



U.S. Small Business
Administration

**Statement of Guy Cavallo
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**before the
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Chairwoman Chu, Ranking Member Spano, and members of the committee, thank you for the opportunity to discuss how the Small Business Administration (SBA) has modernized and transformed its Information Technology (IT) and cybersecurity capabilities to enhance our service delivery to small businesses and citizens.

In July of 2017, SBA Chief Information Officer (CIO) Maria Roat testified before the House Small Business Committee to highlight her first nine months of observations and to describe her vision for a 21st century SBA. She also highlighted the information technology (IT) challenges that SBA faced back then, including the history of the CIO position. Before she joined SBA, the agency had gone through eight different CIOs in the previous 10 years. When Ms. Roat recently left SBA to become the Federal Deputy CIO, she left as the longest serving CIO in SBA history, and together we were the longest serving CIO and Deputy CIO leadership team in SBA history. That consistency in IT leadership was critical for the major enterprise wide technology transformations that we have enacted to be successful.

The SBA continues to make progress towards its 21st century technology vision. Over the past 3+ years, the Office of the Chief Information Officer (OCIO) has completed the necessary building blocks to deliver and accelerate IT modernization at SBA. Before you can modernize an enterprise, you must ensure that you have a solid foundation. That started with the network infrastructure connecting all SBA offices, which was upgraded to current technologies, allowing us to double the bandwidth to those locations. The Agency staff was also transitioned to laptops and tablets to reduce the dependence upon immovable desktop computers. All SBA users were upgraded to the latest version of Windows 10 and leveraged the cloud-based Office 365 productivity suite.

Another key building block was to establish SBA's cloud presence. Supporting the Cloud First mandate, SBA embarked on its cloud journey in early 2017 as a key foundational building block of IT modernization. In Spring 2017, together with the CIO, I led this initiative as the Executive Sponsor. My private sector experience had prepared me to think outside the box and leverage innovative approaches to the challenges that SBA was facing. I came up with a proposed self-funding approach to pay for the cloud effort by a combination of right-sizing existing services contracts, leveraging benefits available under existing contracts, while also making some tough choices. Within 82 days, we completed the design, architecture, implementation, and the Authority to Operate (ATO) for SBA's cloud initiative.

The reason I am sharing this example is that we were determined to modernize SBA's IT environment and we set ourselves an ambitious modernization goal by beginning with these foundational elements. We demonstrated that we could deploy resources efficiently and accomplish a lot in a short timeframe. This approach continues today in how we are modernizing SBA. In this process, we were not only able to modernize SBA's IT, but also share the lessons learned with other federal agencies.

Each of these foundational elements provided the necessary modern and agile infrastructure to innovate and develop solutions to address the business needs of the SBA Program Offices. As an example, SBA's cloud adoption in early 2017 accelerated SBA's response to the hurricanes Harvey, Irma, and Maria by quickly enabling loan officers to access internal systems.

Today SBA is in a much different place than it was in 2017. With the strong executive leadership support of Administrator Carranza and former Administrator McMahon, SBA has become a technology leader in the federal government. The 21st century SBA focuses on putting customers first and improving the customer experience for small businesses, entrepreneurs and citizens that interact with the SBA. Customers experience digital workflows, increased self-service capabilities, and the ability to access these capabilities using mobile devices, while remaining assured that the information they share with the SBA is secure. This is accomplished by using modern, cloud-based IT solutions that are innovative, simple to use and are flexible to adapt to the changing requirements of SBA's mission. These capabilities have been delivered using cost effective techniques while maintaining the needed cybersecurity protections.

Telework Ready

Our staff and contractors moved quickly when SBA had to shut down our physical offices and move to a maximum telework status due to the COVID-19 global pandemic. For telework to be successful you need three key elements. First, the staff member must have a mobile device to be able to take to his or her home. Second, you need to have an internet connection available at your home. Lastly, you need a secure connection to the SBA network over the internet to access the various SBA applications.

Since the SBA staff had already transitioned to laptops and tablets, virtually every staff member was able to take his/her office computer home and be able to perform his/her work with no interruption. With their home internet connection covering the second requirement, the last component was to provide a secure connection to the SBA network over the internet. By leveraging a secure cloud-based connectivity solution that replaces the older VPN solution, we simplified connecting to the SBA environment for our remote users, while also providing a faster and more secure connection. In the last 100 days we accelerated migration of SBA users to the new solution, with over 7,000 users now using this new cloud-based solution.

