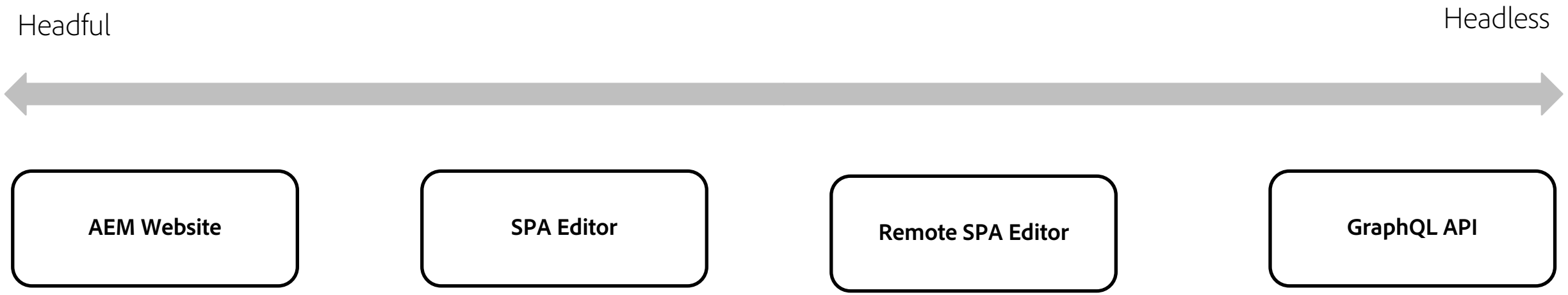
AEM from Headful to Headless (and everything in between)

April 21st, 2022

AEM from Headful to Headless



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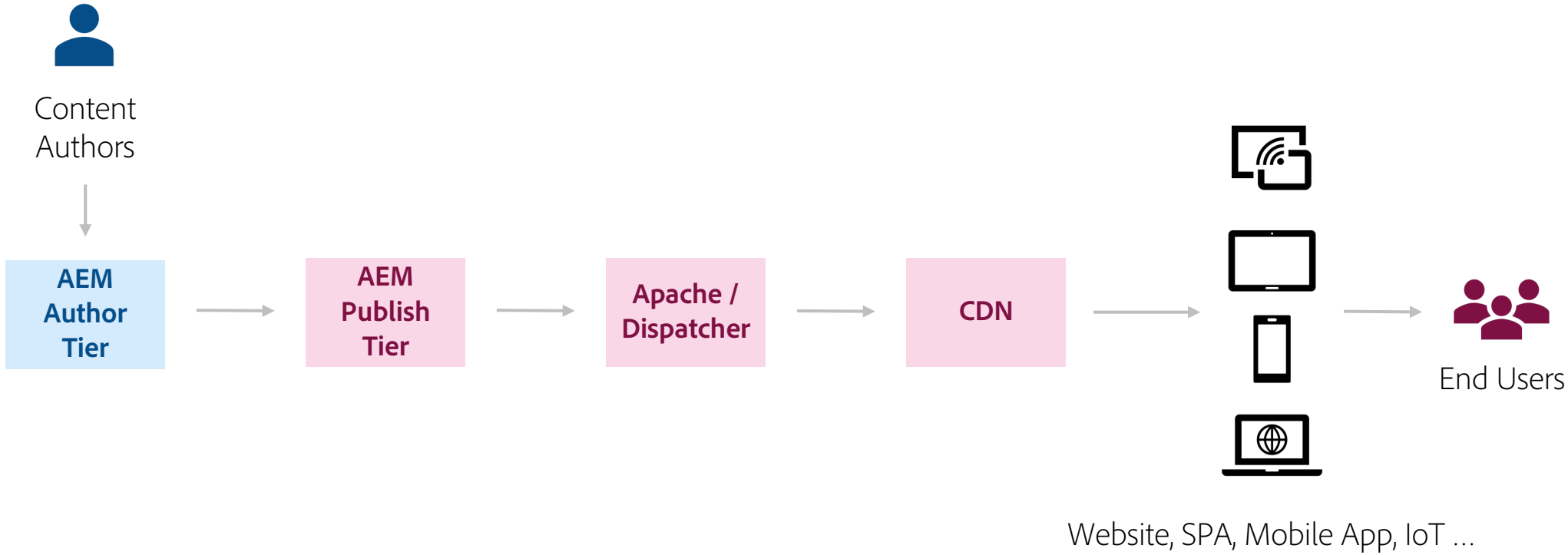
Content Authoring & Experience Delivery



