AEM Cumulative Fix Pack (CFP)
October 26, 2016

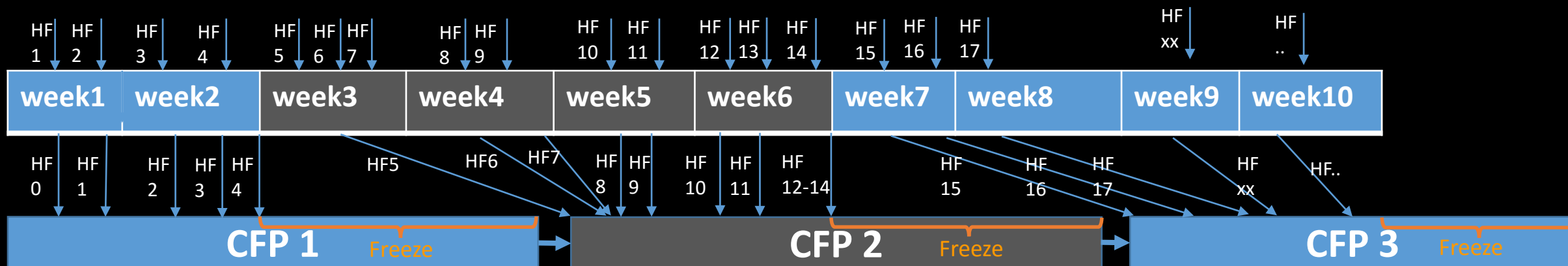# Introducing AEM Sustaining Engineering (ASE) Team

Current Hotfix (HF) Process | Concerns

- Regressions as most hotfixes are released without QA validation

- Hard to analyze dependencies in hotfixes (particularly after many HFs have been delivered)

- Most hotfixes are released to individual customers (not GA)

- Feedback from Customers that it's difficult to manage so many hotfixes

- Difficult to validate Feature Packs against each HF (only done for SP releases)

Introducing Cumulative Fix Pack (CFP)

- Single release vehicle for delivering HFs for all components
- QA validated by CFP team with assistance from component teams
- CFP's are cumulative (e.g. CFP 3 = CFP1 + CFP2)
- Customers do not need to find/resolve dependencies between CFPs
- CFPs are dependent on Service Packs (i.e. 6.1SP2-**CFP1** is a different package than 6.1SP3-**CFP1**)
- CFPs have been started on AEM 6.1 and will be rolled out on other AEM releases in future
- There will be a 2 week "open period," then a freeze for GA

Cumulative Fix Pack *vs* Service Pack

	Cumulative Fix Pack	Service Pack
• Release cycle	• 4-5 weeks	• 12 - 16 weeks
• Scope Freeze	• 15th of every month	• After 6 weeks from initiation
• Inclusions	• Hotfixes requests resolved within scope timeline (not released) • Security fixes (if any)	• Released Hotfixes till HF scope freeze date • Other critical fixes (security, customer reported bugs, usability improvements) • Common interest FPs already in production use
• Component Team contributions	• **All fixes have automated tests (*DoD*)** • CFP team to run IT tests • Teams can optionally test CFP loads • Limited platform (OS, App Servers, DB, etc) validation	• With adoption of CFP,s all fixes will eventually have automated tests • Sanity done by component teams • SP team validates Service Pack against broader platform configuration • Includes validation against actual customer AMS instances (like Gap and Levis)

Change in Hotfix Process

- Going forward, all hotfixes resolved for AEM 6.1 would be delivered through CFP process

- Teams should avoid doing hotfixes going forward and target fixes for inclusion in CFPs

- Customer Care will direct customers away from HFs in favor of CFPs
  - Note that there will be an exception process for P0 scenarios (P1) where HFs will go through approval process

Releasing Hotfix through CFP process
• Create NPR for Hotfix request issues once corresponding CQ issue is resolved • Verify the NPR fix on current CFP's snapshot build • If everything works fine, mark Hotfix request NPR as resolved • **Link this NPR to CFP NPR**

CFP Developer Cookbook

- Developer fixes issue in code as usual and release corresponding OSGI bundle for the java file change.

