Turning **VISION** into **ACTION**®

CHAIRMAN'S NOTE

Dear Friends,

We continue to invest in people, process and technology in support of our customers and each other. Our focus remains on continual improvement and accelerating the move to 100% Cloud Native Services. We recently achieved the AWS CloudFormation Service Delivery Designation, CMMI V2.0 Maturity Level 4, ServiceNow Elite Partnership and are focusing on CMMC.

The integration of all of these technologies into our Business Workflow helps streamline and agilize everything we do. Simplifying and automating operations improves responsiveness and provides the ability to focus on the emerging transformational technologies. Wishing you a Prosperous 2023!

Ashley W. Chen
Founder & CEO

ActioNet Receives CloudFormation Service Delivery Designation from AWS

By Jeff Masiello, Senior Cloud Architect

ActioNet is proud to announce our latest achievement with our AWS Partnership, CloudFormation Service Delivery Designation! This new designation fits in perfectly with the ActioNet core value to Sustain Service Delivery Excellence. We continually expand our capabilities and expertise to ensure we provide the excellence you need. What is a CloudFormation Service Delivery Designation and what does it mean for me? Great question. From the AWS website: AWS CloudFormation Partners | AWS Service Delivery | Amazon Web Services.

"The AWS Service Delivery Program is designed to validate AWS Partners that have deep technical knowledge, experience, and proven success in delivering specific AWS services to customers."

In short, AWS agrees we are competent, efficient, capable, and proven when it comes to CloudFormation. They have reviewed our processes, reviewed our case studies, and approved our CloudFormation Service Delivery Designation.

CloudFormation is used to create Infrastructure as Code (IaC) and allows you to design, build, and create your infrastructure as code, just like any other application. Using IaC creates multiple improvements in your operations, cost control, optimization capabilities, audit capabilities, disaster recovery and more. It allows for repeatable deployment capabilities with full confidence the deployments will work every time. Using IaC allows you to create your entire infrastructure in a text base format which is then implemented in the AWS console or via API. This means your infrastructure is stored in a code repository like CodeCommit or Git allowing for version-controlled infrastructure which can then be tied into your ticketing and deployment systems. CI/CD pipelines can now be leveraged not just for application but for infrastructure as well. Tickets and version-controlled commits can be assigned to specific improvements in infrastructure allowing for better auditing and tracking as well as more rapid rollbacks if something goes awry.

By parameterizing CloudFormation templates you can easily deploy identical stacks to multiple environments. Have you ever had concerns that dev was different from test which is different from production? Using IaC allows you to deploy identical copies of infrastructure to all your environments ensuring

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CloudFormation

applications that work in the Dev environment will work in Production as well.

Disaster Recovery is a concern for any program. CloudFormation can assist here as well. ActioNet helps clients achieve extremely rapid disaster recovery by frequently testing redeployment of entire stacks in lower environments. For example: our test environments are entirely disposable. After a round of testing we can delete the stack which terminates the environment. Then, when developers are ready, we redeploy the entire environment, literally, with the push of a button. This ensures not only that the application is tested in a pristine state but also continually tests your IaC functionality ensuring it works and is ready for any DR crisis.

CloudFormation saves money! Turning down test, or even development, when not in use can bring substantial cost savings to a program. For example, developers aren't developing overnight, and neither is testing yet you're paying for those resources when not in use. Why? Set your environment to terminate at 8pm and reinstate it at 6AM, Monday through Friday. This cuts development and testing infrastructure costs in half. This also ensure your infrastructure can be rehydrated daily. As developers create new CloudFormation templates they are added to a library or CMDB which other developers can access to encourage code reuse at all levels further cutting development time.

aws

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CloudFormation improves your security posture. Since we know we can rehydrate rapidly if Cyber detects an intrusion, we can simply isolate that system for analysis and redeploy a fresh copy of the environment. Once the attack vector has been determined, we can apply the fix via IaC and redeploy clean systems. This tactic can be applied to STIG changes as well. Apply the STIG change by updating the template to harden your system and redeploy it all in Dev, prove it out, move to test, and finally production! Penetration testing gets even easier. Spin up a new Penetration Testing environment and let the testers do their thing. Since it is a separate environment, there is no concern about a system going down. When they are done, simply delete the environment. When it comes to OS hardening, IaC STIGs allow you to keep libraries of hardening scripts which can be reapplied repeatedly with predictable results. Cyber can now keep a suite of hardened secure images ready for use.

IaC allows you to leverage CI/CD pipelines. You make small, incremental changes and deploy them continually. Tied to a Blue/Green deployment cycle you can keep your infrastructure up to date with the latest improvements and efficiencies which significantly reduces technical debt. If an OS is reaching End of Life you can spin up a new environment and test the application on a new OS by simply selecting a new Amazon Machine Image (AMI) from AWS. This ease of environmental builds creates an enhancement mindset culture. Product owners and developers are confident they can try new things without compromising existing systems. Fantastic for ITIL Continuous Improvement.

ActioNet helps enforce CloudFormation best practices to ensure applications are properly tagged prior to deployment, are atomic, and parameterized. Built-in agreed upon tagging structures allow for tracking of who owns what, how much an application costs, and can facilitate automated patching and auditing capabilities. We don't even allow systems to be deployed without proper tags no matter how small. This significantly reduces Shadow IT in the cloud. We create templates which are atomic in nature. This means they are small components which can be deployed over and over and easily be integrated with other systems. Think Legos. Parameterization creates maximum reusability across all environments and applications.

ActioNet, as a ServiceNow Elite Partner, integrates tightly with CloudFormation.

