Program Increment 4: Tis the Season for Releases!

Mission Priorities and IT Projects in Development from October 22, 2020 – January 13, 2021

Program Increments (PI) are foundational to RMD's commitment to delivering software or application functionality to customers in smaller, faster, consumable increments through Agile IT development. As our Agile development processes mature, these program increments will become shorter and our incremental releases will be more frequent. We want every season to be the season for releases!

We are in the midst of a very busy, but very rewarding Program Increment, at the end of which, you will see **three major applications go live.** These applications are the newly rewritten **Project Planning and Purchasing Portal (P4)** and **Mitigation Planning Portal (MPP)**, and **Automated Map Production (AMP)**. With our move to Agile development, this is the first time we get to demonstrate, and celebrate with you, the release and iteration of whole applications instead of enhancements or patches.

With these three major deployments, we are putting functioning, user-tested software into the hands of our customers faster. These releases will give our customers the tools and core functionality they need *right now*, otherwise known as minimum viable products (MVPs). This approach also gives us the flexibility to continue building features that will optimize functionality and elevate the user experience.

The minimum viable products for P4 and MPP deployed successfully on December 18, 2020 and AMP will deploy on January 8, 2021. Program Increment 5 kicks off on January 14, 2021.

Mission Priorities

Securing our Systems and Planning for Modernization

Keeping the Risk Analysis & Management (RAM) system online and bringing the system into compliance with the CIO's risk tolerance policy has been our highest priority over the past year. As we near the expiration date of our conditional ATO (February 28, 2021), we have made significant progress and are now beginning to shift our focus and resources toward modernizing our legacy applications for optimal performance.

Modernization is several things: **Modernization is a journey**, the success of which is measured in our customer's experience—both your experience and the citizens you serve.

Modernization is moving away from aging software and hardware solutions. For example, the Mapping Information Platform and Map Service Center (two legacy systems) previously existed in two different, aging data centers. Last year, we migrated these systems to a co-located, modernized environment, forming what you know today as the RAM system.

Modernization involves simplifying systems and workflows in favour of more automated, innovative solutions. Many of our current applications are based on outdated business architecture, built and patch-worked together over time. The releases you will see (P4, MPP, AMP) puts our users first, streamlines workflow, automates functions, and builds in security.

All these components together will help clear the path for big ticket items like interoperability, flexible infrastructure, big data, and long-lasting security. We look forward to embarking on this journey with you.

Joanne Neukirchen
Chief, IT and Data Management, Risk Management Directorate

Projects in Development

Project Planning and Purchasing Portal (P4)

P4 provides FEMA Regions a platform to plan investments on a multi-year basis, sequence projects to be funded annually, and develop the required Statement of Priorities for the work order process. P4 supports FEMA Headquarters with budgeting, governance, audit, and reconciliation needs. This facilitates the alignment and disbursement of congressionally allocated funds to the regions, estimation of funding needs for future years, determination of project costs at award, and evaluation of how upcoming projects support RMD and FIMA.

In line with the commitments we made to achieve an ATO extension by February 2021, our goal is to decommission the legacy P4 application by the end of this program increment and replace its core functionality with a modern, user friendly, and secure application.
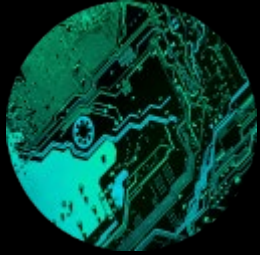
During Program Increment 3 (July 30 – October 21), the team implemented "ride along" with P4 users to observe first-hand, what works and what doesn't, and integrated this feedback into the design and build of several critical elements of the application. The team established the new P4's database technology to support project and purchase creation within the application and began building out key reporting and dashboarding functions. The team also built out a new front end, a log-in capability, and initiated role-based access controls to remain in compliance with FEMA security standards.

Now, in Program Increment 4, the team will conduct User Acceptance Testing (UAT) and complete development of mission-critical features to launch an MVP for users by December 2020. UAT testing will walk users through use cases to gather feedback and

approval. It will also give users a feel for the application overall to increase acceptance when it is deployed. Activities in this PI include: Building a shared authentication and authorization solution for continued role management; firming up purchase workflows; completing the ability to generate PALT reports for HQ and Regions; and adding reporting features such as the ability to edit, delete, and add project/purchase details dynamically through time.

