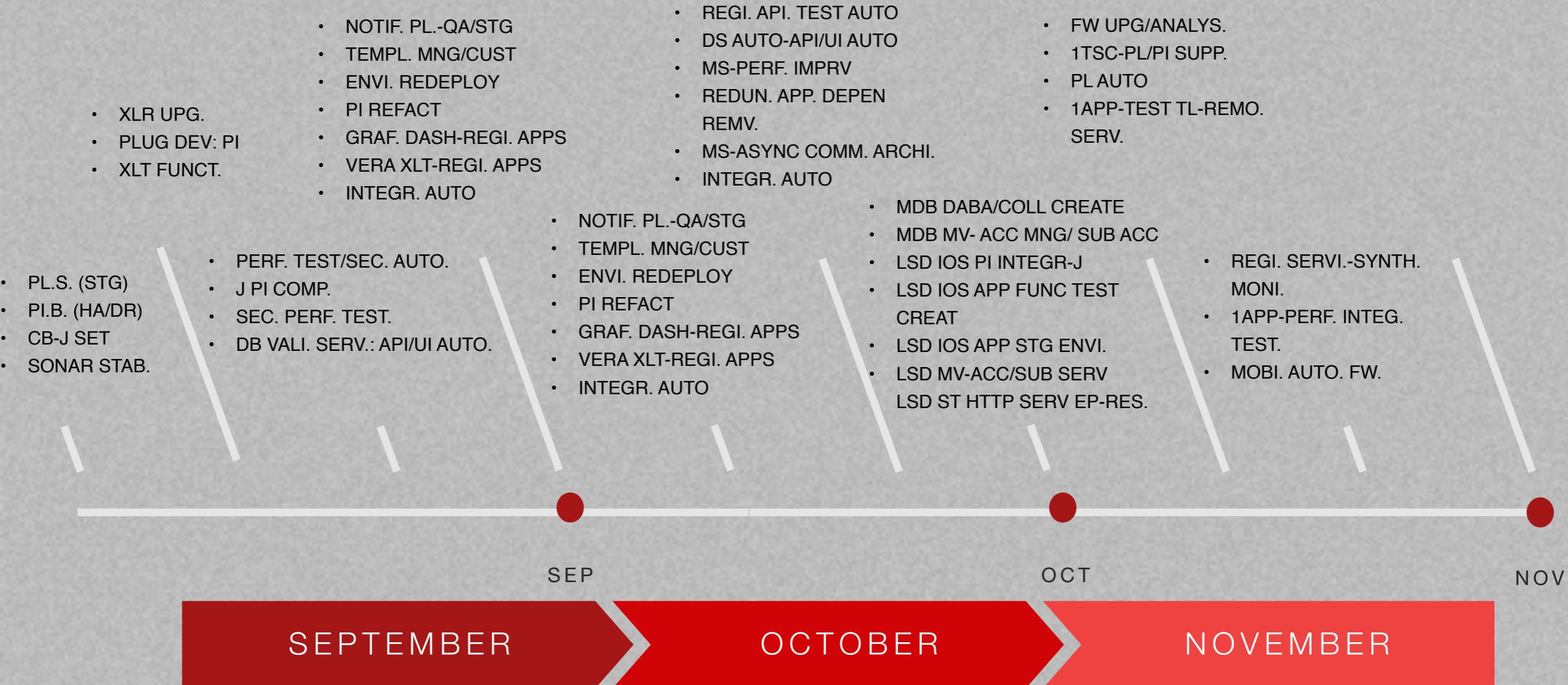


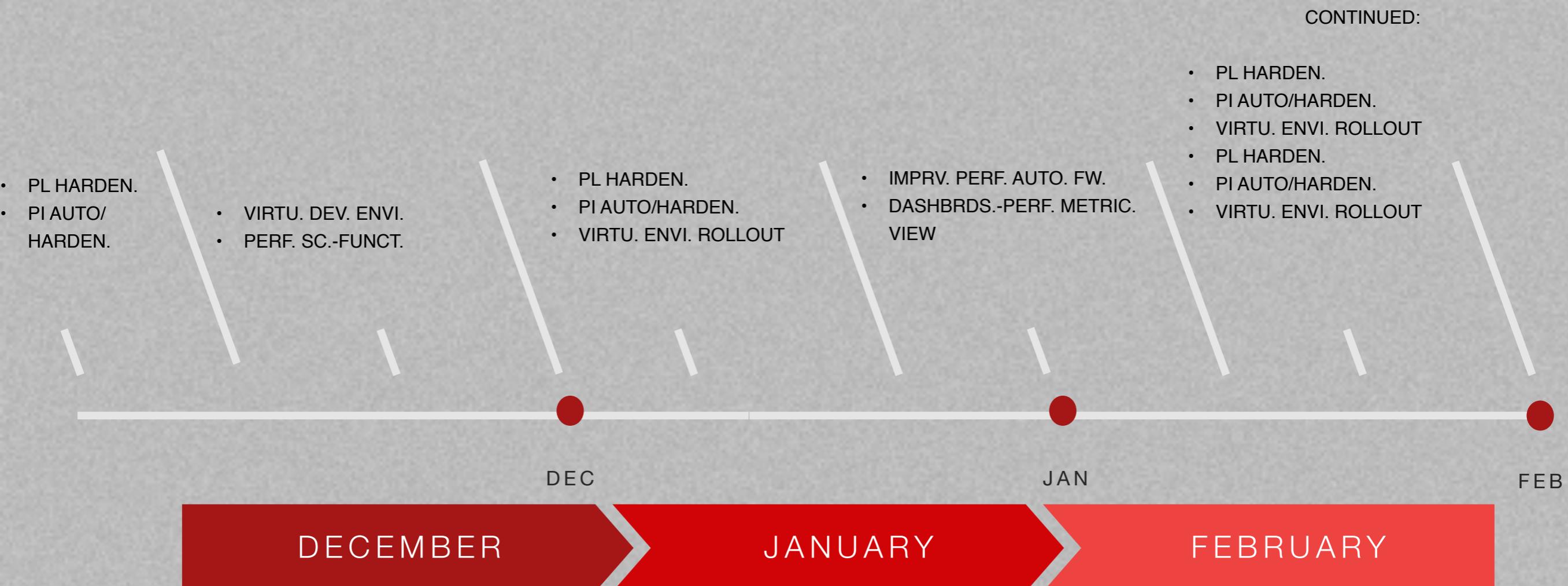