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New templates are added as configuration items for use, and reuse. Customers can order entire infrastructures from a prebuilt set of Service Catalog entries. As they are deployed, they are automatically added to a CMDB and tracked. Since we enforce proper tagging, administrators know who to talk to about those systems.

ActioNet has leveraged our CloudFormation capabilities in support of our customers across the United States and around the world. We know how to make IaC work. Our CMMI-DEV and CMMI-SVC V2.0 ML4 Assessed capabilities brings to the table a strong understanding of process maturity. We have successfully helped implement, train, and maintain systems across the government and are ready to help you achieve more. For more information, please go to https://www.actionet.com/what-we-do-main/cloud-solutions.

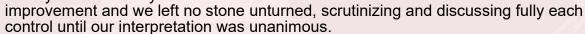# Advancing IT Security:
How ActioNet is Achieveing CMMC

By Aaron Grafton, IT Operations Manager & Senior Sys Admin

Every day a new attack is successful. You hear it on the news all the time. A system is breached, a server is hijacked, or a business becomes crippled by ransomware. Now more than ever, organizations both private and public NEED to be aware of IT Security best practices and methods to prevent attacks. ActioNet supports many customers who process sensitive data, some of which are critical to mission success and integrity.

Not long ago, the Department of Defense issued a new requirement to achieve a minimum baseline of security requirements in order for contractors to be eligible to compete on and support contracts. This requirement has evolved significantly in the past two years, but the core is largely based on compliance with NIST 800-171 security controls. The Cybersecurity Maturity Model Certification (CMMC) has assembled these controls (with a few others) to generate a comprehensive framework for which organizations can be audited against. This year, RFPs from the Department of Defense will begin requiring CMMC compliance, and it is expected that many other Government Agencies will follow suit.

Working side by side with several IT Security Professionals, many of whom have previously worked within the Government sector, ActioNet began by digesting CMMC requirements into an easy to navigate matrix. We went through a rigorous deep dive and interpreted each control one by one to identify weaknesses and areas for improvement and we left no stone unturned, scrutinizing and discussing fully each control until our interpretation was unanimous.

Wasting no time, ActioNet began implementing Security upgrades across the organization. Technological improvements such as Multi-factor Authentication, Encryption, Event Log Aggregation, and Vulnerability Scanning became priorities. Following that, process/policy improvements in key areas such as Event/Incident Management, Security Awareness Training, and brand new regulations for managing sensitive data were all designed and redesigned to enhance security and meet CMMC requirements.

Another critical area of achieving compliance and improving Security is in Modernization. Maintaining aging IT Infrastructure represents a significant liability as attackers can take advantage of any neglected or outdated system to infiltrate the rest of the organization. Our imperative is to eliminate as many attack vectors as possible by migrating all our services to modern cloud-hosted solutions. ActioNet is on track to be 100% cloud native in 2023, a significant milestone

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representing the hard work and collaboration from multiple teams across the organization.

Our selection process for service providers has become critical to our success. We naturally hold each of them to the same security standards found within CMMC, but more so, we ensure they have previously performed work in the government sector. As a result, many of the providers we work with are already FedRAMP compliant. The IT Team at ActioNet has always been at the forefront of technology and we work hand-in-hand with our solution teams to share lessons learned, success stories, and product evaluations. We inevitably discover many potential solutions for our customers' unique and varying needs within the services we use internally. We share best practices, lessons learned and proven implementation plans with our customers with the experience to back it up!

Continual improvement is at our core, and we thrive best when the work is challenging and knowing what is at stakes for all of customers and the critical missions we are privileged to support. After years of hard work, dedication, and customer focus, ActioNet is ready for the future in an age of IT Security, and our efforts have prepared us to lead and stand out as a trusted partner. We must prioritize IT Security in everything we do as this has become a de-facto requirement for customer success. ActioNet is on track to achieve CMMC certification in compliance with the forthcoming Department of Defense requirements. When our customers' have critical initiatives, we do what we do best; we roll up our sleeves and get to work!

Raising the Bar: CMMI V2.0 ML4

By Karen Tepera, Quality Manager

Last October, ActioNet achieved CMMI DEV and SVC V2.0 Maturity Level (ML) 4 with SAM, the next milestone in our CMMI quality journey. Building upon ISO, the journey started in 2003 with our first assessment and continues today, 20 years later. This achievement shows ActioNet's commitment to continual improvement to meet business goals.

Version 2 of the CMMI model rearchitected the model, strengthened the alignment of measurements and improvements with business goals in all maturity levels, improved the adoption and transition tools and enhanced the appraisal process. We benchmark performance and set objectives for key metric indicators that indicate performance to their specific business objective. For Agile development projects focused on time-to-market, we increased velocity by 34% and reduced effort per user story by 14% while maintaining quality. For a Service Desk customer with an objective to balance customer service cost and satisfaction, we reduced ticket resolution time by 57% and maintained a 97.5% satisfaction rate.

ActioNet iteratively applied the process improvement and qualitative management concepts of CMMI ML4 to achieve these results. To perform objective performance analysis, we needed to overcome challenges of collecting sufficient and accurate data with minimal impact to team performance. Key to overcoming these challenges was identification of the correct data and metrics that indicate real performance and using tools that automate the data collection and analysis. Analysis techniques need to be aligned with the complexity of the issue being analyzed and maturity of the processes. ActioNet's Process Management approach includes statistical tools/ techniques (bar charts, run charts, control charts, Pareto charts, histograms etc.) to verify data quality, identify anomalies, assess process stability and root cause is performed for outliers, recurring problems or deviations. Control Charts and Regression analysis are used to understand process performance, measure improvements and establish objectives.

CMMI V2.0 ML4 is our most recent step as we raise the bar of to help customers meet business objectives.