APACHE SLING & FRIENDS TECH MEETUP
2 - 4 SEPTEMBER 2019

Static site generation: simple scalability at runtime

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About me

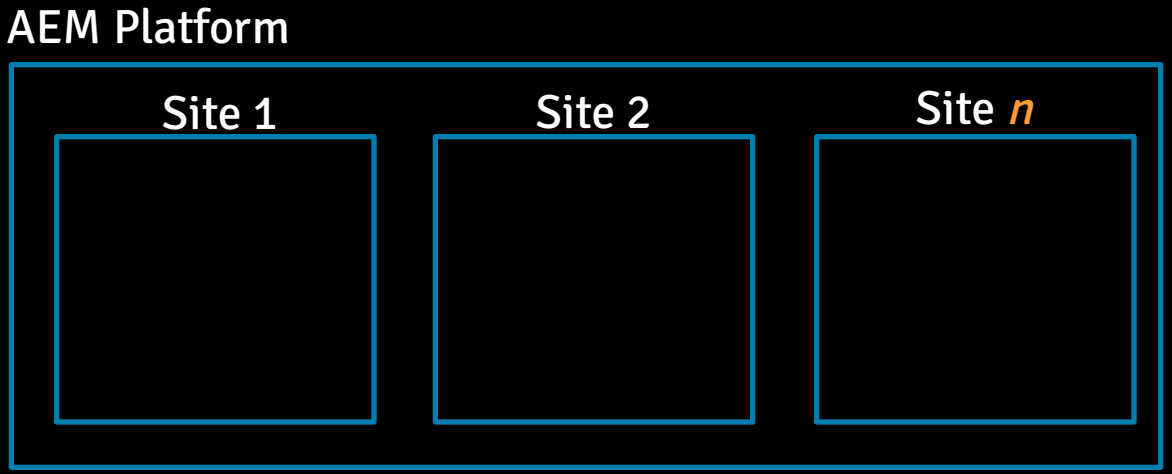
- Independent solution architect & engineer
- Working *with* Adobe Professional Services
- Working in automotive,
  & financial services

Static site generation

- What?
  - Generate sites *before* they are visited
  - Instead of rendering (and caching) on request
- Ok, but… why?