CTP - HXF RoadMap

SEPTEMBER - DECEMBER 2018 - HIGH LEVEL VIEW



CTP - HXF RoadMap

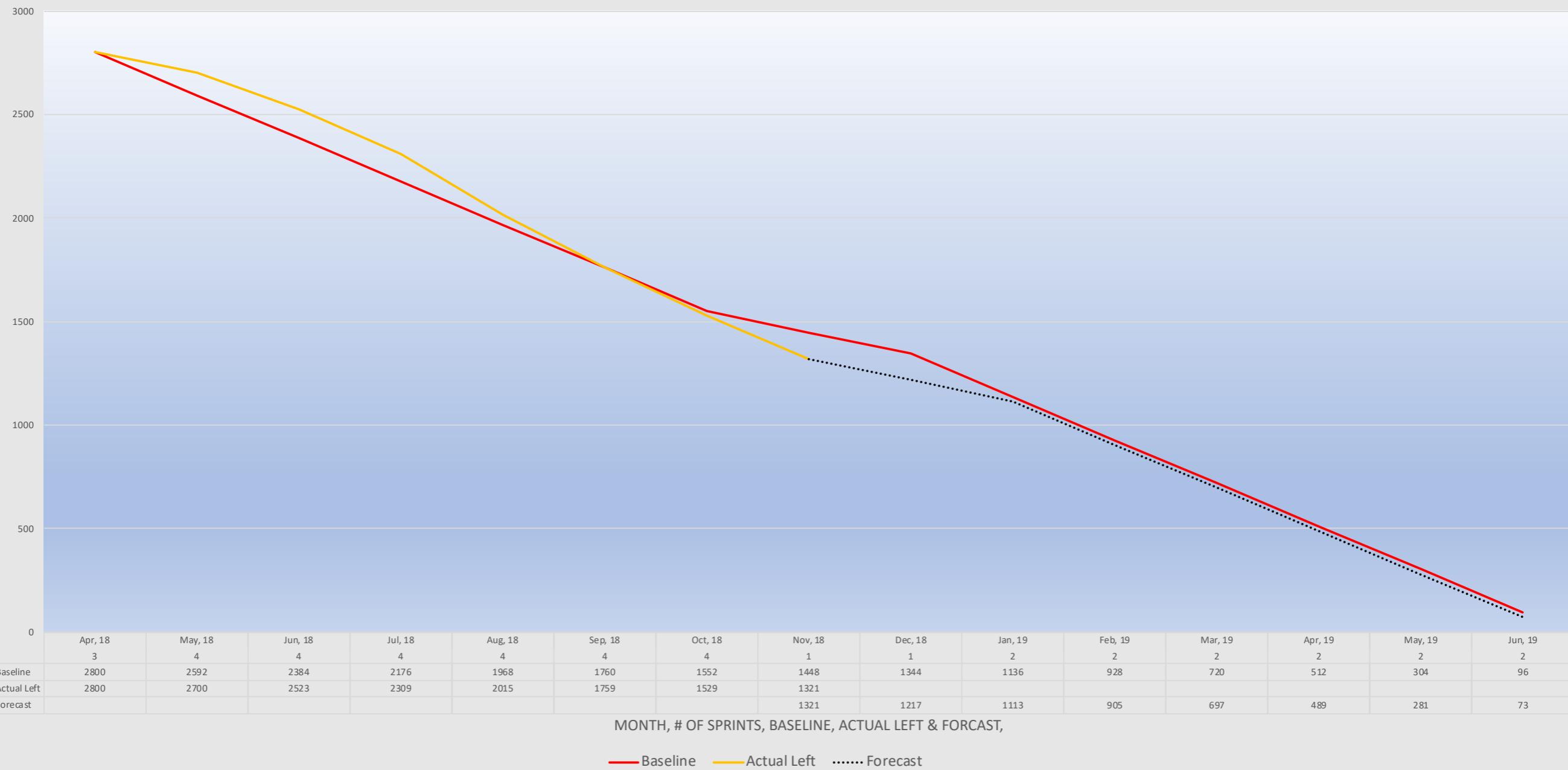
DECEMBER - FEBRUARY 2019 - HIGH LEVEL VIEW