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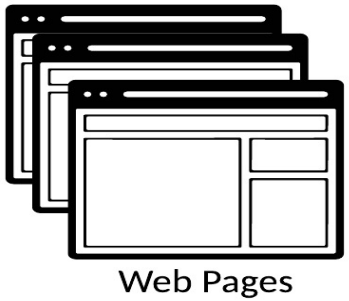
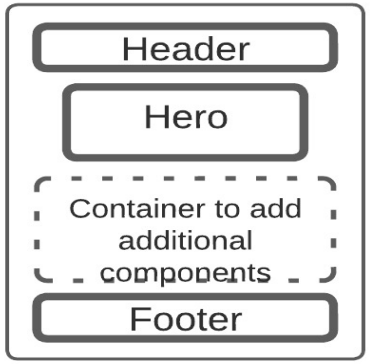
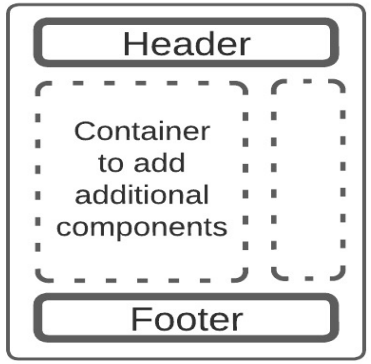
Headful : Website Anatomy



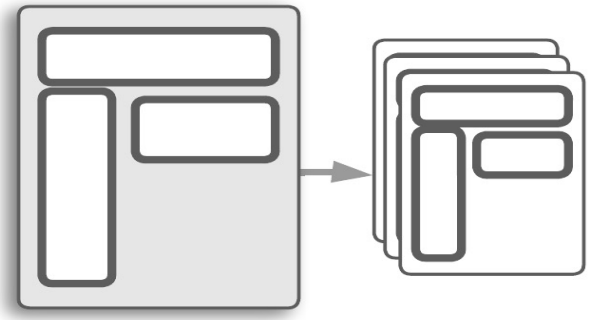
Layout - Home Page



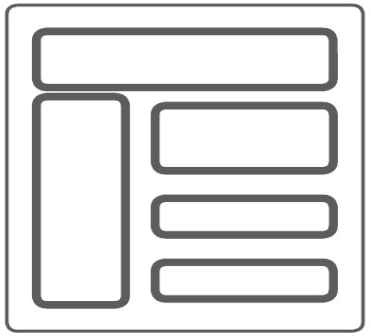
Layout - Article Page



Template to create web pages



Web Page with components



Component = Piece of UI

```
<x attr-xyz="...">
...
</x>
```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Headful:: AEM Website

Full stack AEM multi page implementation. Server-side rendering of HTML pages with full experience management capabilities by authors.

Tech Stack	Java, OSGi, Sling Models, HTL, Client Libraries (CSS/JavaScript), JCR, AEM Core Components	
Authoring Experience	Component based authoring in WYSIWYG experience. Full control of layout, template and styles	
Delivery	**Content** – Fully formatted HTML pages	**Experience** – Multi page web experience
Personalization	Experience Fragments published to Adobe Target.	

Considerations

- Powerful for developers with strong knowledge of AEM features & Tech stack.
- Great for data driven, dynamic enterprise web properties with complex business logic that requires 3rd party, system integrations.
- Use Quick Site Creation for smaller microsites with simpler business requirements
- Content Fragments should be used for content that will be re-used across channels

Getting Started:

https://experienceleague.adobe.com/docs/experience-manager-learn/getting-started-wknd-tutorial-develop/overview.html

https://experienceleague.adobe.com/docs/experience-manager-cloud-service/content/sites/integrations/experience-fragments-target.html?lang=en

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SPA Editor

Single Page App in React or Angular. Authorable components in AEM editor.

