

**adaptTo()**

APACHE SLING & FRIENDS TECH MEETUP  
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**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

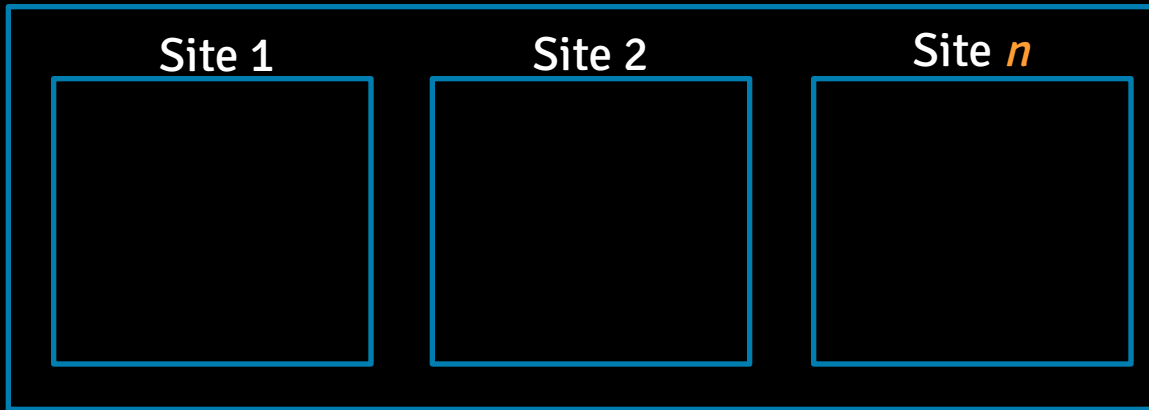
# Static site generation

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

# Background – building a platform

- Multiple sites

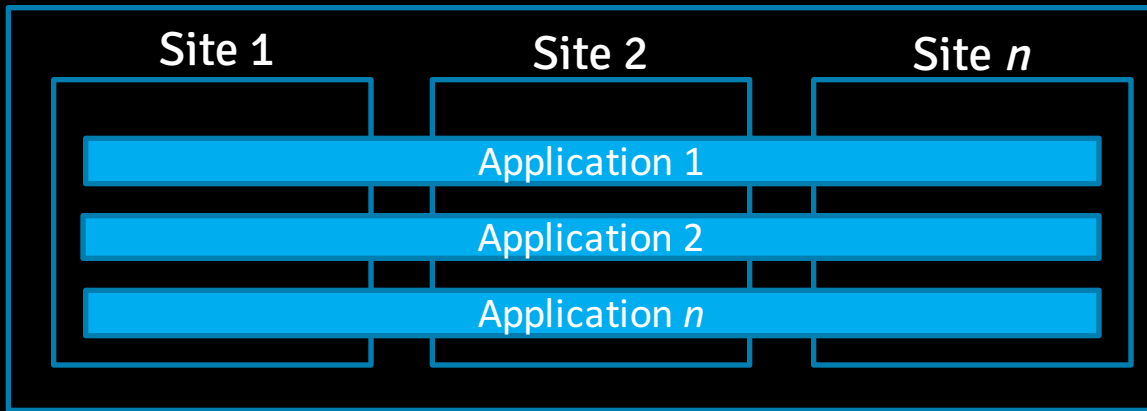
AEM Platform



# Background – building a platform

- Multiple sites & teams

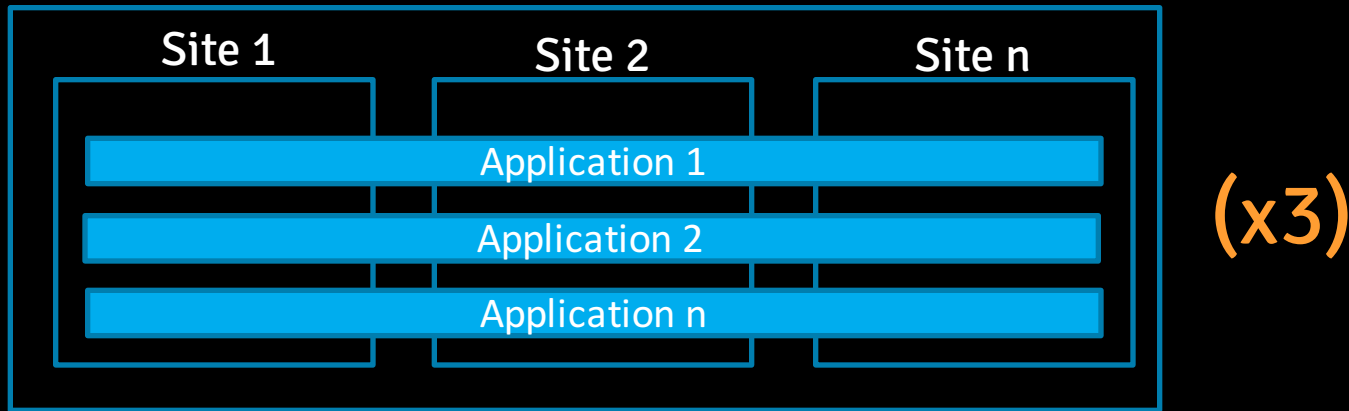
AEM Platform



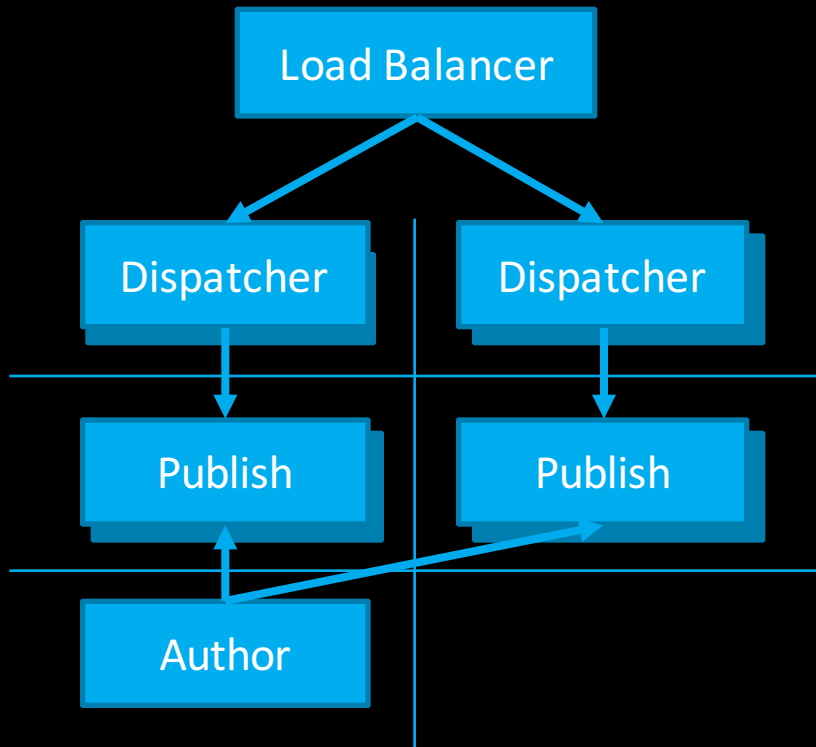
# Background – building a platform

- Multiple sites & teams & regions

AEM Platform



# Typical deployment



# Multi-tenancy

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



- 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