CTP - HXF Burndown

WITHOUT SEASONAL LOSS

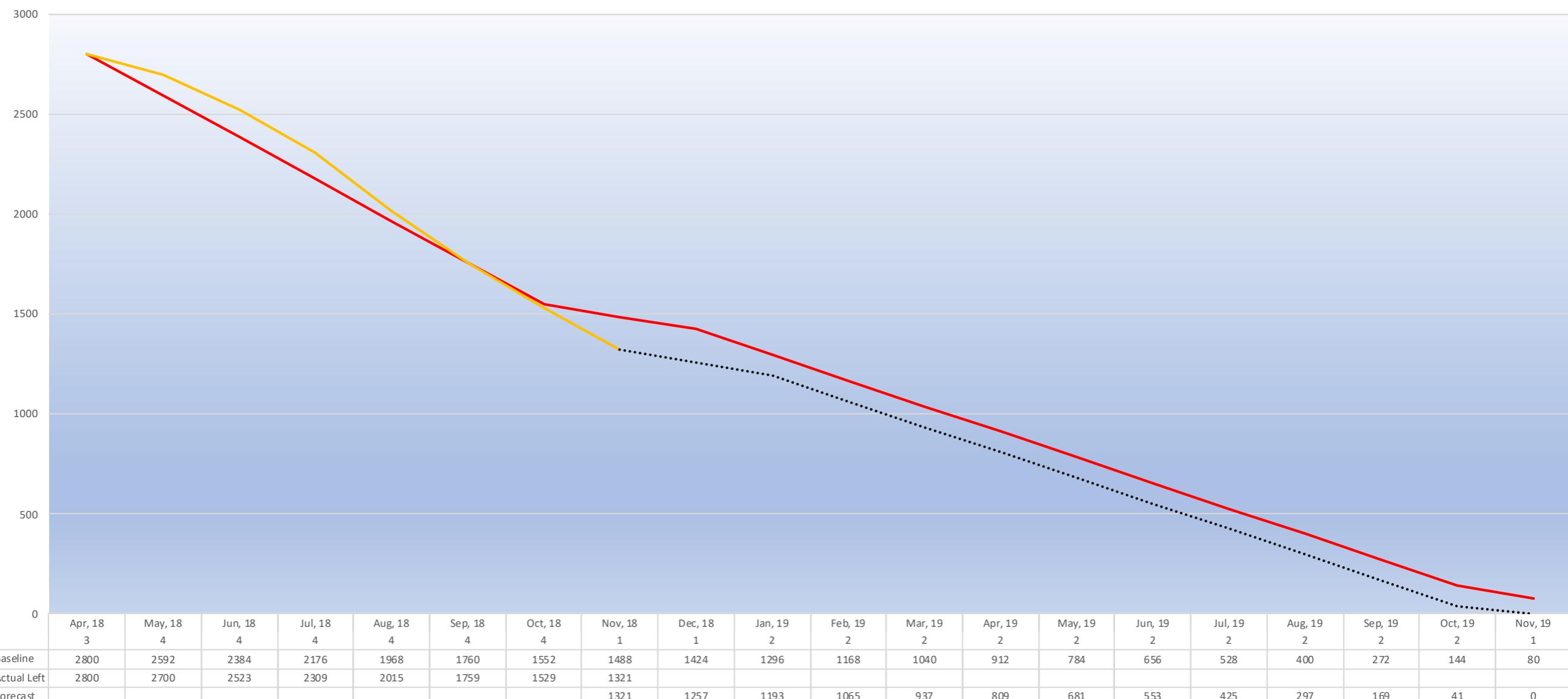
HXF Plan



CTP - HXF Burndown

WITH SEASONAL LOSS

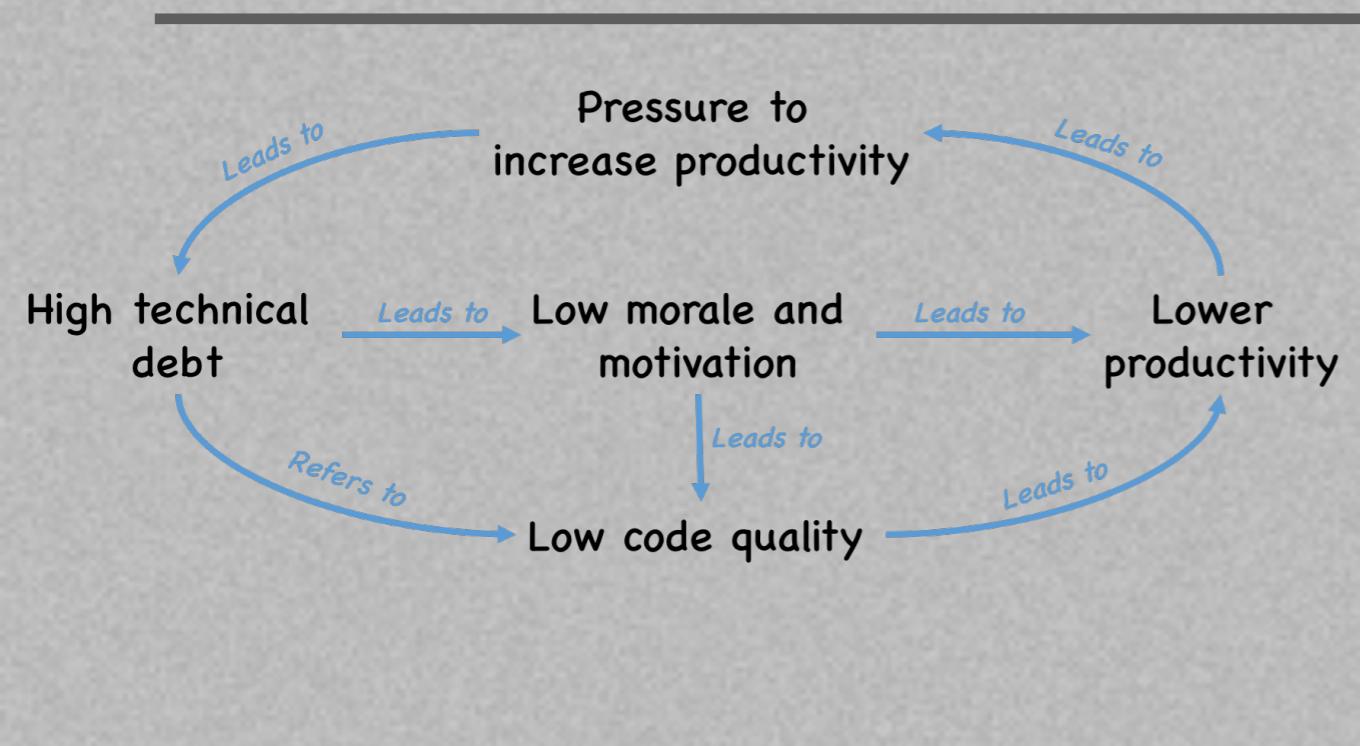
HXF Plan



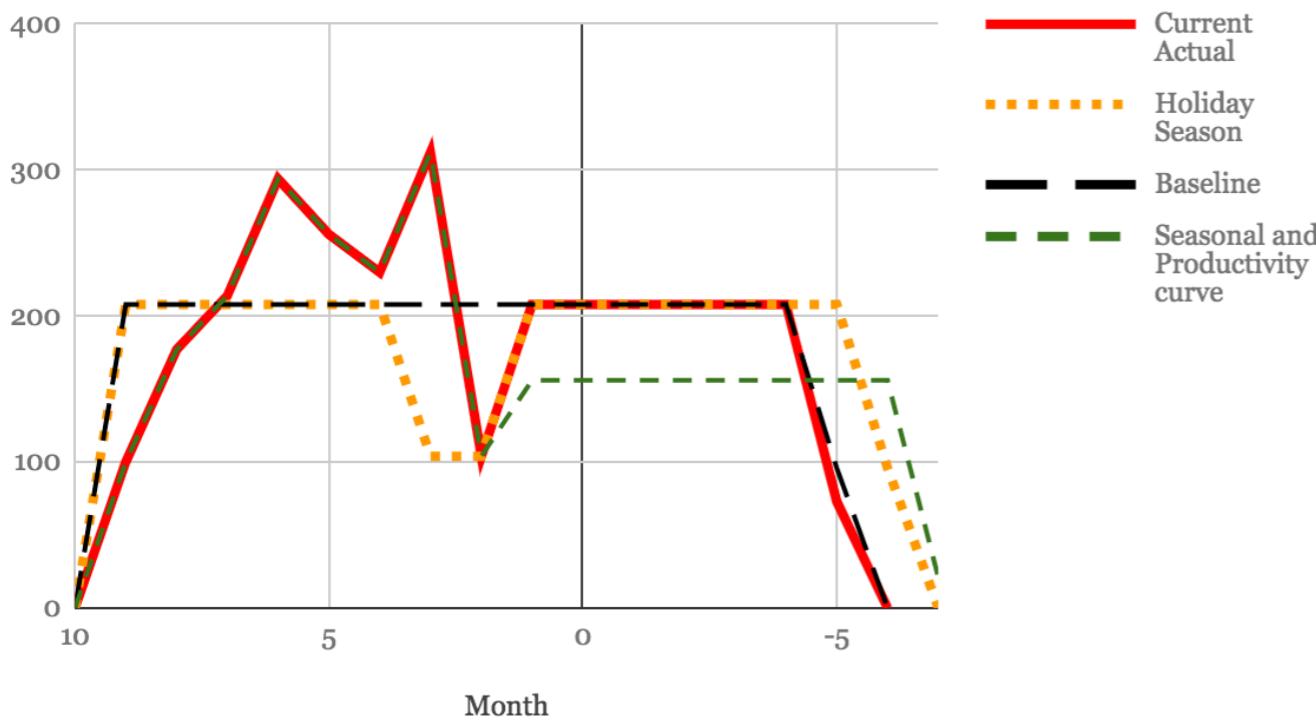
MONTH, # OF SPRINTS, BASELINE, ACTUAL LEFT & FORECAST,