Tech Stack	React or Angular for frontend with AEM SPA Editor JS SDK Java and Sling Models for Back-end.	
Authoring Experience	Component based authoring in WYSIWYG experience. Authors can create multiple views in SPA.	
Delivery	**Content** – JSON model from AEM	**Experience** – Single Page App experience
Personalization	Experience Fragments with Adobe Target Web SDK	

Considerations

- Content driven by AEM JSON Model
- Great for green field SPA projects
- Great for simple microsites
- Some AEM expertise required on team
- Single infrastructure stack hosted by AEM, simple CI/CD model
- JS managed in AEM Client library

Getting Started:

Angular: https://experienceleague.adobe.com/docs/experience-manager-learn/getting-started-with-aem-headless/spa-editor/angular/overview.html
React: https://experienceleague.adobe.com/docs/experience-manager-learn/getting-started-with-aem-headless/spa-editor/react/overview.html

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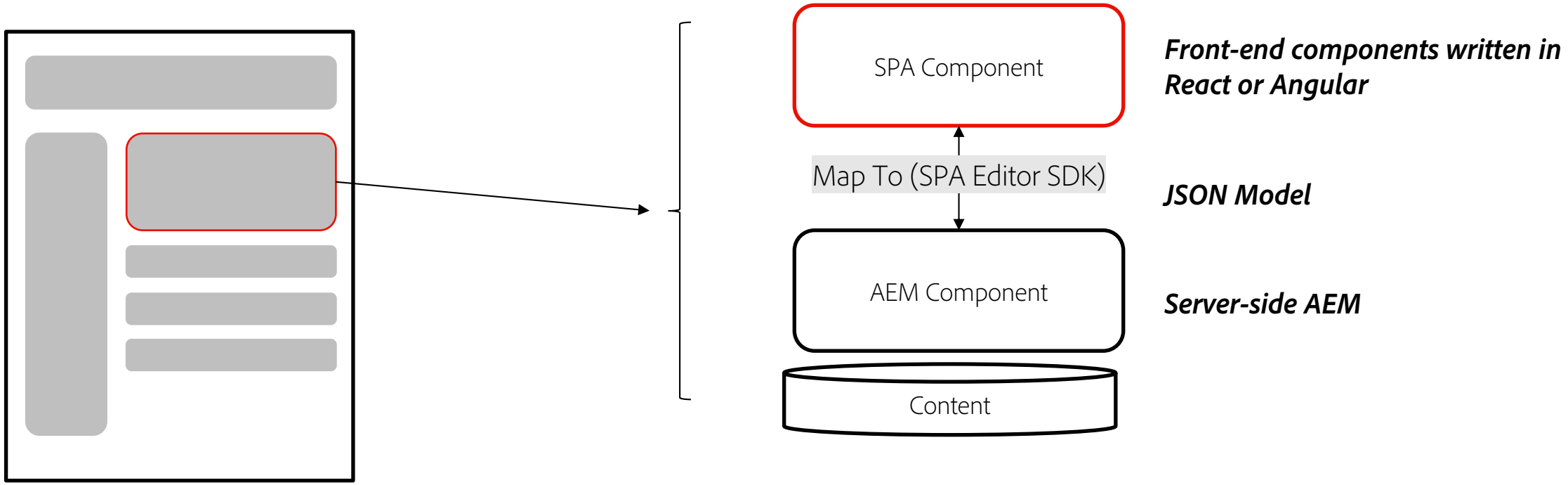
SPA Editor

Single Page App in React or Angular. Authorable components in AEM editor.



Single Page App
Multiple UI components

AEM delivers a JSON Model that is easily mapped to a corresponding SPA Component

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Remote SPA Editor

Single Page App in React or Angular, hosted outside of AEM. Editable regions can be updated within AEM.

Tech Stack	React or Angular for frontend with AEM SPA Editor JS SDK Java and Sling Models for Back-end.	
Authoring Experience	SPA contains editable "experience spots" which are WYSIWYG editable by AEM authors using standard AEM (core or custom) components.	
Delivery	**Content** – JSON model from AEM	**Experience** – Single Page App experience, hosted outside of AEM
Personalization	Experience Fragments with Adobe Target Web SDK	

Considerations

- Content driven by AEM JSON Model
- Great for existing SPAs that need editorial capabilities
- Some AEM expertise required on team
- SPA hosted on separate infrastructure
- Great for complex applications
- Routing owned by dev team
- CORS

Getting Started:

Remote SPA: https://experienceleague.adobe.com/docs/experience-manager-learn/getting-started-with-aem-headless/spa-editor/remote-spa/overview.html