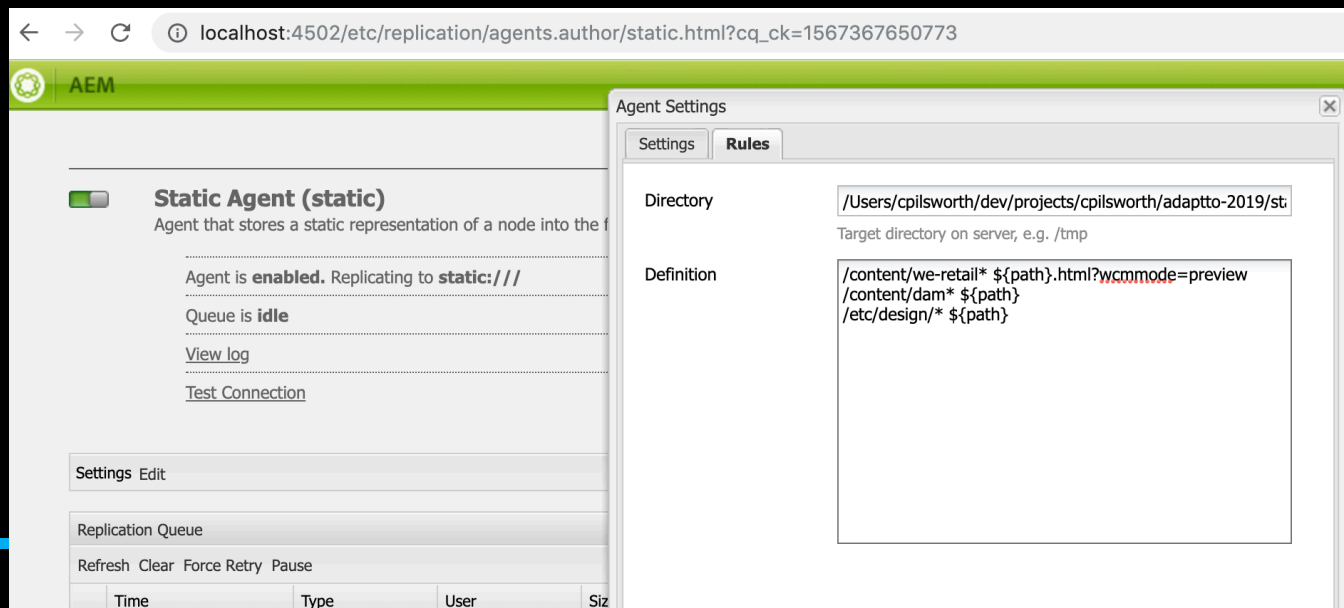
- Pre-render site before publishing
- Serve site through web storage / CDN
- Remove *runtime* dependency on AEM

# Patterns: Pull

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

```
1 + weretail_go [cq:ContentSyncConfig]
2 - sling:resourceType = "contentsync/config"
3
4 + etc.designs.default [nt:unstructured]
5 - path = "/etc/designs/default"
6 - type = "copy"
7
8 + etc.designs.mobile [nt:unstructured]
9 - path = "/etc/designs/mobile"
10 - type = "copy"
11
12 + events.plist [nt:unstructured]
13 - path = "/content/weretail_mobile/en/events/jcr:content/par/events"
14 - type = "content"
15 - extension = "plist"
16
17 + events.touch.html [nt:unstructured]
18 - path = "/content/weretail_mobile/en/events"
19 - type = "pages"
20 - extension = "html"
21 - selector = "touch"
22
23 + logo [nt:unstructured]
24 - path = "/etc/designs/mobile/jcr:content/mobilecontentpage/logo"
25 - type = "logo"
26
27 + manifest [nt:unstructured]
28 - indexPage = "/content/weretail_mobile/en/events.touch.html"
29 - metadataPlist = "/content/weretail_mobile/en/events/_jcr_content/par/ev
```

## ■ *Static replication agent*



The screenshot shows the AEM (Adobe Experience Manager) interface for configuring a Static Agent. The main panel displays the agent's status as "enabled" and "idle", with a "Queue is idle" message. Below this, there are links for "View log" and "Test Connection". A "Settings Edit" button is visible. A "Replication Queue" section includes "Refresh", "Clear", "Force Retry", and "Pause" buttons. A table with columns "Time", "Type", "User", and "Size" is partially visible at the bottom.

