React-Redux :The Amdocs Way

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Agenda

- Problems with Redux State Management
- Solution – the Ideation phase
- Implementation - the prototyping phase
- Impact

Problems with Redux State Management

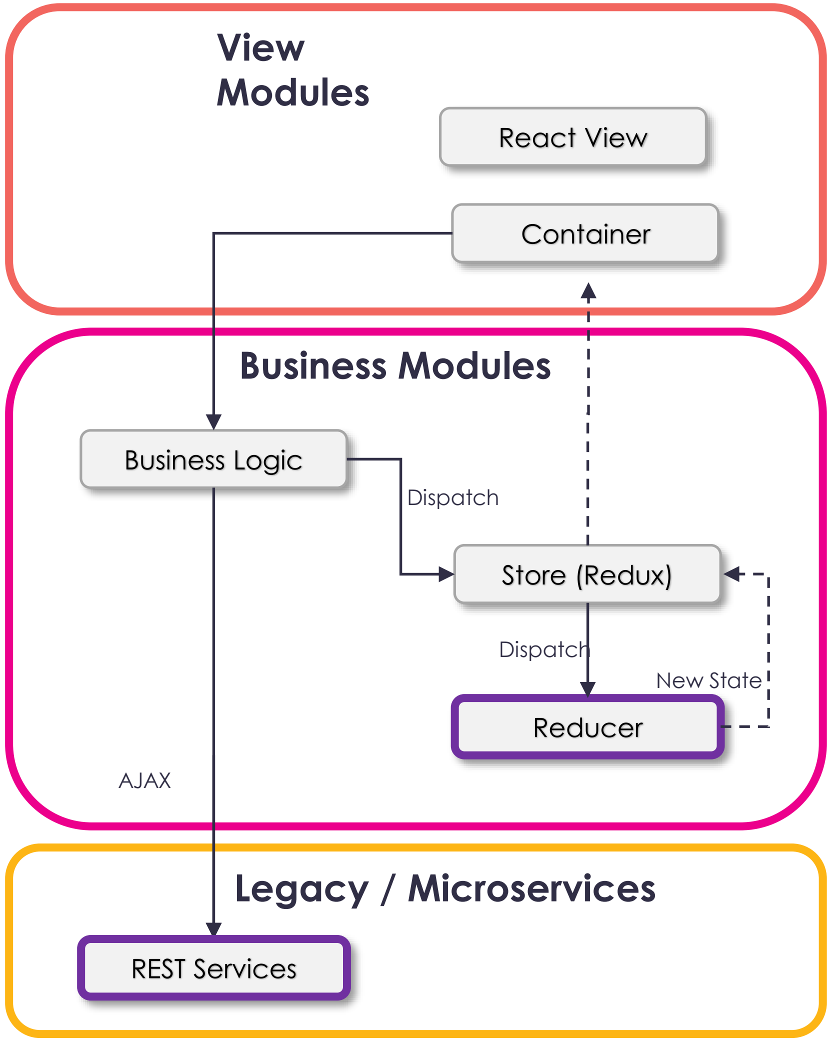
- No Encapsulation over shared state data
- Duplicate copies of business logic
- Component may be with multiple instances but store is singleton
- Confusion whether the state belongs to view or business

Solution – the Ideation phase

A module which can …

- Encapsulate a part of global state
- Provide Interface to manage this state
- Has Single Responsibility

Implementation - the prototyping phase



HTML via JSX notations; no business logic **making it lighter, UI focused, easily replaceable.**

Business Module :: to keep business logic separate. Encapsulate data and supply services (APIs) to manage it. Dispatches actions to manipulate store or fetch/update backend services.

Application state stored at single place as immutable Simple JS object which becomes single source of truth **making it easy to maintain**

REST full services

Impact

The impact of this approach is …

- Faster development – allow to make changes to underlying structure of state without impacting the application
- Easy to Develop & Test
- Identification of Code Breaks with enabling the AST based BWC check tool
- Decoupling the business logic from the view, so making views agnostic of UI technologies/ frameworks
- Reusable Business modules

Impact

Before	After
Presentation was coupled by business logic, so reuse of business logic was minimal. So across teams for same requirement the development effort was duplicated	Presentation & Business Logic separated, which facilitates the faster development of requirements. And also reuse is now to maximum.
Freedom to reuse business logic with different UI framework did not exist	Now Customers have a choice to select the UI framework.
State Manipulation was possible from different Views, so code breaks during development was not possible- which resulted in delayed deliverables	State Manipulation is now only possible through Business Modules. Also with AST we have developed a utility to identify the breaks during development phase
Now way to only test the business logic without writing the testcases for views	Business logic can have mock test cases ,and also able to test the business flow just by writing simple integration test cases.

Thank you