As part of the enterprise modernization, we are replacing over 50 separate older technology phone systems with contemporary Voice over IP (VoIP) phones tied to our Office 365 PBX in the cloud. This capability means that our staff are able to use their office phone numbers while teleworking, being able to respond to phone calls from wherever they are. We also were able to assign new phone numbers to the new staff members where their laptop or tablet became their phone just by plugging in a headset.

With most of the CARES Act surge staff working remotely at home, SBA's emphasis on being "telework ready" not only worked for the existing staff, it allowed us to add thousands of remote workers who may never set foot in an SBA office from the very first day.

Collaboration Solutions

Implementation of the Office 365 productivity suite also provided collaboration and communications tools like Teams. As the COVID-19 global pandemic national emergency was declared in March 2017, my staff established a Virtual Command Center for the SBA executives using Teams. This enabled collaboration in real-time, while also providing a central place for storing and accessing all COVID-19 related information.

The Virtual Command Center also served as the central hub for relevant data and reports. Using data analytics tools, my team created interactive dashboards that provided up-to-date insights into the various activities that SBA was undertaking in response to COVID-19. Because we had implemented the cloud-based office productivity suite and were already using Teams it took us only a day to implement this Virtual Command Center.

Another new collaboration technology that we deployed in the last 100 days was the ability to host external citizen facing webcasts for up to 10,000 users at a time. With many small businesses having questions about the Economic Injury Disaster Loan (EIDL) program and Paycheck Protection Program (PPP), this live event capability allowed SBA District offices across the country to engage and communicate with large numbers of citizens and small businesses at a time. With this functionality being part of Office 365, we also avoided hundreds of thousands of dollars by implementing this capability over SBA's previous teleconferencing solution.

Cloud

As I mentioned earlier, implementing and utilizing commercial clouds has been a cornerstone of our modernization efforts. Initially we leveraged the SBA cloud in the traditional ways – to migrate and close physical data centers and to migrate on-premises applications. In our transformation journey we have already closed 9 data centers as part of our Cloud Smart strategy implementation.

Within the past year, we moved the SBA.gov website from a hosted service provider to the cloud. SBA.gov normally has 600-700 concurrent users. However, when the President tweeted SBA's URL, within seconds the number of users hit 93,000. SBA's cloud infrastructure auto scaled in real time to meet the increase, and in fact, user response time decreased due to the capabilities of the cloud. It was vital for SBA's primary website to be not only available but performing well so that the nation's small business community could access the most up-to-date information on the economic recovery programs.

Another benefit of the cloud during SBA's COVID-19 response, was our ability to implement virtual desktops for our remote users. With SBA's workforce rapidly increasing, to accommodate the surge in staffing, we implemented virtual desktops to allow new users to begin working even before they received an SBA computer. For some of our expanded staff, instead of SBA needing to purchase a laptop or tablet for each user they were able to use their agency's or company's computers while running the SBA applications in our cloud, while still being managed by our cybersecurity protections. Today we have almost as many virtual desktops available in the cloud as SBA had staff onboard at the beginning of March.

Cybersecurity

While the benefits of our modernization journey that I have highlighted already have been great achievements, one of our most significant benefits of moving to the cloud has been the tremendous improvement of our cybersecurity protections. Leveraging the cloud native cybersecurity capabilities, we have much better visibility into protecting SBA from attacks and utilizing artificial intelligence to assist our security team separate the real threats from the background noise. As an example, we implemented geo-fencing on the SBA portals, so that network traffic originating from outside the country was blocked.

These capabilities have allowed us to be proactive in the handling of phishing emails that contain links to malicious websites – emails that SBA and every federal agency receive by the hundreds every week. Instead of just blocking these emails, our security team has worked closely with DHS to take down 1,380 of these sites since April 2018. By taking these sites down, SBA is not only protecting our own agency, but anyone else in the world who received such phishes. Prior to our cloud cybersecurity protections, we would take down fewer than 30 malicious websites a year.

Based upon these vastly improved cloud native cybersecurity capabilities, over the past two years we have conducted two pilots with the Department of Homeland Security (DHS) to demonstrate those capabilities compared to current on-premises cybersecurity protections. Our pilot on the Trusted Internet Connection (TIC) highlighted the greatly enhanced visibility into SBA's network traffic, and our ability to better protect all SBA assets.