The "Agent Settings" dialog box is open, showing the "Rules" tab. It contains the following configuration:

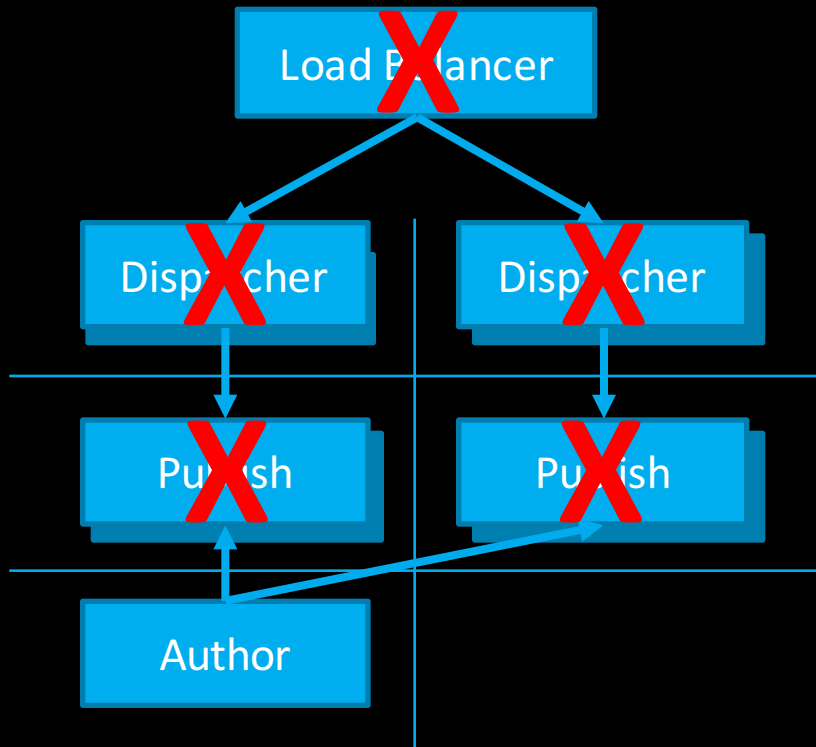
- Directory:** `/Users/cpilsworth/dev/projects/cpilsworth/adapto-2019/st`  
Target directory on server, e.g. /tmp
- Definition:**

```
/content/we-retail* ${path}.html?wcmmode=preview
/content/dam* ${path}
/etc/design/* ${path}
```

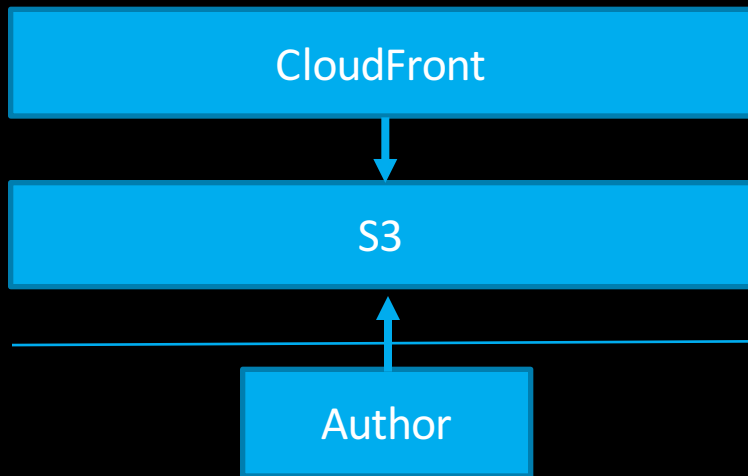
## Selected Pattern: **Custom Push**

- *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?

