



Architect's Guide to Data Modeling

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Introduction

Importance of Data Modeling

Important in
real life and for
those on your
CTA journey!

Data Model is the
foundation of your solution



A bad data model will result in:

- Technical debt
- Missing out of box features
- Negative impact on other technical areas i.e. integrations, security, user experience
- Increased license & project cost
- Unhappy stakeholders!



The Fundamentals



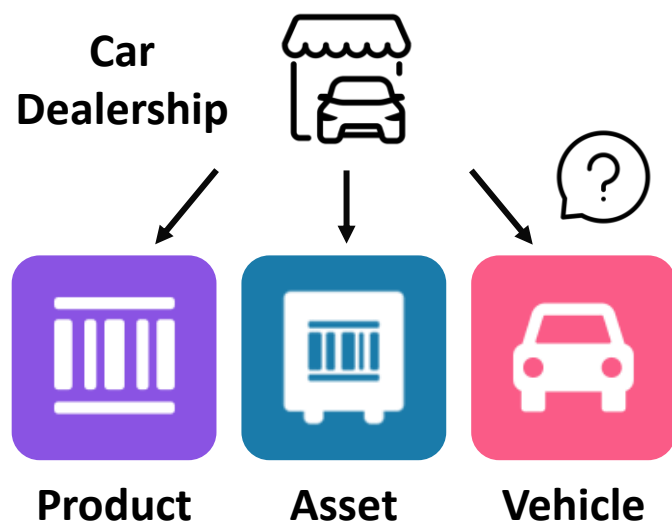
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Types of Objects

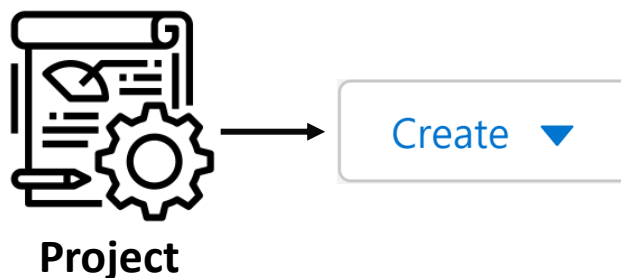
Standard Objects

Objects that are available out of the box in a standard Salesforce org.



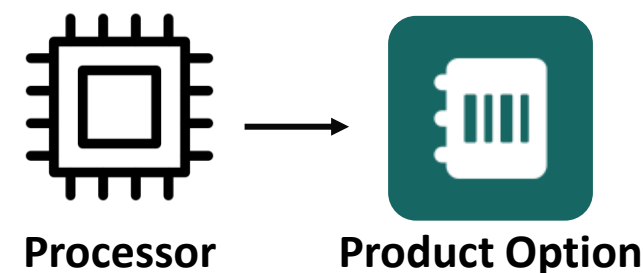
Custom Objects

Objects that are not available out of the box and are created custom by the implementation team for your specific Salesforce org.