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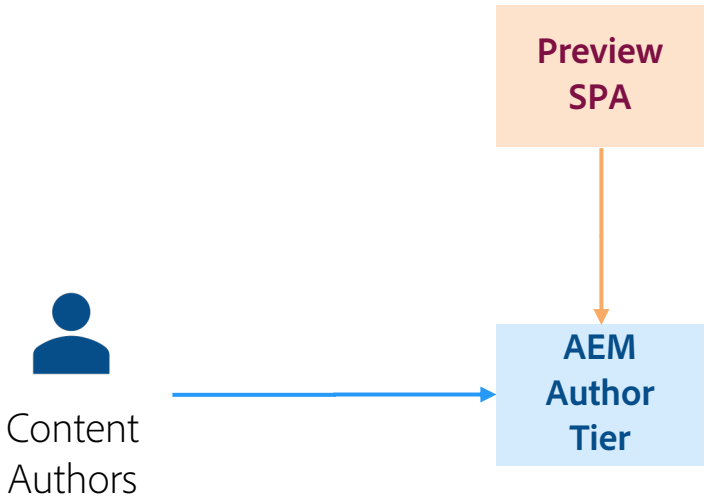
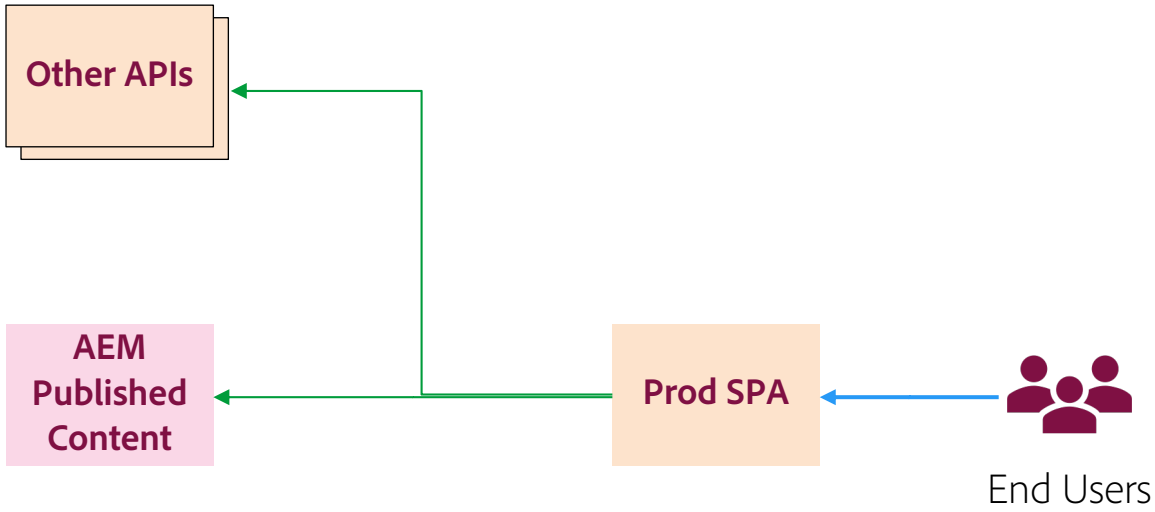
Content Authoring & Experience Delivery





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GraphQL API

Pure headless solution. Content Fragments managed in AEM exposed over GraphQL APIs to be consumed by client applications.

Tech Stack	GraphQL API exposes content as JSON. Client application can be built in any technology.	
Authoring Experience	Form-based authoring of Content Fragments. Data and relationships can be modeled with Content Fragment models.	
Delivery	**Content -** JSON exposed by GraphQL API. Test queries using /aem/graphiql.html	**Experience -** Client application can be built in any technology
Personalization	Content Fragment variations and Target Mobile SDK	

Considerations

- Modeling based on channel, content type, usage.
- Build relationships with Fragment Reference
- Minimal AEM knowledge/code. Only Dispatcher and CDN configurations
- Great for mobile, non-web platforms, or external hosted SPAs and websites
- Use Persisted queries for performance
- Pagination and sorting coming soon!

Getting Started:

https://experienceleague.adobe.com/docs/experience-manager-learn/getting-started-with-aem-headless/graphql/multi-step/overview.html