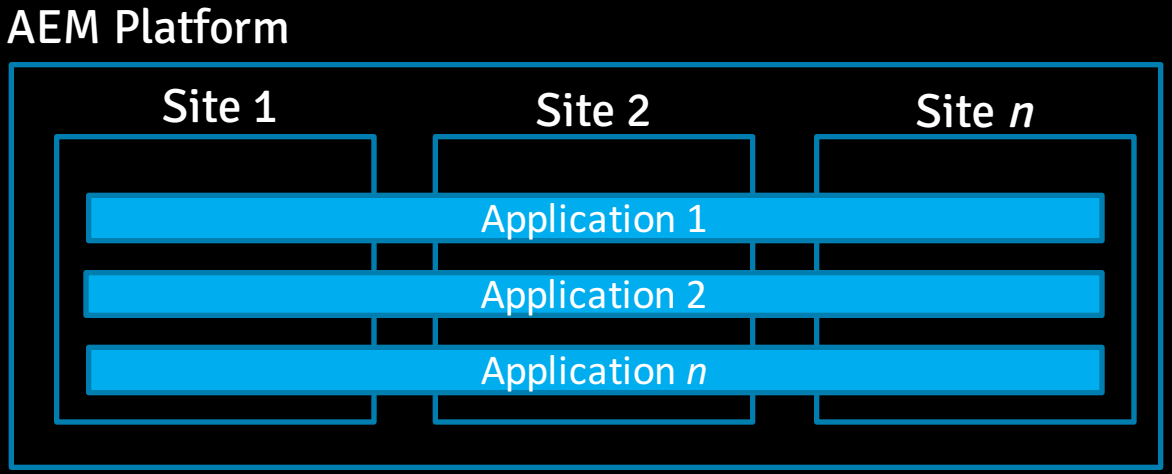
Background – building a platform

- Multiple sites



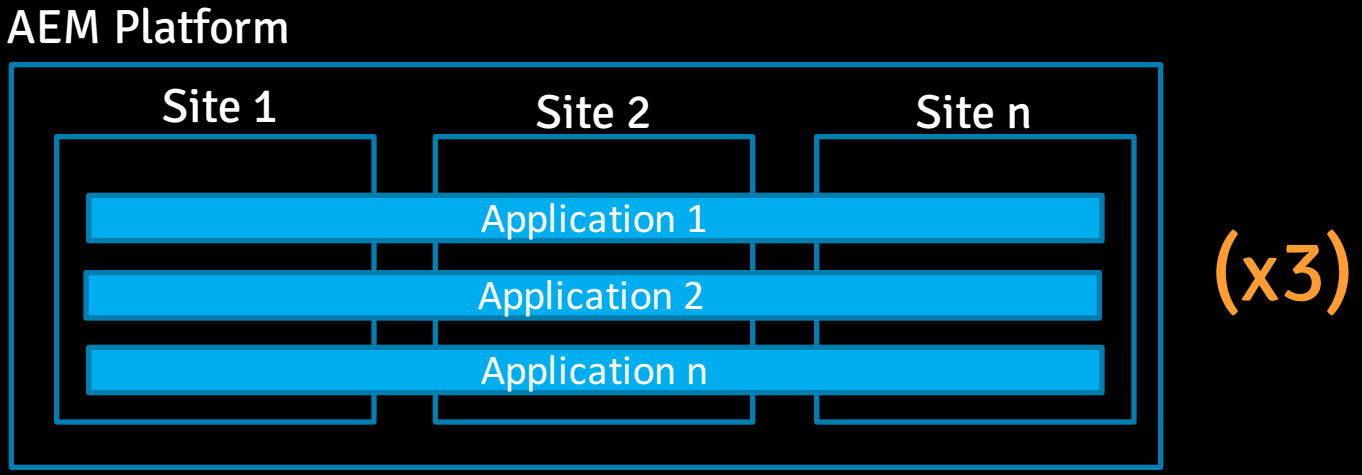
Background – building a platform

- Multiple sites & teams

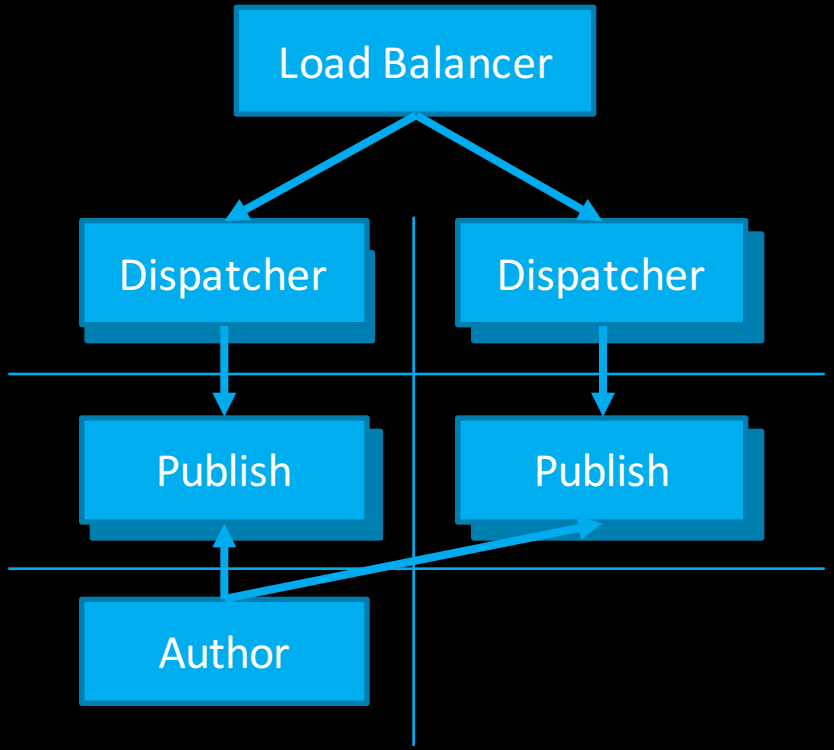


Background – building a platform

- Multiple sites & teams & regions



Typical deployment



Multi-tenancy

- Good: OSGi, namespaces
- Bad: Authoring customisation
- Ugly: Resource sharing, deployment, upgrades

Caching

- For best performance & scalability
- Reduce the need for runtime processing
- Most sites rely on >90% cache hit ratio
- Hardest problem: cache invalidation