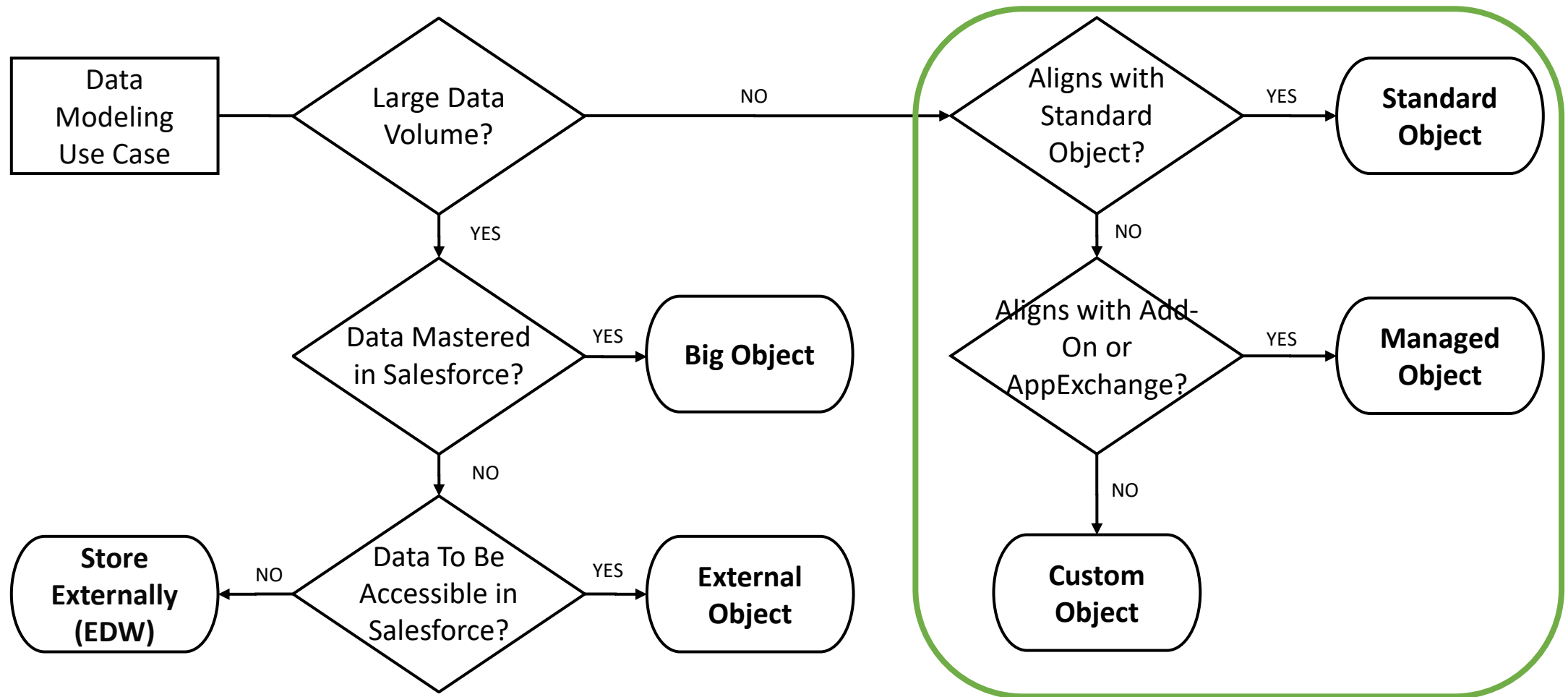


Managed Objects

Objects that are not available out of the box, but are included in a Salesforce Add-On or other Managed Package.



Decision Making





Canonical Data Model

First-Party Standard Objects

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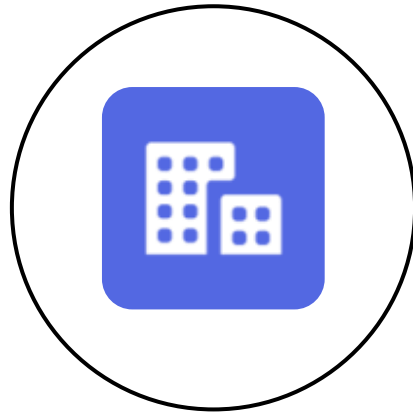


Key First-Party Standard Objects



Leads

Potential customers aka prospects



Accounts

Entities we do business with (customers, partners)