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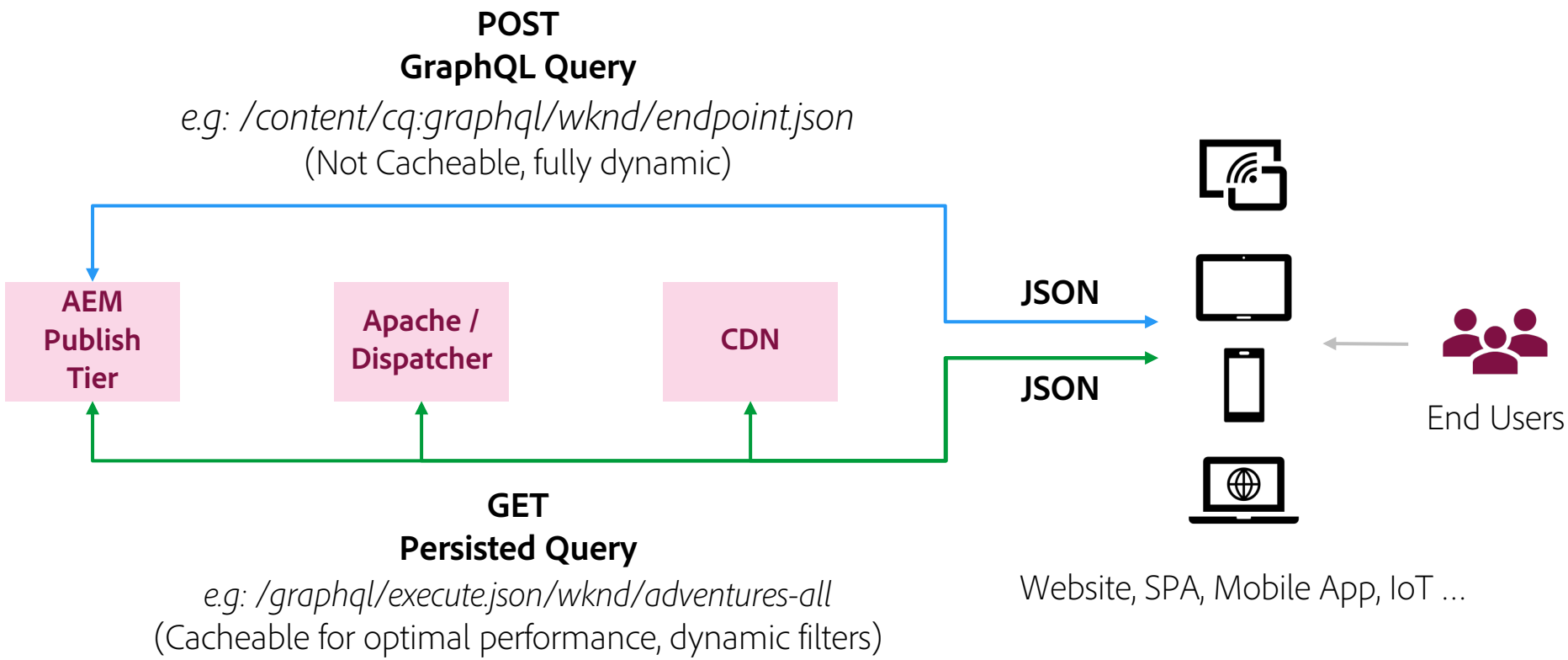
GraphQL Delivery Options



https://experienceleague.adobe.com/docs/experience-manager-cloud-service/content/headless/graphql-api/persisted-queries.html