All data from the legacy application will be migrated to the new, rewritten application, currently scheduled to be deployed for users on December 18, 2020. The legacy application is scheduled to be decommissioned on January 8, 2021. Additional P4 features will be developed and deployed in the next Program Increment.

IT Project Manager: Jayasekar Thirumalai | Product Owner: Edward Gallagher

Mitigation Planning Portal (MPP)

Mitigation planning is the process used by state, local, territorial, and tribal governments to reduce the disaster suffering through implementation of effective mitigation strategies. Currently, 84% percent of our nation's population —all 50 states, D.C. and the five territories, 23,800 local governments, and 239 tribal governments, have mitigation strategies. By having FEMA-approved state, local, and tribal hazard mitigation plans, jurisdictions gain access to certain types of non-emergency disaster assistance, including funding for mitigation projects.

During Program Increment 3 (July 30 – October 21), the team focused on re-writing the legacy version of the MPP application to develop a new version that is more secure, streamlines workflow, and improves the user experience through design criteria similar to P4. The team successfully conducted User Acceptance Testing (UAT) to verify that the features work for the user and to continually gather feedback to improve upon the existing features.

Now, in Program Increment 4, the team will finalize and deploy the new MPP application minimum viable product (MVP) and decommission the legacy MPP application. This includes finalizing a user friendly, front-end application, creating a new tabular and geospatial jurisdiction layer, and developing a stand-alone authentication and authorization service. These features maintain tracking and reporting accuracy to support effective mitigation planning and strategies to achieve greater risk reduction.

The new, rewritten MPP deployment is currently scheduled for December 18, 2020 with the legacy application to be decommissioned on January 8, 2021. Additional MPP features will be developed and deployed in the next Program Increment.

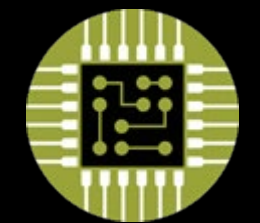IT Project Manager: Casey Zuzak | Product Owner: Jenny Burmester

Automated Map Production (AMP)

AMP is a critical, foundational project on RMD's path to fully digital mapping, which will significantly reduce map production costs (saving an estimated $15 million annually). Automation will speed up map production, as hand-finishing cartographic panels is a time-consuming, labor-intensive process— freeing up time for all involved at FEMA HQ, Regions, and Providers. Intended results will also reduce complexity of FEMA by possibly eliminating the need for Flood Insurance Rate Map (FIRM) Panel Technical Reference and related guidance.

During Program Increment 3, updates were made to the AMP project to improve the overall user experience when visiting GIS services from FEMA. This included the implementation of "caching and indexing," a technique that allows previous data to be stored and pulled, reducing the lag and processing time for users as they respond to various map service requests. Additionally, user testing was conducted with many of the critical stakeholders tasked with using AMP in the future. These stakeholders included PTS, regional staff, and CERC users.

For Program Increment 4, the AMP team plans to deploy the MVP AMP solution to the production environment. Modernization of this process will reduce misalignment across FEMA products, and empower users to publish draft data into viewers and systems. This will assist FEMA with releasing data earlier in the mapping lifecycle to assist in disaster recovery and response. AMP also intends to continue addressing UAT feedback to improve the look and feel of the system outputs, specifically panel images and labels.

IT Project Manager: Donte Gustus | Product Owner: Beth Norton

Repository Redundancy Reduction (R3)

The R3 project will minimize duplication across the Mapping Information Platform (MIP) and Map Service Center (MSC) applications to reduce data redundancy, increase efficiency, and improve traceability by reducing the number of manual tasks performed on a regular basis in order to post products from the MIP to the MSC.

For Program Increment 4, the team will implement a new File Service to orchestrate and log MIP file access by the MSC as well as automate the publishing of products from the MIP to the MSC. These improvements will allow for the automated posting of LOMC Determination Documents, Revalidation Letters, SOMAs, Flood Risk Products, and LOMC Batch folders. These improvements are currently scheduled to deploy in January 2021.

What is a Minimum Viable Product (MVP)?

An MVP is an agreed upon incremental release of working product (or software) that delivers value to stakeholders with just enough features to meet the core mission need. It is small enough to test, optimize, or pivot if needed.

An MVP gives us the flexibility to validate the core product early. With user feedback on the MVP's real-world performance, we are then able to:

- Quickly build-out the product based on user feedback, confident that our work will meet your needs,
- Ensure the *right* product is being built to the degree actual users need it, and
- Build a product that is more likely to succeed without substantial capital loss.

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