



Information Technology
& Data Analytics

DevSecOps & Automation – EP&S

Monthly Report Out - April 2024

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2024 OKR AND FOCUS AREAS

DevSecOps

- 1- Improve maturity for business critical applications to Level 3 (minimum).- focus on 10% of applications (50) that have completed Assessment.
- 2- Focus on DevSecOps maturity for apps already in cloud or plan to move in 2024
- 3- Complete assessment for product with highest ROI - 20% Remaining Apps.
- 4- Build Reusable libraries from learnings and success stories
- 5- Training and Upskilling sessions for team (3 per Quarter)
- 6- Pilot projects with Software chapter team to improve maturity

Automation

- 1- Improve Automation efficiency high ROI Products and bring product efficiencies.
- 2- Overall savings of 140K Hrs
- 3- Build Lean practices and automation for Compliance , TechDebt and Compute

High ROI products for focus:

- Jennifer
 - Regulatory and Safety
- Tatum
 - System Engineering
 - Electrical Engineering
 - Customer Engineering (CE)
- Buba
 - Digital Market Products
 - Technical Publications
- Jeff
 - Embedded Program Support
 - Product Support Analysis

PROGRESS

Objectives – E&PS

- ❑ Automation Savings 2024: 140 K Hrs.
- ❑ DevSecOps Assessments: 130 Apps
- ❑ DevSecOps Maturity Improvement - 50 Apps
- ❑ Upskill Sessions - 12

Highlights & Look Ahead

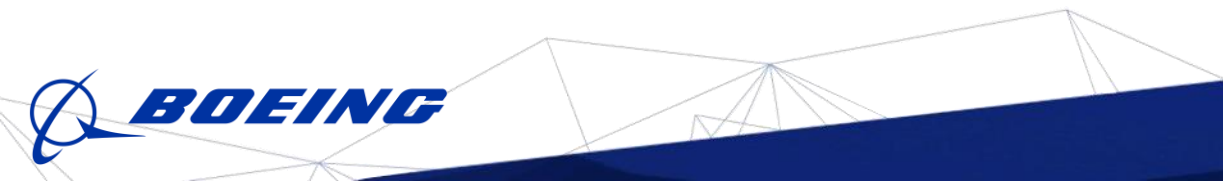
- ❑ Focal working with product team to work on prioritizations
- ❑ Work in brining efficiencies through product maturity
- ❑ Working with DSO Pioneer team to bring leanings & Savings for pilot projects completed
- ❑ Tableau Dashboard [LINK](#)

Status

- ❑ Automation Savings Achieved : **80371** Hrs.
- ❑ DevSecOps Assessments :
 - ❑ Completed - 21
 - ❑ In-Progress(Roadmap Pending) - 28
- ❑ DevSecOps Maturity Improvements (Re-assessments)
 - ❑ Completed - 4
 - ❑ In-Progress(Roadmap Pending) - 8
- ❑ Upskill Sessions
 - ❑ Completed - 3
 - ❑ Scheduled - 1

Help Needed

- ❑ Prioritization on DevSecOps adoption in products
- ❑ Automation Savings updates on COP



ENGINEERING PROGRESS

				2024 Target				2024 Actuals			
Director	Product Name	Application #	Total assessments Completed	Assessments	Reassessments	Automation Savings Target(70000)	DSO Focals Assigned	Assessments		Reassessments	
							Primary Focal	Complete d	In-Progress	Complete d	In-Progress
Jennifer	TOTAL	177	39	27	6			5	4	1	1
	Regulatory and Safety	29	12	3	2	7444	Radhakrishnan, Chinjumo	2			
	Research and Technology	11	9		1		Singh, Abhishek K				
	Test and Evaluation	43	14	7	2		Jha, Ravi N	3	4	1	1
	IPDM PLM	94	4	17	1		Singh, Omji Kunjibihari				
Tatum	TOTAL	333	149	56	22			6	7	1	2
	Authoring Process Planning	27	16	1	2	16450	Urimindi, Sreenivasulu	3			
	Data Distribution and Management	57	19	8	3		Urimindi, Sreenivasulu Vinod Thomas		2		1
	Automation Programming	24	4	4	1		Chougule, Priyanka Dhanpal		1		
	Customer Engineering (CE)	9	0	2	0		Nair, Aathira Manikandan	1			
	3DX PLM	12	14	1	2		Kaur, Harmeet		1		
	Electrical Engineering	44	6	11	1		K L, Bharath	1		1	
	Flight Engineering and Propulsion	51	62	14	9		Mohiddin Basha, Mahammed Gulam		1		
	Mechanical and Structural Engineering	50	6	8	1		P, Ashwini	1			
	Systems Engineering	46	5	6	1		Prabhat, Kumar		2		1
	Production System Simulation	1	1								
	Visualization and xR	12	16	1	2		Rompicherla, Rakesh				
	TOTAL	510	188	83	28	23894		11	11	2	3