— Baseline — Actual Left Forecast

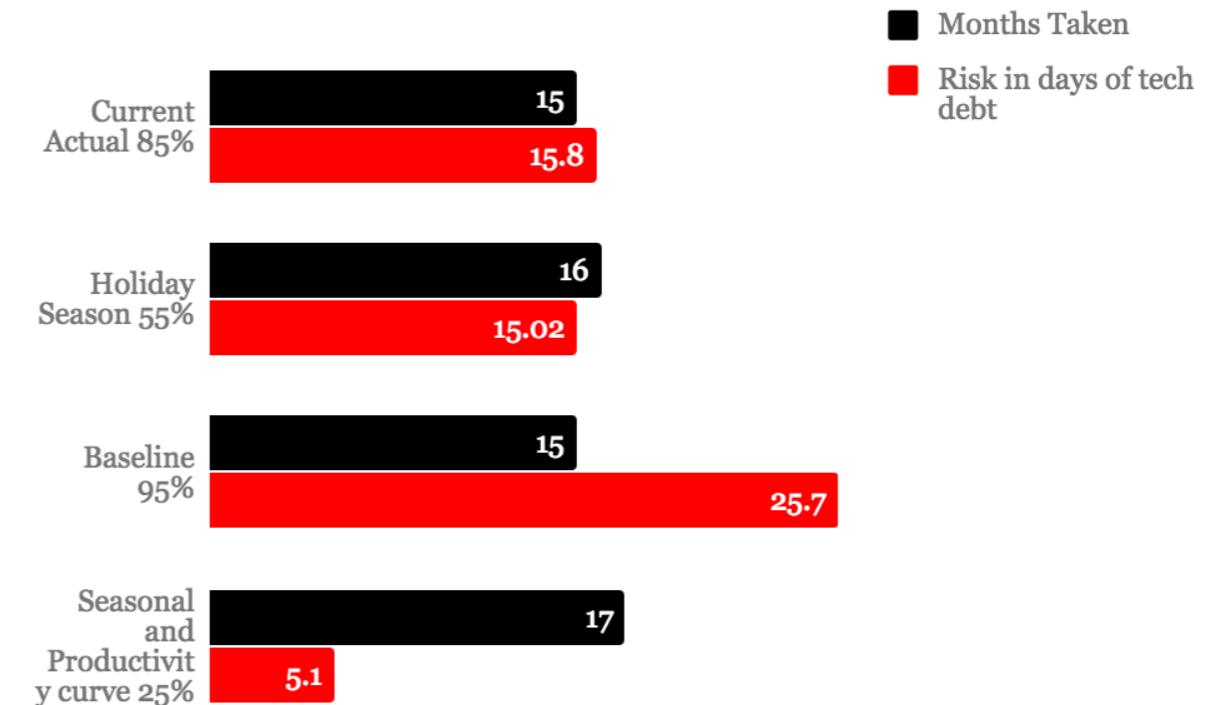
CTP - HXF Tech Debt



Effort Point acceleration



Months Taken and Risk in days of tech debt



**Tech Debt Directly
Relates to \$\$\$**

CTP-HXF Roadmap

OCT 31, 2018

NOTIFICATION
PLATFORM AND
TEMPLATE SYSTEM

DEV AND QA REDEPLOY

**Updating to emulate STG,
this is by no means an
automated process. The
process has been refined and
excess can be cut from cost.
There are still a lot of manual
pieces here which can cause
for behavior to change**

