



# Learning From The Past The Evolution of USCIS's ELIS, a Retrospective

For nearly ten years, the United States Citizenship and Immigration Services (USCIS) has operated the immigration management system called Electronic Immigration System (ELIS) to manage and process immigrant benefit requests. ELIS started out as a public facing benefit intake system but was redesigned to exclusively serve as an internal electronic case management system for electronically filed benefit request forms and certain paper forms. Over the ten year period, USCIS' ELIS system has inevitably gone through many iterations to help improve not only the user experience of the ELIS platform but also to drive down cost, improve efficiency and keep pace with modern technologies.

Infostellar Inc. has been a key participant in maturing the ELIS architecture and Agile development practices. As we look back over the past decade of improvements in ELIS, we apply the same technique used by Agile Retrospectives, which is an agile ceremony held at the end of an Agile iteration to uncover areas of improvement.



# The Agile-Enabled Evolution of ELIS

Below we've constructed a matrix that outlines different stages of the ELIS workflow and the Agile-enabled evolution that influenced each stage over the past 10 years.

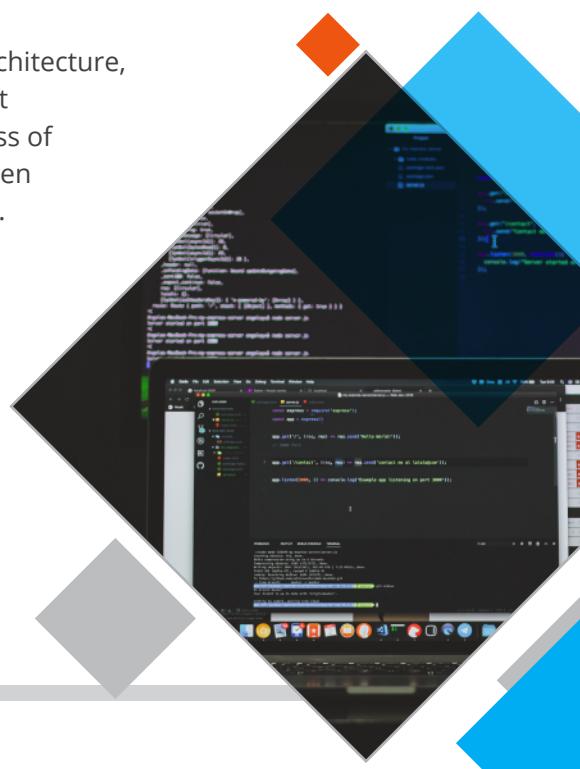
	<2013	2013 - 2017	2017 - 2019	2019 +
Contract/Acquisition	Single Large Vendor 100s of pages proposal	FADS - Multi-Vendor SB	FADS2 - Multi-Vendor First ever Technical Demo	ODOS 2 - Multi-Vendor First ever offsite Coding Challenge and a Tech Demo
Architecture	COTS HEAVY/On Prem	Open Source Software (OSS)/Cloud	OSS, Docker/K8s Microservices	OSS, Docker/K8s Microservices
Process Maturity	Waterfall	Agile	Agile DevSecOps	Agile DevSecOps
DevOps Maturity measured by Deployments	Manual Bi-Weekly Deployments	Weekly Deployments, Managed by CI/CD Infrastructure Team	Daily Deployments, Managed by Development Teams	Daily+ Fully Automated Deployments  No separate CI/CD, Infrastructure team

Each aspect in various stages of ELIS, whether it be Contract/Acquisition, Architecture, Process Maturity or DevOps Maturity measured by Deployments underwent significant changes to gain efficiencies and keep up-to-date with the progress of technology which was no small feat. Evolution and maturity of ELIS was driven by the need to satisfy the business and the culture to improve continuously.



## A Retrospective of ELIS's Evolution

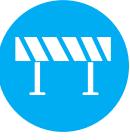
Taking from the Agile retrospective framework, we can identify key characteristics that both helped and also limited the effectiveness of ELIS. Specifically, by looking back we can uncover what is working for ELIS, what is not working for ELIS today and what can be improved upon.



## What's working for ELIS



## What's not working for ELIS

		
<b>Sharing the Rewards</b> <p>Just like how there is a sense of shared responsibility, there could be a more shared and balanced approach to recognize the good work.</p>	<b>Competition</b> <p>Competition continues here even after the contract award. The mentality that "someone's loss is someone else's gain" should be kept in check. Finding creative ways to foster healthy competition will boost even more productivity across teams regardless of vendors.</p>	<b>Barrier to Entry</b> <p>March to microservices hasn't been able to make a dent in the huge code base, and an ever-growing big monolithic database. New vendors find it daunting to come up-to-speed to perform. ODOS I vendor could never find a firm footing in coming up to the speed and flourish there.</p>

## What can be improved



Multi-vendor presence on development teams is losing its charm due to the imbalance of share that each ODOS II vendor has. ODOS III could be a good opportunity to restore that balance.



Investment in documentation - While all answers can be found in the code, but it's sheer size is daunting for any one new who comes in. Documentation may seem anti agile but some minimal design documentation should be created to bring the newcomers up to the speed.

## Moving Forward

ELIS is as agile as it gets. This is the place in our experience where federal contractor's capabilities, right from recruiting to retention, and ability to bring in continuous improvement, be able to thrive with the competition, and of course technical abilities get tested. With full-spread incorporation of true Agile development practices and DevSecOps practices, we here at Infostellar are proud to be part of USCIS's ELIS journey. Founded in 2007, Infostellar has grown to become a leading trusted advisor and thought leader in government DevOps and Agile Software development practices through years of development support for the Federal Government. Founded on the principles of interactive, innovative and incremental practices, Infostellar believes that complex business challenges can be solved through true Agile development backed by highly skilled and motivated technical teams.

If you'd like to know more about our Agile approach we encourage you to reach out to our dedicated team



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