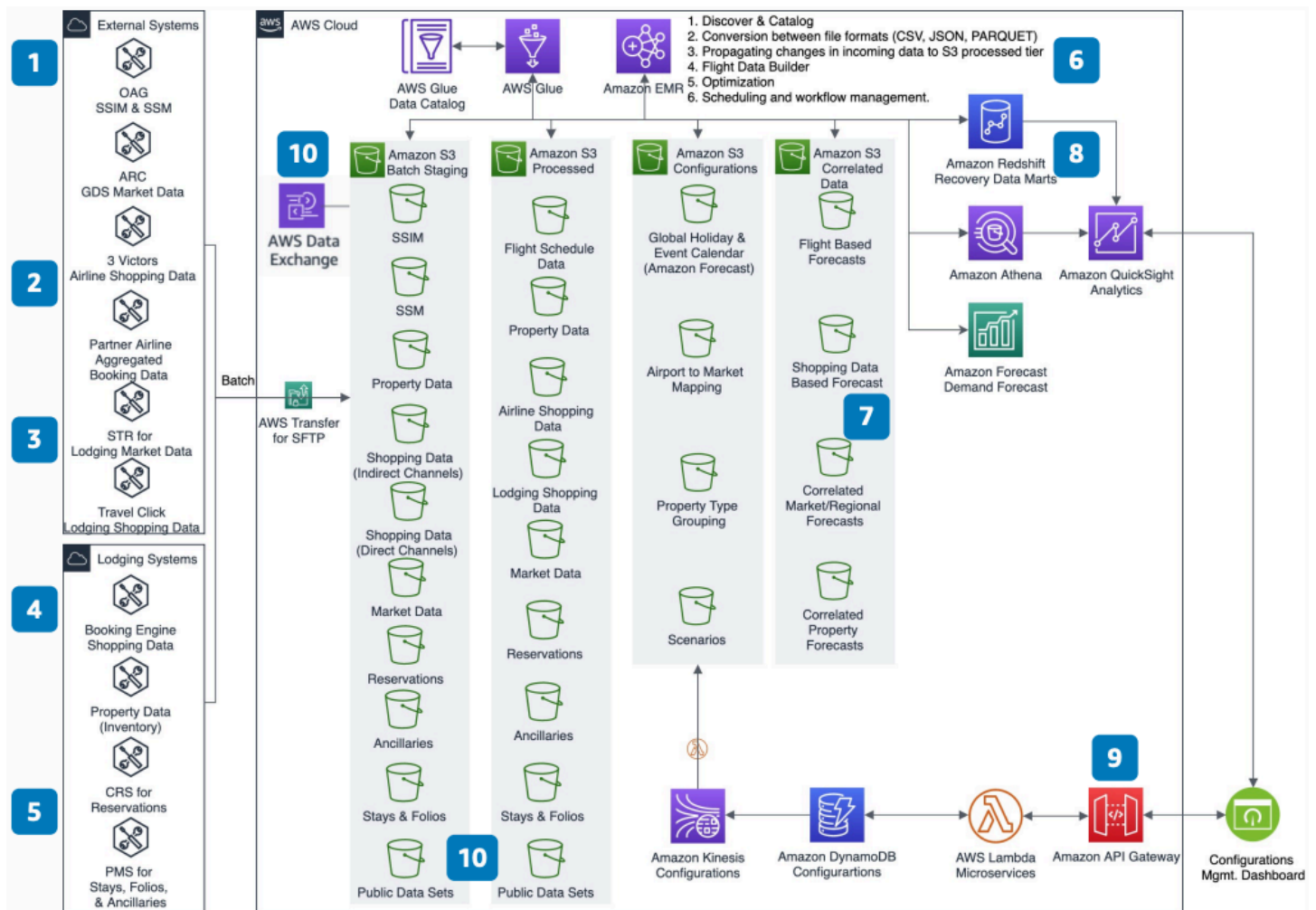
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Property Optimizer for Lodging

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With this architecture, you can forecast lodging demand and optimize property performance. Use airline schedules, shopping data, and booking information as inputs. Generate regional and property-level forecasts with artificial intelligence and machine learning (AI/ML). The solution uses [Amazon Forecast](#) for ML-based forecasting, [AWS Glue](#) for data processing, and [Amazon QuickSight](#) for visualization.

Property optimizer diagram



The following steps describe the data pipeline and forecasting components for this architecture:

1. Collect daily airline arrivals and departures at each airport from OAG schedules.

2. Collect future airline shopping trends and booking data from sources such as Airline Reporting Corporation, 3Victors, and partner airlines.
3. Collect future lodging shopping trends and booking data for indirect channels from sources such as STR and TravelClick.
4. Use lodging booking engines as a source of shopping trends for direct booking.
5. Collect property data, booking, and stay data from the central reservations system (CRS) and property management system (PMS).
6. Use AWS Glue and [Amazon EMR](#) to discover, catalog, and process inputs. Create processed data in [Amazon Simple Storage Service](#) in Parquet format.
7. Combine lodging and flight data to create accurate forecasts. Use Forecast to create AI/ML-based forecasting from historical recovery data.
8. Visualize reports by using on-demand [Amazon Athena](#) and Amazon Quick Sight. For standardized recovery reports, use [Amazon Redshift](#) to create data marts.
9. (Optional) Build a configuration dashboard with microservices. Use [Amazon API Gateway](#), [AWS Lambda](#), and [Amazon DynamoDB](#) to collect configuration changes and create what-if analyses.
- 10 Use public datasets from [AWS Data Exchange](#) to enhance decision making.

Further reading

For additional information, see the following resources:

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

Diagram history

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