The second pilot was to leverage our same cloud native cybersecurity capabilities to meet the goals of the Continual Diagnostic and Mitigation program (CDM). By aligning the pilot to the purpose and goals of the CDM program instead of the physical architecture, we were able to demonstrate that SBA had met those goals. The result from both pilots was that SBA's efforts led to DHS updating and changing both program's recommendations and requirements for all federal agencies.

Application Support Specifically for the CARES Act

With all of the modernization capabilities in place that I highlighted earlier, when it came time to implement the requirements of the CARES Act we were able to build on that solid foundation to support the tremendous demand on SBA's systems. We specifically launched six new cloud-based systems to support the unprecedented heavy demand of our small businesses and participating lenders.

To enable submission of EIDL applications, including the EIDL advance, the Rapid Intake Portal was implemented in 7 days and this was done in collaboration with SBA Program Offices. It was designed to be simple, to the point, and to facilitate the input of information quickly and seamlessly.

The Disaster Loan Access Portal (DLAP) was an on-premises system when the CARES Act became effective. The overwhelming demand on DLAP was causing performance issues, and the system underwent multiple maintenance changes including Content Delivery Network

(CDN) caching, additional memory for database, file system changes to add resiliency to the webpage and additional resources. On March 25th, potential breach of system information was detected that morning when the system came back online. The CIO directed that legacy DLAP would not come on-line in its current state, and the team implemented a quick interim solution to intake loan applications until the new EIDL Rapid Intake Portal came on-line on March 29th. This agility to implement two different loan application portals within four days was possible because of the previous modernization steps.

The Lender Gateway for banks to access the Office of Capital Access's (OCA) systems also needed upgrading to support the significant increase in demand. Utilizing a combination of existing enterprise solutions to augment the OCA legacy portal, this functionality, with a new external facing intake portal, was delivered in just 8 days.

A key component in supporting the PPP was SBA's Find a Lender tool. Find a Lender is a simple search interface leveraging Google Maps to display eligible lenders in the PPP program by zip code, so that small businesses can easily locate lenders in their local community. This cloud-based solution was built in just 4 days.

I also want to highlight SBA's new Customer Service Hub. With our Office of Disaster Assistance (ODA) being overwhelmed by over 10,000 citizen emails a day, that volume of requests exceeded the capacity of Office 365's email system. Even if the volume of emails was not a technical problem, managing the pending requests and assignments was very difficult. The OCIO and ODA offices agreed that we needed a case management solution, not an email solution to best handle these requests. In just 7 days our team implemented our Customer Service Hub using a cloud based software as a service solution, which provided SBA with an application to manage, track, assign, and analyze the large volume of emails that we are receiving. The ODA managers now have the ability to manage queues and determine workloads, while also providing status updates to applicants.

The final new solution has been SBA's rapid implementation of the General Services Administration's (GSA) Login.gov identity management application. GSA built Login.gov as a multiagency solution to allow citizens to create and manage one identity that can also be used for their accounts across government. Prior to our implementing Login.gov, SBA had its own identity management solution that was based upon legacy code and was difficult to maintain. Additionally, not all SBA programs used the legacy solution so small businesses might need multiple different system accounts when utilizing SBA's services.

As part of our transformation, we wanted to leverage this government wide identity application and get SBA out of the identity management business. Before COVID-19, we were actively moving all new systems to Login.gov. When COVID-19 struck, we continued to implement it in as many of the systems that I just highlighted as possible, positively changing the way a small business interacts with SBA.

Conclusion

I have covered a lot of ground about SBA's transformation, yet my summary does not include everything that has been accomplished. I have focused upon several of the major changes, particularly the OCIO's support for the CARES Act. SBA's transformation was not accomplished overnight; it took the last 3 1/2 years of modernization investments and projects to move SBA to where it is today. Significant progress has been made in SBA's IT modernization journey and there is still more to be done in modernizing some of the key mission support systems. I want to emphasize that IT modernization is a journey that needs perseverance, consistent leadership support, and the efficient use of resources.

The successes of our modernization effort have been validated when SBA surged in size by over 500% of our normal size to support the EIDL and the PPP loan programs. We have been able to demonstrate in real time, the importance of leveraging the scalability and elasticity of the cloud over on-premises hardware. SBA has shared our cloud journey and lessons learned with several hundred federal employees across more than 30 federal agencies – in part to show that the art of the possible can be delivered with a small team and strong will.