Common problems

- Site “wobbles” courtesy of
  - Deployments
  - Content publishing
- Upgrades / Patching

Solution

- Pre-render site before publishing
- Serve site through web storage / CDN
- Remove *runtime* dependency on AEM

adaptTo()

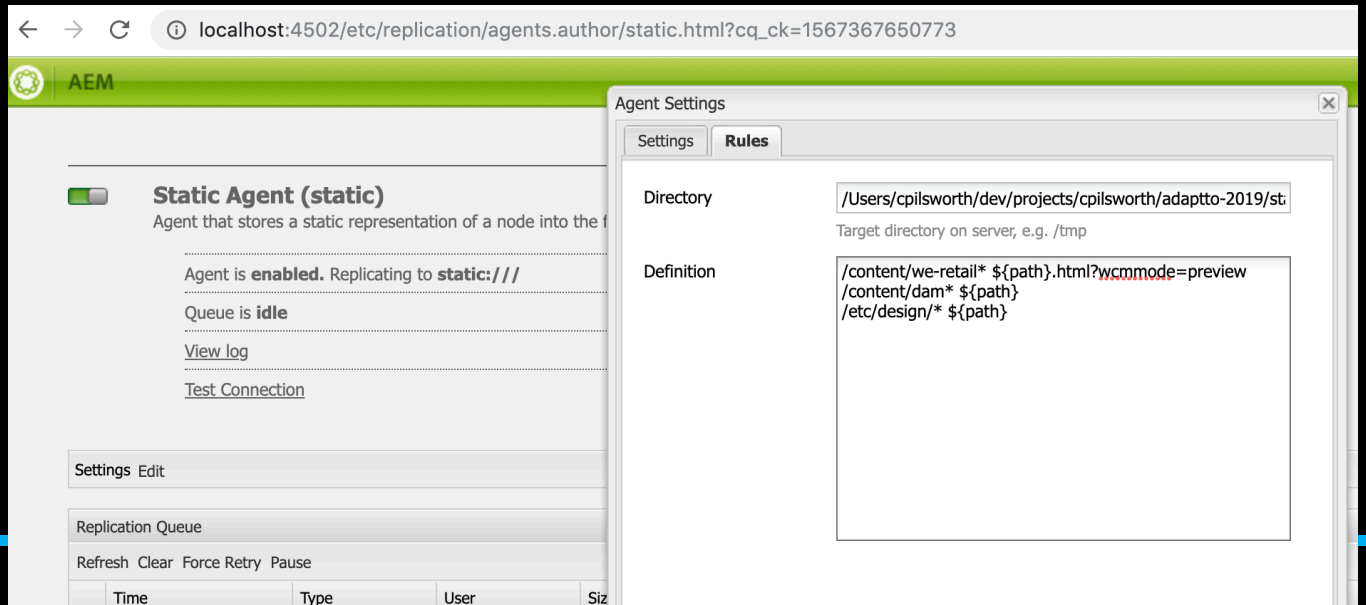
Patterns: Pull

- *Content sync*
- Flexible +
- Extensible +
- Problems
  - Relative URLs
  - Rewriting?
  - Licensing!?

```
+ weretail_go [cq:ContentSyncConfig]
  - sling:resourceType = "contentsync/config"

  + etc.designs.default [nt:unstructured]
    - path = "/etc/designs/default"
    - type = "copy"

  + etc.designs.mobile [nt:unstructured]
    - path = "/etc/designs/mobile"
    - type = "copy"

  + events.plist [nt:unstructured]
    - path = "/content/weretail_mobile/en/events/jcr:content/par/events"
    - type = "content"
    - extension = "plist"

  + events.touch.html [nt:unstructured]
    - path = "/content/weretail_mobile/en/events"
    - type = "pages"
    - extension = "html"
    - selector = "touch"

  + logo [nt:unstructured]
    - path = "/etc/designs/mobile/jcr:content/mobilecontentpage/logo"
    - type = "logo"

  + manifest [nt:unstructured]
    - indexPage = "/content/weretail_mobile/en/events.touch.html"
    - metadataPlist = "/content/weretail_mobile/en/events/_jcr_content/par/ev
```