PRODUCT SUPPORT PROGRESS

				2024 Target				2024 Actuals			
Director	Product Name	Application #	Total assessments Completed	Assessments	Reassessments	Automation Savings Target(70000)	DSO Focals Assigned	Assessments		Reassessments	
							Primary Focal	Completed	In-Progress	Completed	In-Progress
Buba	TOTAL	147	70	20	10	35000	-	2	10		4
	Digital Market Products	43	22	6	3	35357	Popeck (US), John		6		1
	Customer Operations	24	16	2	2		Balraj, Bharath K		3		2
	Technical Publications	55	23	7	4		Kandan, Narendran		1		1
	Training & Other	25	9	5	1		Rooge, Padma Prasad	2			
Jeff	TOTAL	226	76	30	12	35000		8	7	2	1
	Automation Programming	26	26		4	21120	H D, Sarika				
	Innovation Hub										
	Material Management	20	9	3	1		Jenkins (US), Renee M	2	1		
	Maintenance Repair and Overhaul	27	12	3	2		Fink (US), Brendan A		2	1	
	Integrated Logistics Planning and Management	33	11	5	2		Nadampalli Kumarraju, Lavanya	1	1		
	Product Support Analysis	31	7	5	1		Varghese, Jessy	1		1	
	Embedded Program Support	89	11	14	2		Amaragatti, Sharanappa	4	3		1
	TOTAL	373	146	50	22	56477		10	17	2	5

DEVSECOPS PILOTS WITH MCKINSEY

Quarter	Product	Status	Leader
Q1	Customer Engineering	Completed	Tatum & Kara
	Electrical Engineering	Completed	Tatum & Kara
Q2	Regulatory- > Regulatory & Safety - > BCAB	In-Progress	Jennifer
Q3	3DX	Not yet Started	Tatum

AMAZON Q & CODE WHISPERER UPDATES

Background

Boeing is evaluating Amazon Web Services (AWS) CodeWhisperer through a Proof of Concept exercise with the intent of implementing the tool in various business operations.

Goal

To validate and understand the use cases and terms of service of the tool while also measuring the efficiency of the code generated

Objective

Test several use cases and quantify the impact on accuracy and productivity across different functions within various software engineering teams, looking at its applicability within an operational context. Also, identify the critical safety concerns and potential hazards.

Teams from IT&DA M&Q, DPACS, Software Engineering, and BR&T Math formed to evaluate

Use Cases in Work

- Code coverage for unit test case
- Actual business usecase like NIMT, Redars line darkening
- Legacy application automated test case
- Creating UI frontend code & unit test cases for Vue.JS application
- Explore the Coverity high and medium security scanning
- Oracle form migration . Customer engineering
- Gen AI web app Evaluation
- BGS DAS Platform
- Product Standards

USE CASE	Amazon Q Findings	Code Whisperer Findings
Unit test case creation capability	<ul style="list-style-type: none"> Team tested capability in Java, spring boot project. The sample unit test case provided by Q is helpful for developers in understanding the different test case scenario and coverage. The scope of amazon Q is limited to the code send as a prompt. It has a file level scope but not as entire project level. Hence, developers have to re-write the test case provided by amazon Q for their specific objects. 	<ul style="list-style-type: none"> Team tested the capability in Java, JavaScript project. Code Whisperer do generate the test case in some scenario but it is not effective for writing unit test case for existing code as it's scope is limited to a file and not project. Consistency in understanding the actual prompt send by developer is a challenge in Code Whisperer.
Actual business use case like NIMT, Radars line darkening	<ul style="list-style-type: none"> Team tried Q to get code to find faint line(line darkening use case) in a tiff drawing using OpenCV, the suggested code seems to be detecting line only and not ‘faint line’. 	In line code suggestions cannot be used for this use case.
Explore the Coverity high and medium security scanning	<ul style="list-style-type: none"> Q is not designed to perform the vulnerability scans 	<ul style="list-style-type: none"> Team tried running static code scans using Code Whisperer. It does scans code against common vulnerabilities like SQL injection, XSS attacks. But not as comprehensive as Coverity scans. For security scans better to go with comprehensive security scans like Coverity. suggested by Amazon team.
Code generation, Optimization and refactor existing code	<ul style="list-style-type: none"> Team tried /dev functionality for Q and based on the prompt it creates a detailed plan for developers to generate new code logic. Optimize functionality helped to do better Error-handling, null checks and improves readability. Refactor helped in maintaining the separation of concern, dependency injection and helps improves testability of code. 	<ul style="list-style-type: none"> N/A
Generate oracle forms methods into java/.net (cross-platform possible)	<ul style="list-style-type: none"> Team tried sending oracle forms methods as prompt to Amazon Q. Amazon Q suggested that the forms/business logic cannot be automatically converted and it has to be rewritten in Angular/.NET. 	<ul style="list-style-type: none"> Oracle Forms are developed in an Oracle tool called Oracle Forms Developer, The oracle forms cannot be viewed in Visual Studio Code. So, Code Whisperer will NOT be able to parse/help with the code.