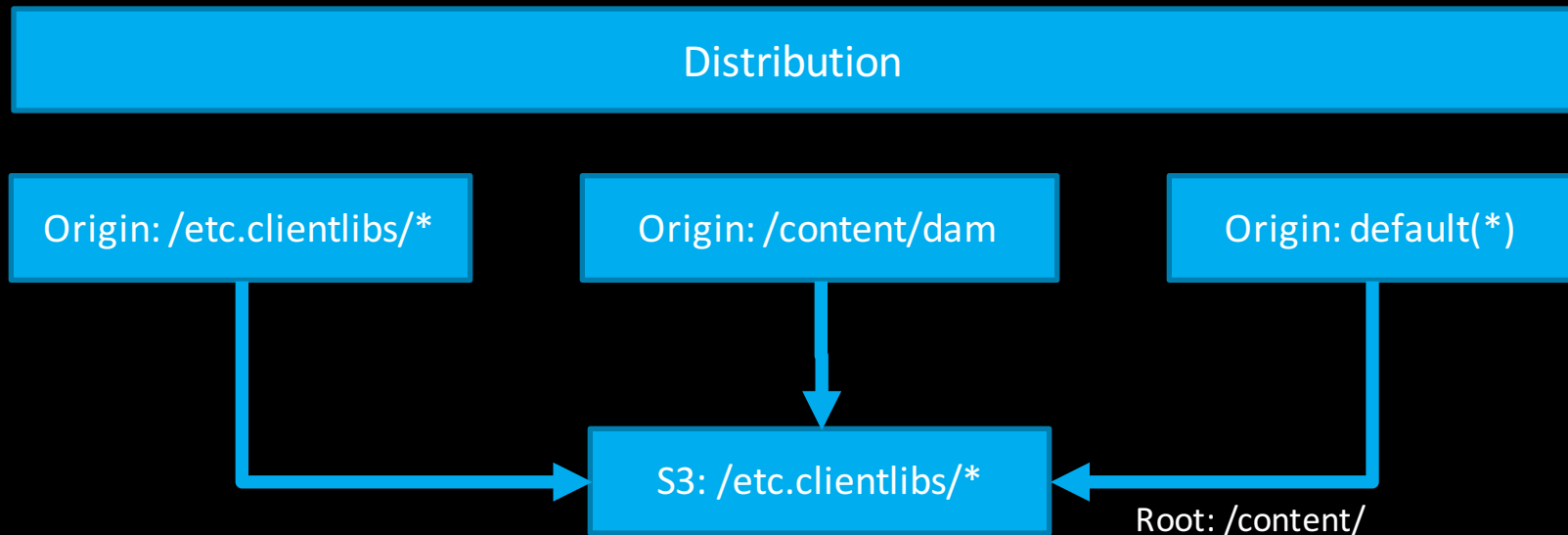


# Static Publishing: simpler hosting





# Static Publishing: CloudFront Setup



# CloudFront Setup: Origins

Origins					
<div>Create Origin Edit Delete</div>					
	Origin Domain Name and Path ▾	Origin ID	Origin Type	Origin Access Id	Origin
<input type="checkbox"/>	staticapp-hosting.s3.amazonaws.com	S3-staticapp-hosting	S3 Origin	origin-access-ide	-
<input type="checkbox"/>	staticapp-hosting.s3.amazonaws.com/content/staticapp	S3-staticapp-hosting/conter	S3 Origin	origin-access-ide	-

# CloudFront Setup: Behaviours

General

Origins and Origin Groups

**Behaviors**

Error Pages

Restrictions

Invalidate

CloudFront compares a request for an object with the path patterns in your cache behaviors based on the order of behaviors in your distribution. Arrange cache behaviors in the order in which you want CloudFront to evaluate them.

Create Behavior

Edit

Delete

Change Precedence:

Move Up

Move Down

Save

	Precedence	Path Pattern	Origin or Origin Group	Viewer Protocol Policy	Forward
<input type="checkbox"/>	0	/content/dam/*	S3-staticapp-hosting	Redirect HTTP to HTTPS	No
<input type="checkbox"/>	1	/etc.clientlibs/*	S3-staticapp-hosting	Redirect HTTP to HTTPS	No
<input type="checkbox"/>	2	/etc/*	S3-staticapp-hosting	Redirect HTTP to HTTPS	No
<input type="checkbox"/>	3	Default (*)	S3-staticapp-hosting/content/static	Redirect HTTP to HTTPS	No

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

- Headers
- Redirects
- Form submission/validation
- Authentication

- 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



- Metadata for incremental build
  - Page associations
- 
- Git replication agent
  - IPFS replication agent

# Conclusion

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

# Get in touch

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