Contacts

Individuals we do business with



Opportunities

Sales deals that generate revenue



Cases

Customer support issue, enquiry, or feedback

Customer Journey

Marketing

- Campaigns
- Leads

Sales

- Accounts
- Contacts
- Opportunities
- Quotes
- Contracts

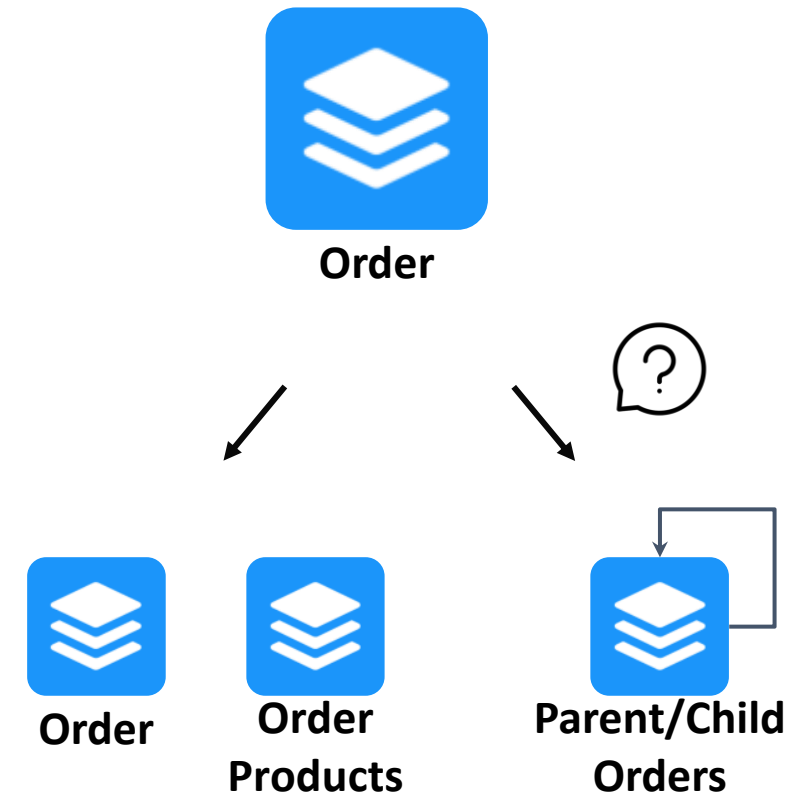
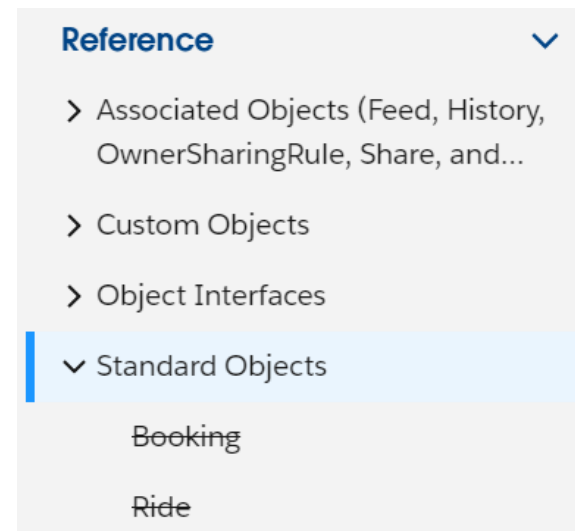
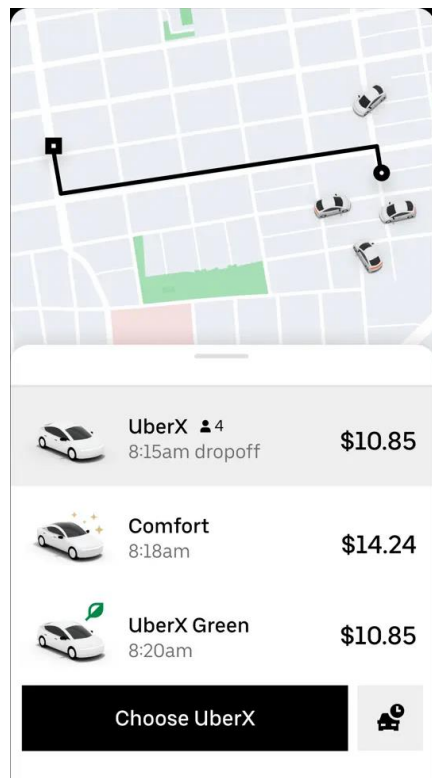
Fulfillment

- Orders
- Assets

Service

- Cases
- Work Orders
- Service Appointments
- Service Contracts

Example





Custom Objects

Considerations & Solution Patterns



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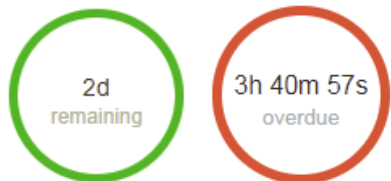


Custom 🤔 🤔 ?