Patterns: Push

- *Static replication agent*



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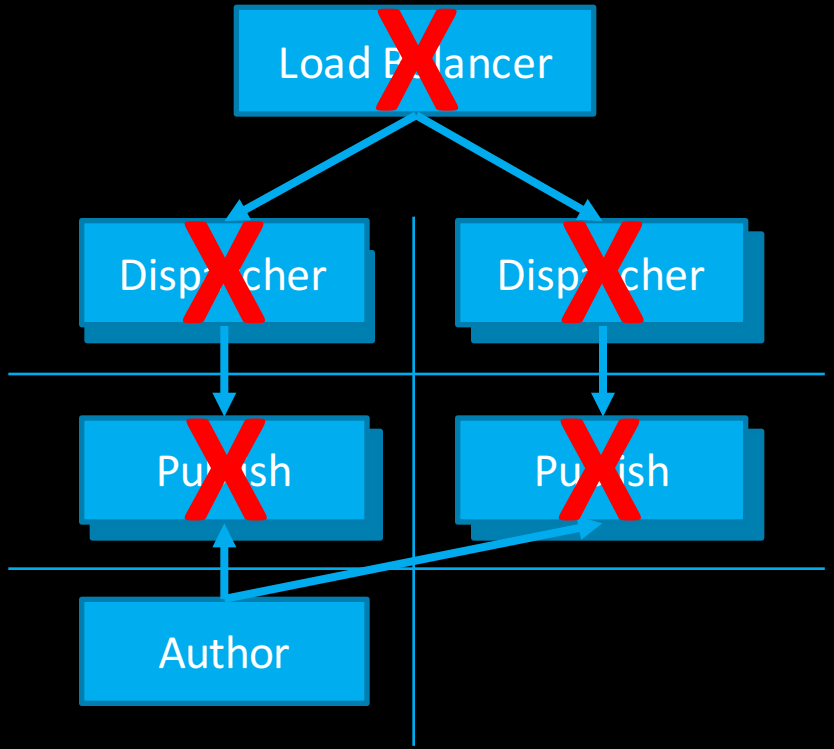
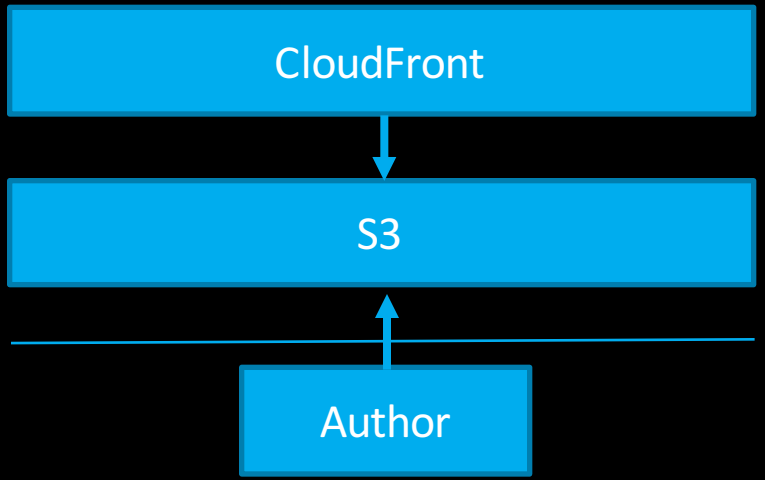
Selected Pattern: Custom Push

- *Custom S3 replication agent*
- Similar to static agent, but…
- Renders pages with Host header
  - Allows for sling mapping of urls
- Uploads directly to S3
- Regex path -> URL transformation