TECHNICAL SESSION



TECHNICAL UPSKILL SESSIONS

No.	Topic	Presenter Name	Date	Trainings Links
1	Software Composition Analysis	Sushil Mishra	12 th March, 2024	Click Here
2	Containerization, Dockers and Deployment on Cloud	Siddharth Muttin	20 th March, 2024	Click Here
3	Deploy self-hosted Azure agent on OpenShift	Sumeet Kumar	17 th April, 2024	Click Here
4	Deploy Selenium grid on OpenShift for test cases execution	Sumeet Kumar	8 th May, 2024	Enroll Here
5	GCP	Anup Pattanaik	TBD	

AUTOMATION PROGRESS

AUTOMATION 2024



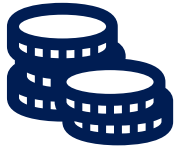
OKR

Implement automation capabilities through out the applications and achieve 140000 automation hours

Objective



Automate repetitive processes



Capture automation to Return On Investment.

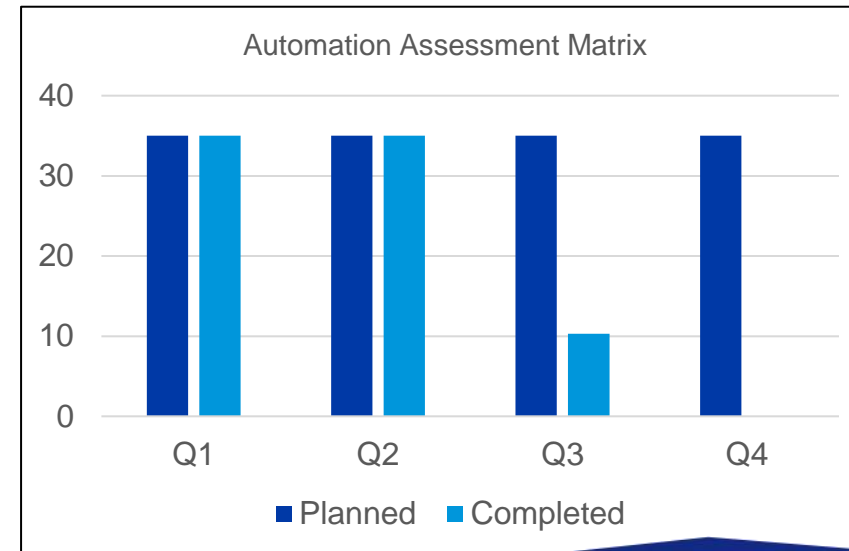


Knowledge sharing and bring culture of Automation

Accomplishments:



Automation hours of 80371 Hrs has been accounted in the CoP.



AUTOMATION STATUS - 2024

Target: 140k hrs
Current status: 80k hrs



Lucia Chung
Engineering and Product Support

Total : **80371** hours



Jennifer Davis
Engineering and Product Support

Status	Saved	Efficiency	Avoided
Complete	-	1,300	6,000
In-Work	-	144	-
Backlog	-	-	-
Totals	-	1,444	6,000

7,444



Tatum Shannon
Engineering and Product Support

Status	Saved	Efficiency	Avoided
Complete	-	16,450	-
In-Work	-	-	-
Backlog	-	-	-
Totals	-	16,450	-

