



## Business Transformation and Operational Excellence Awards 2019 Entry Submission

**Award Category:** Best Achievement in Operational Excellence to deliver Digital Transformation

**Submitting Organization:** Fannie Mae

**Project Submitted:** Credit Enhancement Transaction System (CETS)

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### Synopsis

Fannie Mae aspires to be America's most valued housing partner. We provide a stable source of liquidity to the secondary mortgage market and are committed to doing so in a safe and sound manner. Fannie Mae leads the market with respect to the total amount of mortgage credit risk transferred to private market participants (institutional investors). These services are performed through our suite of Credit Risk Transfer (CRT) programs. Through Connecticut Avenue Securities® (CAS), Credit Insurance Risk Transfer™ (CIRT™), and our lender risk sharing programs, Fannie Mae continues to build innovative solutions for our investors and customers, while protecting taxpayers. Since 2013, we have transferred a portion of credit risk on approximately \$1.6 trillion in Single-Family loans through these programs.

CAS and CIRT were launched using a legacy technology platform that required manual procedures and end-user computing solutions, potentially creating impediments to new business development and the growth of the programs. As a result, Fannie Mae developed a new platform called the Credit Enhancement Transaction System (CETS). This paved the way for considerable benefits, including the elimination of manual work, improved data quality and reliability, reduced cycle times for new capabilities, and faster delivery of new products to meet customer demand. The CETS platform played a key role in the delivery of two new major strategic enhancements to our credit risk transfer business – Fannie Mae's new CAS Real Estate Mortgage Investment Conduit (REMIC) structure and Enterprise Paid Mortgage Insurance (EPMI).

### Strategic Objectives and Scope

The development and expansion of the CRT platform is a top strategic priority for Fannie Mae as we focus on digital transformation in both our business and the mortgage industry at large. Fannie Mae works to develop new capabilities and solutions to better serve today's market and prepare for the future, helping to make the mortgage process become more efficient, safer, and less expensive. We seek to eliminate long, sequential projects, while improving agile software delivery and embracing a culture of continuous innovation.

In alignment with corporate strategic goals, the objectives for the CETS program were to:

- enable growth in the credit risk transfer business through support for new product development;
- reduce operational risk through elimination of manual processes and implementation of automated controls;
- support rapid delivery of customer value through agile software development methodologies; and,
- enhance the overall experience for credit risk transfer customers through better data disclosures, data quality, and an intuitive new portal for exchange of loan data and reporting of transaction data.

The CETS program delivered against each of these objectives in a short period of time.

The scope of work included:

**New Product Development** – The CETS project team enabled the introduction of CAS REMIC and Enterprise Paid Mortgage Insurance (EPMI) in a very short span of time. Among other substantial benefits, CAS REMIC allowed the continued expansion of the investor base for our CAS program and EPMI allowed us to increase housing affordability while mitigating the company's exposure to risk. Both of these products marked huge milestones for Fannie Mae's CRT



Team. One of the fundamentals in building the CETS application was to enable flexibility in the system to improve speed-to-market. The CETS ability to support the launch of these two new products in such a short time served as a testament to the achievement of this goal. (See this [link](#))

**Reduce Operational Risk:** The CETS platform enabled the delivery of a strategic business roadmap by adopting a modular architecture and simplifying technology infrastructure with controls to improve safety and soundness. The platform aligned with Fannie Mae data governance and data strategy principles to reduce inaccurate and incomplete data reporting. The platform also enabled retirement of three end user computing applications reducing human error risk.

**Digital Transformation:** The CETS program adopted a monthly release schedule that enabled early and continuous delivery of customer features. This was done by utilizing agile methodology, dev ops, CI/CD, feature toggling, and test automation. The CETS team adopted many innovative solutions like blue green deployments, CDX (Customer Digital Experience) and Docker containers to enable both on-prem and cloud deployments to ensure the application is maintainable and scalable to meet industry demands.

**Customer Focus:** As part of the CETS program, we rolled out a new external facing portal for product disclosure which offered high customer impact. The portal gives investors and other external customers a single point of access for all risk transfer program data.

## **Process and Timeline**

The CETS program kicked off in Q4 2015. The project launched with quarterly releases, and then moved to monthly releases. End-to-end processing for CAS was delivered in Q3 2017, while end to end processing for CIRT was delivered in Q2 2018.

## **Visibility and Executive Sponsorship**

The CETS program was actively supported by Fannie Mae senior management. Executive sponsors included the Vice Presidents for Credit Risk Transfer, Credit Enhancement Strategy and Management, and Single Family Mortgage Operations. Executive stakeholders included the Senior Vice President for Capital Markets, Vice President of Capital Markets Technology and the Senior Vice President for Business Solution Initiatives. The project status was also reported to the Fannie Mae Board of Directors.

## **Impact and Business Results**

Over the past 18 months, Fannie Mae's Single-Family business has fundamentally changed how they develop and deliver products and services. Our "startup-style" mindset puts customers at the center of our product development, bringing them into the design, building, and testing process before anything is released to market. Today, we develop solutions with our customers, not just for them, allowing Fannie Mae to delivery high value business benefits.

The CETS program continues to support the company's strategic business objectives. Specific examples of ways the program delivers customer value include:

### **Expanded CRT Business Performance and New Products**

- Increased CRT deal capacity; Mortgage loan UPB covered by risk transfer increased by 260% (\$10B to \$36B)
- Successful roll out of CAS REMIC and Enterprise Paid Mortgage Insurance products

### **Improved Operational Control and Efficiency**

- Enhanced safety and soundness through integration with corporate enterprise data framework, elimination of manual reconciliation processes, and increased straight through processing



- Reduction of monthly operational processing cycle time by 10%
- Reduced functional release time by 83% (semiannual releases to monthly releases)

### **Enhanced Disclosures for External Customers**

- Created a new externally facing customer portal for interaction with CRT investors and consumers of data
- Expanded number of loan level attributes disclosed to investors by 86% (56 to 104)