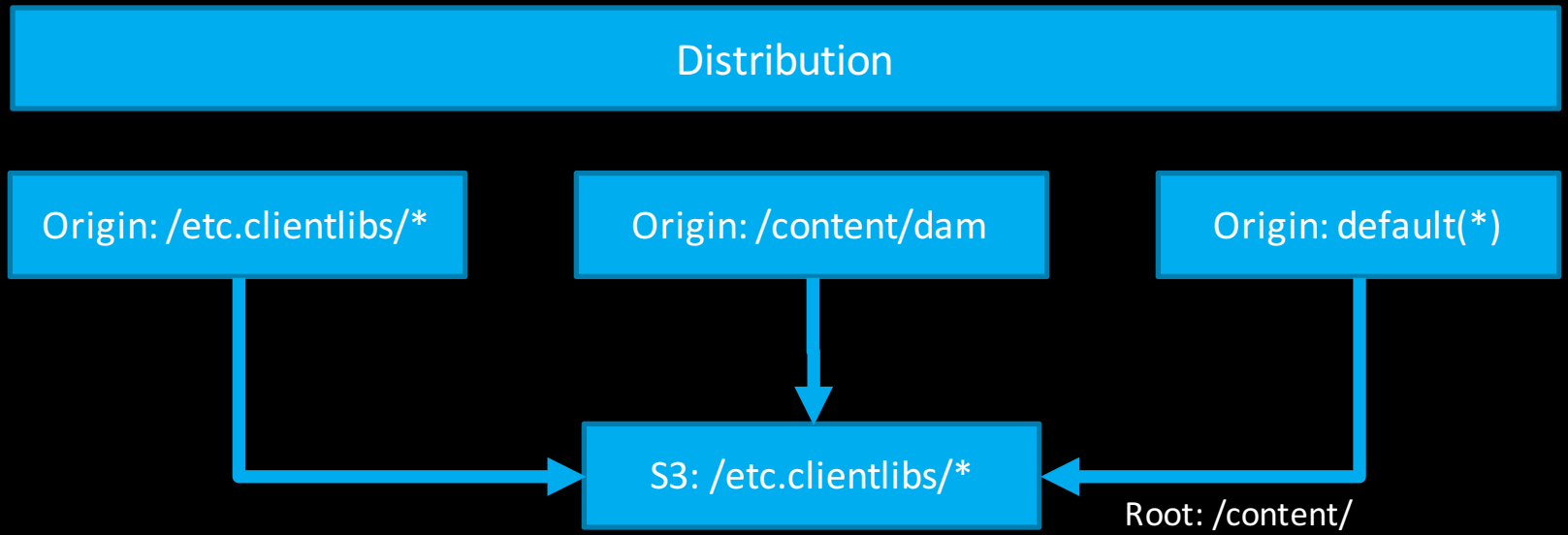
Static Publishing: what changes?