Risk Assessment: **EXTREME**

Enable Notification Platform - QA/STG

Estimated Story Points	70
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- Email/ SMS Notifications using standard template QA/STG;Push and Silent notifications for QA/STG;Test Emails servers and Mobile numbers for notifications server set up in QA/ STG;Notification Service build Support/ guideline to App teams;

Template Management/ Customization

Estimated Story Points	50
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- Manage and create custom templates;Modify custom templates;Template management source set up configuration and Integration;

Environment Redeployments

Estimated Story Points	65
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- Redeploy QA Using Networking & ECS TF Scripts; Redeploy Dev Using Networking & ECS TF Scripts;Synthetic Monitoring for Services on STG (Any defined available use cases) – Risk (Defined by JIT)(Scoping - One Portal/ One APP / CVS(API's);Continue System Integration Testing - Automation(Functional ,Performance);Continue E2E Test AutomationAPI Gateway for Alpha team (Single Team) - Dev & QA configuration;Testing(Includes Functional, Performance, Security(Veracode,Tunit));API Gateway for Alpha team (Single Team) - Dev & QA configuration;

CTP-HXF Roadmap

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ADDITION ENVIRONMENT PATH

This requires new peering and integration testing in addition to normal environment launch testing. Unknown if new DNS entries and routing are needed with SSL certification acquirement.

PIPELINE IMPROVEMENTS

Stepping towards refactoring to stabilize the pipeline. This appears to be working, however one item goes down or is unresponsive the whole pipeline is effected. This is high risk for failure and mistrust in application teams on the pipeline.

Environment Redeployments

Estimated Story Points	65
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- Full Env Needs Gathering (Gateway / WAF, code ready?);Launch New Env - (multi region? regional edges?);Deploy Process Modification / Manual ? New PipeLine Deploy ?

Pipeline Refactor / Analysis

Estimated Story Points	120
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- Jenkins Cloud bees - Enterprise Set up (team Masters);XLR - Pipeline management (New Plugins Integration and use);Task based deployments (Risk Cucumber Plugin Development);Jenkins Cloud bees - Migration of current Jobs to Operation center;Authentication & Authorization change for the pipeline;Cloud Front set up STG and SSL Certificates (Static S3 Contents);Integrate One App Mobile builds to Jenkins master - AWS (Risk acquiring IOS build machines TMNA entry points for cloud direct connect)

CTP-HXF Roadmap

OCT 31, 2018

NEW TEAM TO SUPPORT

Rapid pilot application release, supporting all aspects of this product pilot release with use of best practices, and collaboration from Account and Subscription teams. Brunt of the work, mentoring, training / guidance will come from HXF.

IMPROVING VISIBILITY

Quicker root cause analysis, trends, and eventually ML reactions to automate issue resolution is the goal here. This visibility allows for quicker resolution and improved SLAs upon issues, which all for tuning of the application which is much needed at this point due to all the tech debt taken on which puts the application at high risk for failures, as this tech debt was not taken on upfront, and testing as a priority has not yet been fully adopted.

Lexus Subscription Dealer Pilot App Support

Estimated Story Points	80
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- New DB - STGLSD - create new collection - reservations;Mentoring - Arch Design / for rapid development - deployment;Stitch Http Service EndPoints and Functions;STG Account / Subscription Manual Copy to STGLSD Env;Stitch Key Authorization;DB Collection Rules;Pipeline for iOS builds with Release download Static page;iOS Certificate Manager;Functional Smoke Tests;iOS integration with Cloud Jenkins / mac stadium integration with Cloud Jenkins;Aquire SSL Cert / Install in Cert Manager;LSD DNS Entries;History and Logging Addition to LSD

Platform Monitoring

Estimated Story Points	24
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- ElasticSearch Tuning; Serverless Cloudwatch to EKK;Serverless xray - Tracing;AppD Beta For Serverless - Lambda / Fargate

CTP-HXF Roadmap

OCT 31, 2018

NONE CYCLOID DECISION MAKING

With the larger picture in mind, HXF provides guidance, explanation and training for the best operation path forward. This includes always looking and implementing full solutions looking at a much larger picture in order to reduce overhead and improve SLAs.