16,450



Buba Turner
Engineering and Product Support

Status	Saved	Efficiency	Avoided
Complete	-	325	32
In-Work	-	35,000	-
Backlog	-	-	-
Totals	-	35,325	32

35,357



Jeffrey Stein
Engineering and Product Support

Status	Saved	Efficiency	Avoided
Complete	-	-	-
In-Work	50	21,070	-
Backlog	-	-	-
Totals	50	21,070	-

21,120

TRAINING AND REFERENCES

TRAINING AND SUPPORT

Automation COP

<https://devsecops.web.boeing.com/index.html> [DevSecOps Enterprise Website]

Training:

<https://devsecops.web.boeing.com/trainings.html>

<https://insite.web.boeing.com/culture/viewMedia.do?mediaId=428840>

Insite: DevSecOps related video series

Degreed: <https://degreed.com/pathway/mpl66o5r9d/pathway>

Oreilly: <https://learning.oreilly.com/library/view/the-devops-handbook/9781457191381/>

Enterprise Support

In case of any queries interested teams can register themselves through [EMC](#) (check for the session with the name “DevSecOps Office Hours (India)”).

For Product Teams in US, [Click Here to block your slot](#)

For Product Teams in India, [Click Here to block your slot](#)

DSO Support Systems	Description	URL
ATOMS	Platform to onboard to some of the commonly used tools like Coverity, Netsparker, SonarQube	https://atoms.web.boeing.com/home
ATOMS-CI	Saves your team time by generating an automated continuous integration pipeline and integrating different tools	https://atoms-ci.web.boeing.com/ci
DevSecOps	Official DevSecOps website	https://devsecops.web.boeing.com/index.html
AppDynamics	Monitoring tool documentation	https://itms.pages.boeing.com/wiki/appdynamics/
Enablement kit	Architecture Checklist to improve maturity	https://devsecops.web.boeing.com/assessment/enablementKit.html
DSO Mattermost channel	Join this channel for any questions/updates	https://mattermost.web.boeing.com/dso/channels/town-square
DSO Consultation	Connect with the experts	DL DSO Consulting
DSO COE InSite Group	Join this group for any questions/updates	https://insite.web.boeing.com/culture/viewGroup.do?groupId=168061
DevSecOps Video Library	Videos on different implementation	https://insite.web.boeing.com/culture/displayGroupMedia.do?groupId=168061

ASSESSMENT PROCESS

DevSecOps Assessment Process Flow (Swimlane)

Please refer to the attached PDF.



GSEP Process for Dashboard Access

Please use the [link](#) to get access to the assessment dashboard. This is an auto approval process. Please select the first option for Business Stakeholder group.

Try to access this [Dashboard Link](#) after few minutes.

Info center Dashboard [Link](#)

Refer attached excel for pending reassessments and assessments.

CONTACT US

	DRI	Project Management	Core Team Focal	Enterprise collaboration
DevSecOps	Abhishek Singh Kenneth C Shew	Abhishek Kumar Singh Kumar Anand	<ol style="list-style-type: none"> 1. Singh, Abhishek K 2. Valiyarayil, Siby 3. Nair, Aathira Manikandan 4. P, Ashwini 5. Amaragatti, Sharanappa 6. Balraj, Bharath K 7. Fink (US), Brendan A 8. Ghosh, Subhabrata 9. H D, Sarika 10. Jenkins (US), Renee M 11. Jha, Ravi N 12. K L, Bharath 13. Kandan, Narendran 14. Kaur, Harmeet 15. Kumar, Abhishek 16. Kumar, Rahul 17. Malik (US), Muhammad A 18. Mohiddin Basha, Mahammed Gulam 19. Nadampalli Kumarraju, Lavanya 20. Padmanaban Shunmugam, Nihila 21. Pattanaik, Anup K 22. Popeck (US), John 23. Prabhat, Kumar 24. Prakash, Sumit 25. Radhakrishnan, Chinjumol 26. Rompicherla, Rakesh 27. Rooge, Padma Prasad 28. Singh, Omji Kunjbihari 29. Urimindi, Sreenivasulu 30. Varghese, Jessy 	<ol style="list-style-type: none"> 1. Sharina Haynes 2. Karthik Tirukkoylur Sekhar 3. Dolly Bhaskara 4. Sushil Mishra 5. Donald R Wellington DL DSO DRIs
Automation	Kenneth C Shew Naga Harsha Kaggallu	Priyanka Dhanpal Chougule	DL Product Systems - DevSecOps Core Team	

THANK YOU