With great power comes great responsibility, use wisely

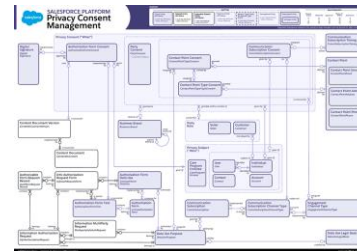
Reinvent the wheel? 🛞

- **Ensure** there isn't a **Standard** Object that **fits** your use case.
- **Lose** OOTB capability by deciding on a Custom object **over** a potential Standard object.
- **Lead Conversion, Forecasting, Milestones with Entitlement Management (SLA)** try to **avoid** the custom route.



Industry References? ⌚

- **Check** the Salesforce Architect's Template gallery to see if any of the **Industry Reference Data Models** fit your use cases:



- In **Privacy & Consent Management** Model, **App Scheduling** or **Enterprise Quoting** use cases leverage the reference data model.

Reference: [Architect Template Gallery](#)

Considered Data Storage?

🗄️ x **2KB**

📁 Assets 📁 Products 📁 Price Book

- **Don't** count against data storage.
- **Designing** large commercial **Product & Pricing catalogs**, or storing purchased goods and services (**Assets**).
- **Consider** using the **Standard** Objects to **minimize** the additional data storage requirements.

Reference: [Monitor Data & Storage](#)

Solution Patterns for Custom Objects

Don't shy away from choosing Custom Objects

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Shadow Objects

Case

- Is a concept of creating a **Custom** Object, where records will have a **1:1 mapping** to its parent.

Case

Case
Shadow

- Useful Pattern to **differentiate sharing** (i.e org-wide settings, preventing rolling-up via RH) on the shadow object.
- Expanding per-object **governor limits** like number of fields or lookups fields to **optimize** license cost by using Shadow objects.

Normalization



- a technique that involves organizing data into **multiple tables** to **reduce** data **redundancy**
- Used in Online TX Processing Systems (**OLTP**) to **speed CRUD**

Denormalization

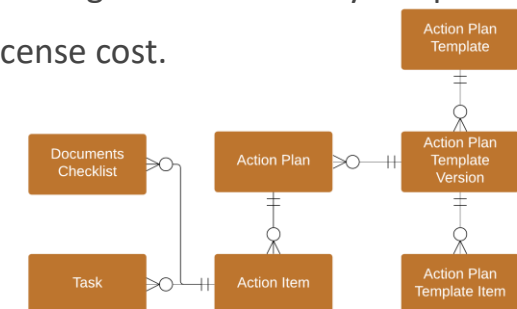
Customer ID	First Name	Last Name	Home Phone No	Mobile Phone No	Work Phone No
000000001	Dana	Dial	+13175551235	+13175551234	+14355551234
000000002	Ten	Buckner	+12129876543	+12129876543	+1429876543
000000003	Fred	Alveraz	+14152221234	+14152221234	+15002221234
000000004	Arena	Cole	+161779442318	+161779442389	+165079442389

- In contrast, the data is **centralized**, stored on the **same object**, it improves **performance** by simplifying complicated table joins.
- Used in Online Analytical Systems (**OLAP**) to speed **query & analytics**.

Borrow from Add-Ons



- Add-ons like **CPQ**, **Field Service** & Salesforce **Industry Clouds** have **amazing** data models designed by Industry Experts.
- If you only need one / few of the features offered by an add-on, consider **referencing** the data model & custom building the functionality to optimize license cost.





Data Governance Considerations

Foundational Principles Beyond Data Modeling

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Foundational Principles for Data Governance



Data Encryption

- Certain industries and regions may have **strict** guidelines re **encrypting sensitive** data in terms of Personally Identifiable Information (**PII**), Protected Health Information (**PHI**)
- **Leverage** the Salesforce **Shield Platform Encryption** to encrypt your data at rest.



Data Masking

- **Sensitive** nature of the PII, PHI data in Industries such as Financial Services & Healthcare is **high**.
- Sandboxes with **un-masked sensitive** customer data can be **risky** & can be **exploited** by the Developers.
- Consider leveraging **Salesforce Data Mask** as a solution to **mask** & **anonymise** data in Sandboxes.



LDV / Archival

- **Calculate** the data volume of your use case to see if you are at risk of hitting **LDV thresholds**.
- Consider **indexing, tuning queries, denormalization, archival**, and leveraging any **commercial solutions** to improve your data strategy.

