Enhancing the VA Loan Guaranty Program with Amazon Web Services: A Collaborative Approach

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The Department of Veterans Affairs (VA) Loan Guaranty (LGY) program plays a crucial role in helping Veterans and their families achieve homeownership. As demand for these services grows, the VA is facing increasing challenges that require a comprehensive modernization effort. To address these challenges, the VA Loan Guaranty Service is committed to setting a new standard in federal housing by fostering a culture of data-driven decision-making, transparency, and fairness. This approach benefits not only Veterans and taxpayers but also the mortgage industry partners. The long-term success and evolution of the VA Home Loan Program depend on LGY's ability to harness data effectively and lead change through an innovative, data-centric business model. A key aspect of this transformation is making actionable data more accessible and usable, ensuring it reaches the right people, at the right time, and in a secure, reliable, and well-governed manner.

This whitepaper explores the key obstacles confronting the LGY program and presents a compelling solution for the VA to overcome existing limitations, enhance operational efficiency, and proactively position for future growth by continuing to leverage Amazon Web Services (AWS) cutting-edge cloud technology combined with CGI Federal's extensive domain expertise and systems integration capabilities.

The LGY Program: A Pillar of Support

The LGY program has served as a cornerstone of the VA's mission to support Veterans for decades. In fact, since its establishment 80 years ago, the program has contributed $3.9 trillion dollars (Pierson, 2024). However, as more Veterans seek home loan assistance, the program faces escalating challenges, including:

- **Rising Demand**: In 2023, the VA guaranteed its 28 millionth home loan, underscoring the significant and sustained demand for this program. In 2022, the VA guaranteed 746,091 loans totaling approximately $256.6 billion, highlighting the program's crucial role in helping veterans access affordable housing (U.S. Department of Veterans Affairs, 2024)."

- **Complex Processes**: Manual processing methods are cumbersome and prone to errors, leading to inefficiencies that negatively affect the Veteran's experience.
- **Infrastructure Limitations**: Historically, LGY has used a traditional approach to building software, resulting in large, complex systems where the user interface, business logic, and data are all bundled together in one application. When changes are made to one part of the system, it often causes problems throughout the entire system, affecting other processes. As a result, when LGY wanted to add new features or improve capabilities, it often required switching platforms, rebuilding software, or adding new hardware—each of which was time-consuming and resource-intensive.
- **Foreclosures Impacting Veterans**: Even in dynamic and challenging housing markets, VA-backed mortgages exhibit some of the lowest foreclosure rates nationally. However, the risk of foreclosure remains a critical concern as veterans rely on these loans to secure their homes. In

2022, 205,702 veteran borrowers were saved from foreclosure (U.S. Department of Veterans Affairs, 2023).

A Modernization Imperative

To address these pressing challenges and ensure the LGY program's continued success, a modernization initiative is not just beneficial but essential. By leveraging CGI Federal in partnership with AWS, the VA can achieve significant improvements:

- **Scale with Demand**: AWS provides the ability to rapidly scale resources up or down, ensuring that the LGY program can efficiently accommodate fluctuating workloads, especially during peak application periods.
- **Streamline Processes**: CGI Federal's expertise in systems integration, combined with easily configurable workflows in Salesforce and the ability to scale up and down on AWS, can help automate and streamline loan processing workflows. This powerful combination shortens the window within which staff can envision and implement improvements to customer queues, decision engines, and more, reducing manual effort, improving operational efficiency, and removing human errors that are common with manual processes.
- **Enhance Security**: With AWS's advanced security features, the VA can protect sensitive data while ensuring compliance with federal regulations. CGI Federal's expertise further bolsters these efforts by implementing best practices in data protection and cybersecurity, for example, reducing the usage of Personally Identifiable Information (PII) such as Social Security numbers, which is a key initiative for the VA. Similarly, Fannie Mae utilized AWS to modernize their systems by designing a centralized control plane account to manage the data catalog, contract registry, and access management, thereby supporting fine-grained access management and governance (Ramineni et al., 2022).
- **Predict and Prevent Foreclosures**: By implementing industry-standard credit and loan default models on the AWS cloud with an application programming interface (API) for easy access, AWS and CGI Federal can help the VA predict potential foreclosures. These models are enriched and retrained using VA data and historical information and are continuously updated with observed results to maintain accuracy. This proactive approach enables the VA to intervene early, providing Veterans with the support they need to avoid losing their homes.

The Power of Partnership: CGI Federal and AWS

The partnership between CGI Federal and AWS brings together the technology and expertise required to meet the vision and mission of the VA Home Loan Program to the benefit of our Veterans, taxpayers, and mortgage industry partners.

- **CGI Federal: Delivering Value**: With decades of experience serving the federal government, CGI Federal understands the unique challenges faced by the VA and can tailor solutions to meet its specific requirements effectively.
- **AWS: A Foundation for Innovation**: AWS delivers a scalable, flexible, and cost-effective cloud infrastructure that can adapt to the program's growth and changing needs, facilitating rapid deployment and integration of new technologies.

Together, CGI Federal and AWS can:

- **Accelerate Time to Value**: By guiding the VA through a seamless cloud migration process using industry-standard practices such as continuous integration and development, and automated regression testing, CGI Federal can minimize downtime and ensure a smooth transition. This approach enables quicker access to enhanced services and increases the speed at which new content can be developed.
- **Leverage AI for Foreclosure Prevention**: Utilizing AWS's AI capabilities, CGI Federal can help the VA develop predictive models to identify Veterans at risk of foreclosure. This allows for timely interventions, such as financial counseling or loan modifications, to prevent foreclosures and support Veterans' financial stability.
- **Ensure Security and Compliance**: CGI Federal can provide strategic guidance on security protocols, helping the VA adhere to industry standards and regulatory requirements while safeguarding sensitive information. When it comes to AI security, CGI Federal excels at building AI models that leverage the best of what AI platforms can offer, and then enhancing these models with customer data to improve their performance. Importantly, we ensure that this customer data is protected and never exposed to the rest of the world.
- **Optimize Cloud Investments**: CGI Federal's expertise in cloud resource management can help the VA optimize its cloud usage, ensuring that investments yield maximum cost-efficiency and performance improvements.

A Brighter Future for Veterans

Modernizing the LGY program with CGI Federal and AWS presents a transformative opportunity for the VA, enabling it to:

- **Improve Efficiency**: By automating processes and reducing manual effort, the VA can significantly accelerate processing times, leading to higher customer satisfaction and quicker access to loan approvals.
- **Enhance Security**: Advanced security measures will protect Veterans' sensitive information and ensure compliance with regulations, building trust and confidence in the program.
- **Support Veterans' Dreams**: A modernized LGY program will empower more Veterans to achieve their dreams of homeownership, positively impacting their lives and contributing to their well-being.
- **Prevent Foreclosures**: By leveraging AI to predict and prevent foreclosures, the VA can provide targeted support to Veterans at risk, ensuring they maintain their homes and financial health.

Paving the Way Forward

The modernization of the VA Loan Guaranty Program is essential to ensuring the VA can continue delivering critical services to Veterans and their families. By partnering with CGI Federal and leveraging AWS's cloud solutions, the VA is transforming its infrastructure into a more efficient, scalable, and

secure system. This modernization not only addresses current challenges but also positions the VA to better meet the evolving needs of today's Veterans. By modernizing cloud technology, the VA is laying a strong foundation for future innovation, growth, and enhanced outcomes for those who have served our nation. Through this forward-thinking approach, the VA can continue to provide Veterans with the support they deserve, paving the way for a brighter future.

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