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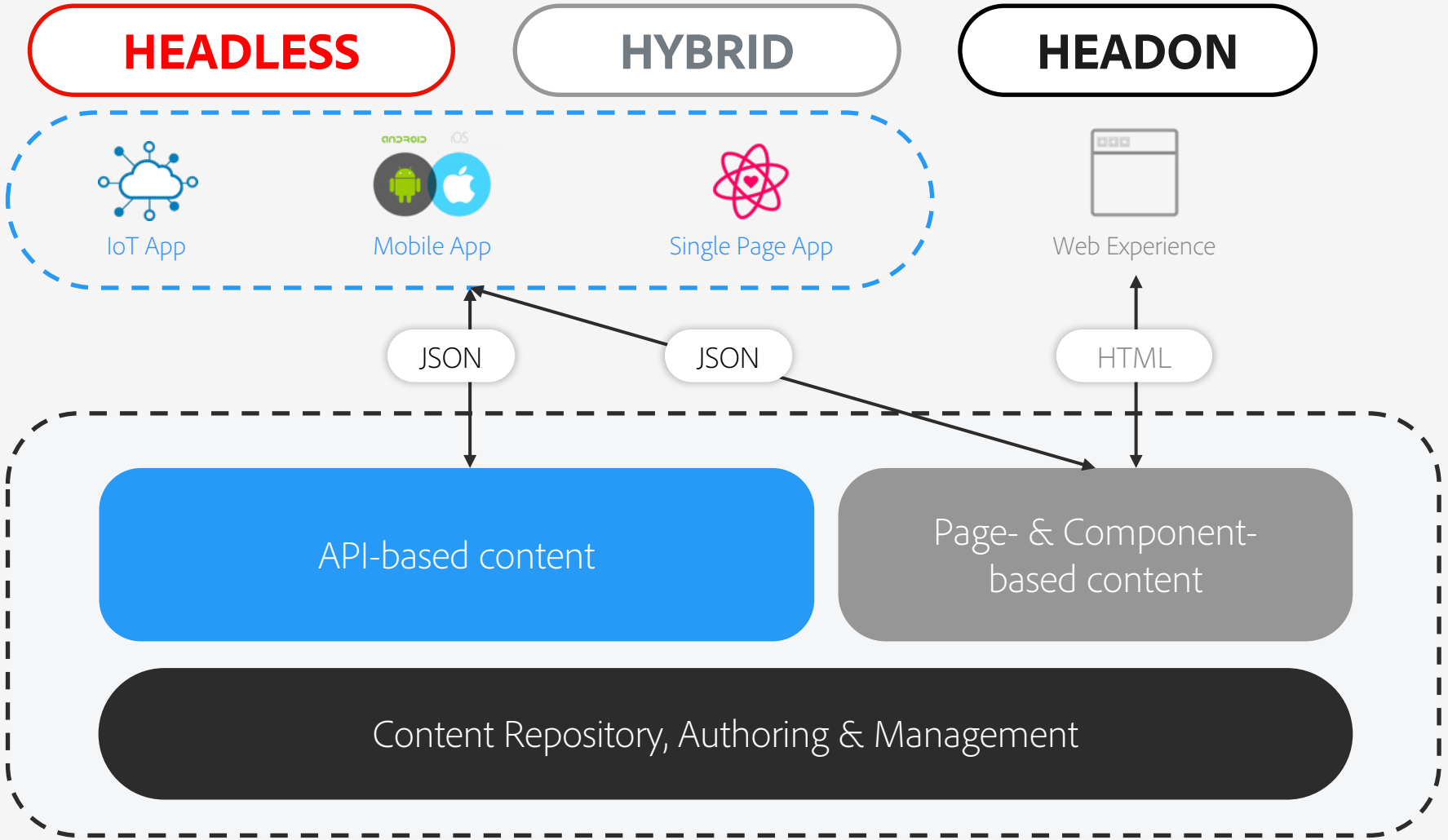
Appendix

Flexible Content Delivery Modes



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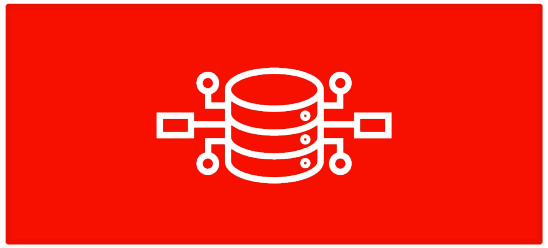
AEM Runs in Headless-mode for API-first Content Delivery

Define Content Structure



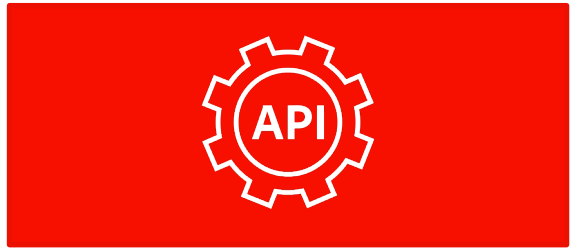
Create content models and define content relationships using Content Fragment Model Editor & APIs

Author Structured Content

Create/edit re-usable channel agnostic structured fragments via Content & Experience Fragment

Use CRUD REST API or WYSIWYG Editor for content creation and management

API-based Content Delivery



Headless JSON content delivery using Content Services API, headless capable core components and GraphQL API

Connect headless and head-on scenarios when needed from a unified CMS using SPA Editor and React and Angular Core Components

IoT App

Mobile App

Voice

React

SPA

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References

- AEM GraphQL - Persisted Queries: https://experienceleague.adobe.com/docs/experience-manager-cloud-service/content/headless/graphql-api/persisted-queries.html
- AEM GraphQL – Sample queries: https://experienceleague.adobe.com/docs/experience-manager-cloud-service/content/headless/graphql-api/sample-queries.html
- AEM Headless Client SDK: https://github.com/adobe/aem-headless-client-nodejs
- AEP Mobile SDK for Target: https://aep-sdks.gitbook.io/docs/using-mobile-extensions/adobe-target/target-api-reference

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