Static Publishing: simpler hosting



Static Publishing: CloudFront Setup



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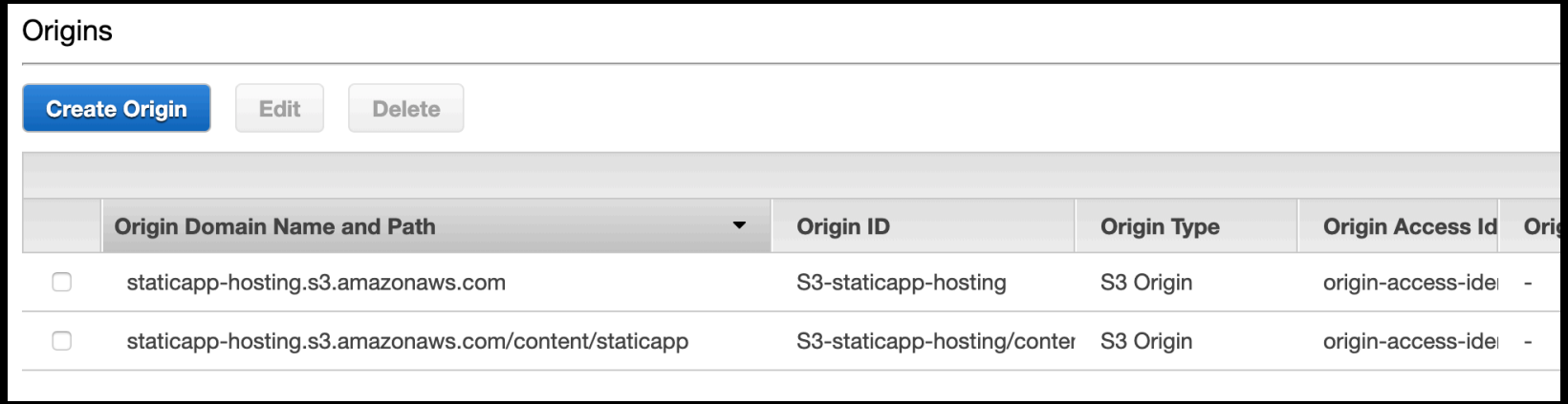
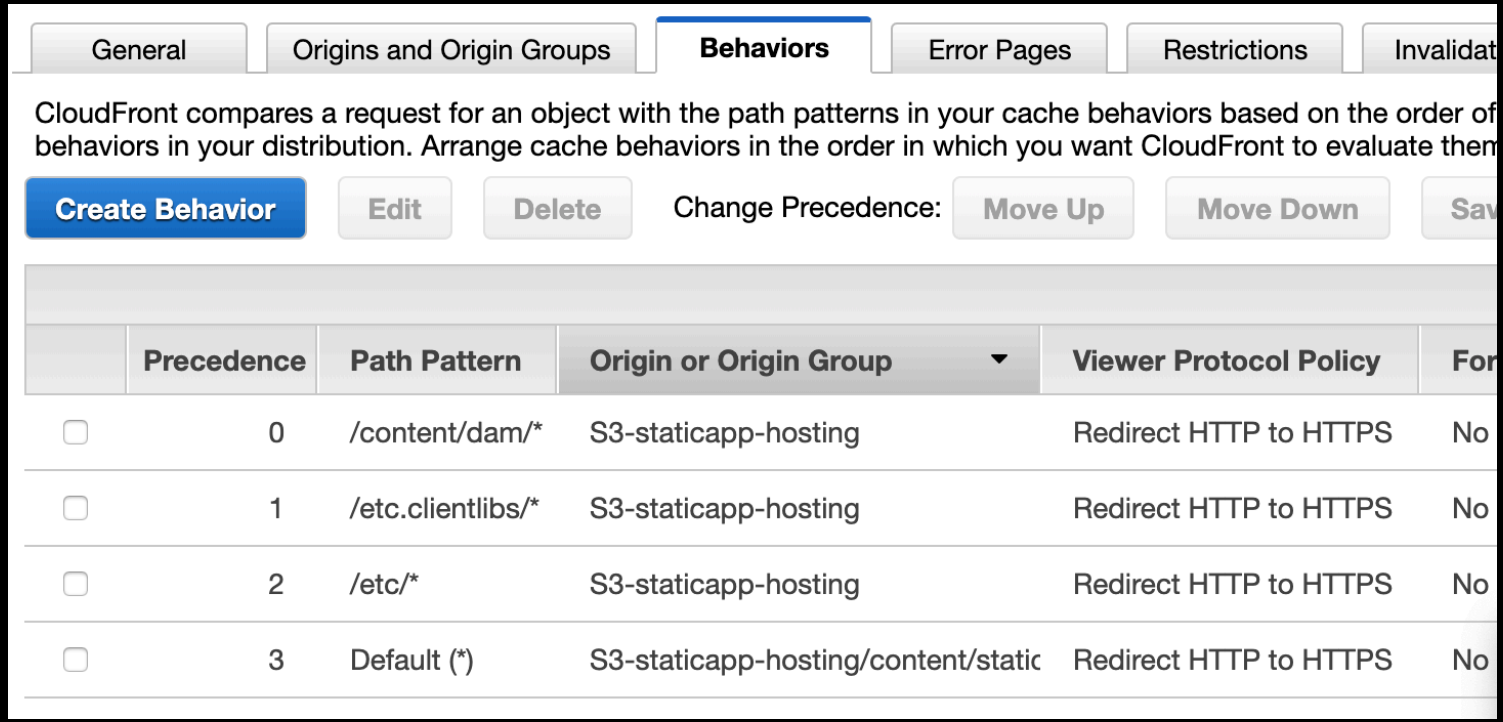
CloudFront Setup: Origins



CloudFront Setup: Behaviours



Benefits

- Lower cost
- Improved security
- First load performance
- Availability
- Resilience

Limitations

- Headers
- Redirects
- Form submission/validation
- Authentication

JAMstack

- Javascript | APIs | Markup
- Static asset hosting
- SaaS service integration for dynamic bits
- Rich client-side (e.g. React etc)

- Enriched ecosystem – great for *devs*

Retain valuable AEM features

- Content author experience
- Publishing workflows
- Content translation
- Asset management

Demo

adaptTo()

Future

- Metadata for incremental build
- Page associations

- Git replication agent
- IPFS replication agent

Conclusion

- Not for every site
- Getting easier to useful static sites
- Great potential for making site hosting easier
- *If you can live with the constraints*

Get in touch

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