Foundational Principles for Data Governance



Backup / Restore

- Don't forget about data backup and restore for **business continuity**.
- Consider Salesforce **Backup & Restore** or third party solutions for these use cases.

odaseva *Own*{backup}



Governance

- Regularly **maintain** the data model which you have built, do not let it **fall apart**.
- Set up data **governance bodies &** processes to ensure that your data is **relevant &** stored **efficiently**.
- **Document &** distribute your **data model, data dictionary**, meaningful **descriptions** on objects/fields.



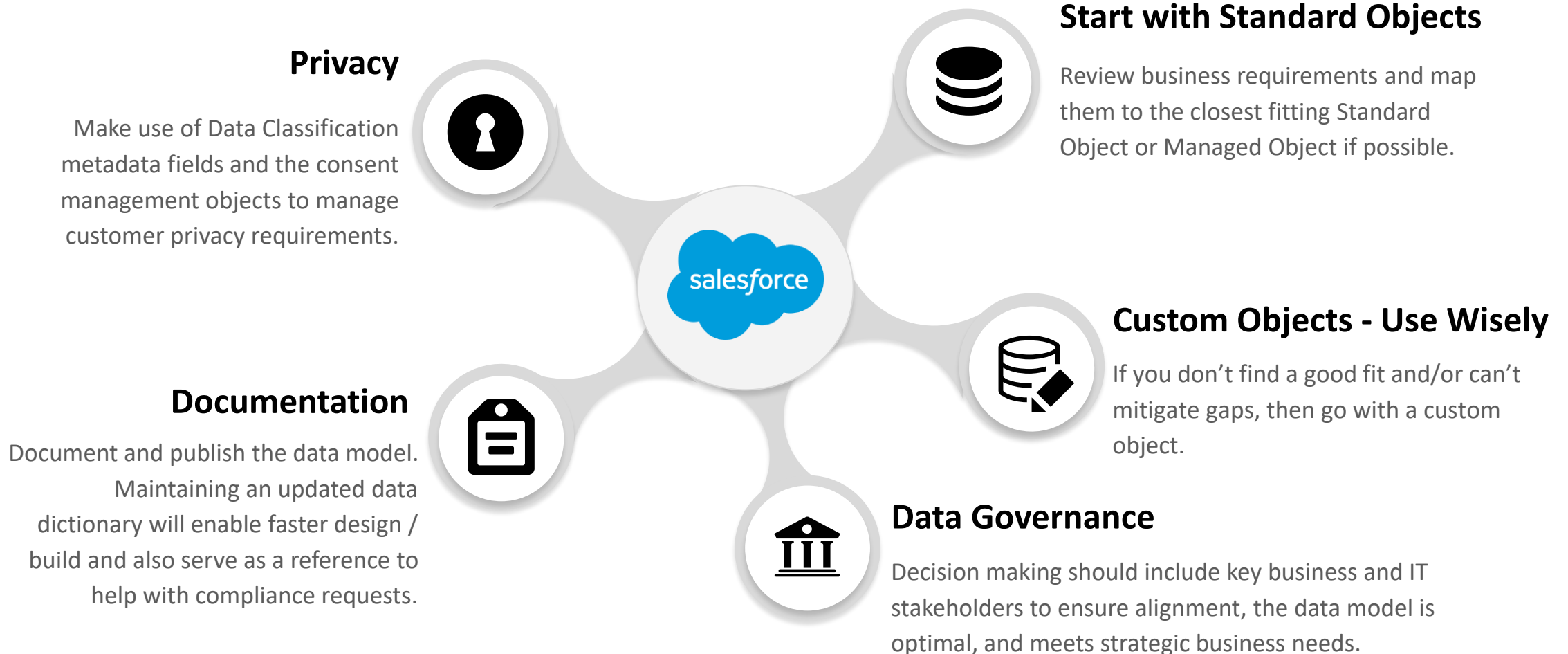
Compliance

- Consider relevant **compliance regulations** when designing data models.



- Leverage **Consent Management** objects, data **classification**, and 3rd party solutions such as **Odaseva** or **Transcend Data Privacy** to align with your industry policies.

Closing Thoughts





Thank You!
Questions?



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