- Developer do required changes in content files (jsp, css, js etc).

- _Developer contributes IT (or Hobbes) tests for the hotfix._

- Developer releases component content package.

- Developer updates CFP pom with component's content package version.

- If fix spans multiple components, developer has to follow same process for each component.

- Developer builds snapshot version of CFP.

- Developer verifies his fix on snapshot version of CFP.

- There is no need for developer to release CFP. CFP team will do release of CFP.

- This process is almost similar to that of current hotfix process but developer doesn't have to release hotfix for it.

Quality Coverage | System Level

Install Scenarios

- **TarMK**
  - Package manager via curl
  - Install folder
  - nosamplecontent
  - File Data Store
  - S3 DataStore
- **Mongo** Cluster
- **RDBMK** (DB2)

Logs Analysis

- **Error** Log
  - Clean Install Experience
  - Errors Coming due to new code
  - Helps avoid unwanted Support Tickets
- **Activity** Log (Package Mgr.)
  - Find content updated or deleted.
  - Deletion cause of alarm!!

Bundle Comparison

- **Bundle**
  - Added
  - Deleted
  - Updated
- Bundle **States**
  - Active
  - Installed etc.

Re-indexing check

- Helps find issues around re-indexing repo when package contains **new or updates indexes**
- Could take hours (days) for large repos!!

Quality Coverage | Functional Level

Issue Verification

- Automated Tests
- Manual Verification*
- Regressions
  - In Hotfixes
  - In Other Areas

Automation

- 3057 Integration Tests
  - Core (1544)
  - Assets (879)
  - AEM Forms (634)
- UI Hobbes Tests (*in-process since CFP2*)
  - Sites
  - Assets

Misc.

- Basic Sanity
  - Sites
  - Assets
- LDAP basic integration workflow
- Performance tests (Basic)
  - Core
  - Assets

Developer provides following quality assurance for all fixes:

Bug Template to be updated in each HF to be included in CFPs

- [ ] This was already covered by an automated test (mostly for IT failures).
- [ ] An existing automated test has been update.
- [ ] A new automated test has been created.
- [ ] The change is not yet covered by an existing or new automated test.
- [ ] The validation can't be automated

Exceptions Process – Handling P1 and urgently needed P2

- Developer follows CFP's cookbook & provide fix for the issue.

- Developer releases CFP and verifies fix in released CFP.

- Developer can run one round of IT tests to avoid regression.

- This CFP will not be qualified by CFP QE and would be delivered to customer as interim fix.

- This interim CFP will be private to that particular customer.

- The next publicly released CFP would contain that fix and customer should be advised to apply publicly released CFP over interim CFP.

- **HF to be released out of CFP process needs to be approved by Gary Robbins.**

- Customer Care will continue to vet before releasing to customer.

Open Risks

- As CFP & private feature packs are released from separate branches, CFP will not be compatible with private feature pack (current issue with HF and SPs).

- Customer having private feature pack will not be able to apply CFP without validation of FP.

- For these customers, CFP compatible feature pack may need to be re-released by the respective component teams (Same as existing SP process - FPs are not validated against HFs).

- If teams do not follow DoD, the overall quality of CFP would be at risk.

Value Proposition | CFP

6.1SP2-CFP1
(Released)

- Included 38 HFs

6.1SP2-CFP2
(In Progress)

- Includes 45 HFs
- **Regressions Avoided for 7 issues**

6.1SP2-CFP3
(Planned)

- Includes 22 HFs
- Scope Freeze : 11/15

Useful Links

- CFP wiki https://wiki.corp.adobe.com/pages/viewpage.action?spaceKey=WEM&title=AEM+Cumulative+Fix+Pack#

- Developer Cookbook https://wiki.corp.adobe.com/display/WEM/Developer+Cookbook+-+For+CFP

- CFP Feedback https://wiki.corp.adobe.com/display/WEM/CFP+Feedback

- CFP FAQs https://wiki.corp.adobe.com/display/WEM/CFP+FAQs

In case of any other feedback reach out to Nitika Mangla (PgM for ASE team) at nitika@adobe.com