Training Mentoring - All App Teams

Estimated Story Points	36
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- Sessions / Session Coordination

All Team Support

Estimated Story Points	100
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- Daily Interrupts - Platform;Daily Interrupts - Pipeline;Daily Interrupts - Application;Daily Interrupts - Technology Direction

Technology Selection Direction

Estimated Story Points	80
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- Operational Cost Impact - (Application, Infrastructure, Vendor Selection, Surprise / Unknown Forced Technology Decisions);Quality / SLA Impact - (Application, Infrastructure, Vendor Selection, Surprise / Unknown Forced Technology Decisions); Explanation of Decisions for Architecture - Options Narrowed to Selection

CTP-HXF Roadmap

NOV 30, 2018

APPLICATION CHANGES

While the word application is used, this impacts both front and backend and always HXF. Some forced 'policies' will be challenged as they do not make operational sense at all. In addition application teams will be required to make coding changes and adopt better practices. While this is happening HXF will also be tuning it's automation to be in line with new known requirements which are ever changing in scope.

Frame works Upgrade/ Analysis / Risk / Impact

Estimated Story Points	120
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- Solution Analysis for Golang, Serverless, Nodejs - JAVA Replacement;Forge rock Integration for CTP;Solution Guideline for implementation of Logging;Spring Cloud bus;LEAN Practices - Sluth log stream to kabana ES;Static heap memory collection to a singleton, move logging from intercept patter to disrupt pattern;Solution Analysis and POC for INS Markit;

Frame works Upgrade/ Analysis / Risk / Impact

Estimated Story Points	70
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- Integration of One TSC services into AWS Platform; Integration and training for One TSC Services release pipeline; Identify acceptance testing requirement for One TSC; Provide One TSC with boiler plate and documentation for pipeline Acceptance testing;

Platform By Automation by ~ 30%

Estimated Story Points	100
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- Adding to Stubbed out wireframe TF based some known manual processes for all Environments.; Synthetic Monitoring dashboard and alert improvements; System Integration Testing - Automation (Functional ,Performance); E2E Test Automation Testing (Includes Functional, Performance, Security (Veracode,Tunit)); API Gateway - STG/QA configuration;

CTP - HXF RoadMap

NOV 30, 2019

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Virtualizing Local Environment Rollout Phase 1

Estimated Story Points	46
<input checked="" type="checkbox"/> ElasticSearch Tuning; Cloudwatch to EKK stream transformations ~15%;Serverless xray - Tracing-Timing Alerts;AppD Beta Integration - Testing	

CTP-HXF Roadmap

NOV 30, 2018

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All Team Support

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------------------------	-----

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Technology Selection Direction

Estimated Story Points	96
------------------------	----

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CTP-HXF Roadmap

DEC 31, 2018

HARDENING AND AUTOMATION

VIRTUALIZED LOCAL DEVELOPMENT ENVIRONMENT

Platform Hardening

Estimated Story Points	120
<input checked="" type="checkbox"/> Capacity and Sizing of services;MongoDB Structure Analyses & Tuning;WAF Configuration & tuning;Security Audit;	

Pipeline Automation and Hardening

Estimated Story Points	100
<input checked="" type="checkbox"/> Cognito Integration with SSO Authorization for users;To define and Implement Role based and Team based security model for XLRelease.;	

Virtualized Local Development Environment

Estimated Story Points	80
<input checked="" type="checkbox"/> AWS Dev Environment Replication for localize environment managed by Vagrant/Vbox;Interface Cross application teams identifying minimal local development needs;	

CTP - HXF RoadMap

DEC 31, 2019

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All Team Support

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