**Improve Product Stability and ensure FTQ**

**1) Stamping of comments in full buyoff for removals DWR. 16.13**

**BUSINESS CRITICAL VALUE:**

* DWR needs to capture remarks/stamps which is part of the official completed record so that an FAA audit would show pertinent maintenance records/values/inputs are being recorded.
* From time to time, shop short stamps will not record the remarks onto the FTWS. This could cause delays, perhaps a missed flight. Affects Shop.
* This could affect our Experimental Ticketing Process and our Licenses to produces aircraft as well as damage our reputation with the FAA.

**Role and Responsibility**

* Analyzed, designed, developed and connect with the stakeholders to understand the entire stamping process and then formulated the stamping comments in proper PDF document which can be downloaded easily from Aircraft Queue trans of DWR.

**2) DWR: Aircraft Edit - Reason Codes selection clarity 16.13**

**BUSINESS VALUE -** Changing the design of Reason code selection in aircraft creation screen. Making it more understandable for users while creating aircraft in DWR.

**3)** **Aircraft Configuration report generation 16.14**

**BUSINESS VALUE**

* Aircraft Configuration report is one of the most important reports that is shared with FAA which contains various details of all the DWRs used in the particular Flight test.
* With this CR DWR is capable of generating the entire report within itself and eliminate the dependency of other Flight Test Application.
* This CR helped DWR one more step closer to being an Enterprise tool and new users are not required to have access of other Flight test application.

**Role and Responsibility**

* Architected, designed, developed and tested the aircraft configuration reporting functionality in DWR. This was a complex user story in which we need to design the logic from scratch, collecting all the aircraft configuration worksheets and their respective cross references from entire DWR database.
* Wrote multiple complex queries of fetching data from multiple tables and sort different attributes based on their desired engineering completion date.
* Create a PDF as well as CSV view of entire aircraft configuration file.
* **With Prior knowledge of FTCS application added addition capability** (which were not mentioned in the CR) for users to provide the previous and next available test number to be more user interactive and save user’s time to find the exact test numbers. Users and stakeholders were very happy looking at the implementation and
* **Initiated multiple design discussion with the stakeholders to cater each and every requirement**. Worked in an agile manner of showing demo and getting feedback after completion of each    module. Raise all questions and scenario prior so that we make sure we follow **FIRST TIME QUALITY** in delivering this big CR.
* **Gave utmost importance to the data integrity so that we should not be missing any cross-reference data.**

**3) DWR: General Workbook Improvements - Access from Aircraft Queue**

**BUSINESS CRITICAL VALUE**:

* Lack of this capability *and efficiency of integration between General Workbook and Aircraft Queue has caused manufacturing to go backwards to paper processes for pick-ups and removals. This capability will help engineers to switch back to a fully digital crew shelter.*
* Add visibility for engineering.
* Reduce Manufacturing time and effort required to access, manage and conduct work.
* Reached the expectation of general workbook expansion/collapse is on the order of 5 sec or less.
* Goal: Allow Shop and Quality to work primarily within the Aircraft Queue. Reduce training of other functions.

**Role and Responsibility**

* Designed, architected, developed as well as met the user expectation to develop this tool capability to make it more user friendly, robust and to perform reasonably for Non-NW sites.
* Earlier the Shop, Quality or Ground Ops RCS required minimum 12 sec to switch from Aircraft Queue to general workbook but after this integration the switch time has reduced significantly by 10 sec and within 2-3 sec users are able to access.

**4)** **DWR: Aircraft ID Field Limitations**

**BUSINESS VALUE**

* Field limitations like Aircraft Id, Aircraft Line number, Model and Minor Model number, etc., should be updated so that **DWR will support the expansion into the Military businesses that do not have a commercial aircraft foundation.**

**Role and Responsibility**

* A field limitation and Schema’s are changing **integration testing with all external application** is very important so that we maintain data integrity.
* Conducted meetings with different stakeholders of external application team to perform the integration testing in higher environment to allow seamless integration btw applications.
* Analyzed and eliminated the impacts of database schema change on external applications like Gold, MESci and ACT.

**5) Enable spreadsheet upload capabilities in DWR**

**BUSINESS VALUE**

* DWR users need the ability to attach a spreadsheet to the required parts section of DWR.
* This is helpful in easily ordering spare parts and eliminate the manual copy and pasting all the part information into DWR.
* This will save time and make it much more efficient since spares are usually decided on by the team and documented in Excel and changing the drop downs and scrolling left to right is very time consuming when you are talking 50-100 parts.
* This is estimated to save 1 minute per row of parts and in-turn will save 50-100 minutes for a flight test.

**Role and Responsibility**

* As this user story touches multiple transaction and screen in DWR. Break this into individual stories and connecting with user frequently to gather the requirement.
* **Developing individual MVP and showing demo to the users to get the approval and feedbacks**.

**Product-centricity and DevSecOps**

**Leading DSO Initiative for IT/DA**

* Leading the IT/DA initiative to Implement Lean practices through DSO maturity coverage and IT Automation.
* Working on strategy and best practices of DevSecOps for supporting Tech Debt  and Compliance.
* Leading the creation of every month’s DSO and automation newsletter which is shared among DevSecOps and Automation newsletter for Engineering & Product Support division.   Purpose of this newsletter is to share vision, progress, success stories and share resources for learnings.
* Regularly connecting and working with the application team to gather quantitative data which can be part of our Success story journey. Created and shared the DSO improvement case study for FTCS/MIST application so that other teams can also get benefitted.
* Organizing the technical session for all IT/DA employees to showcase our success story narration. The motive is to encourage other teams facing similar challenges in their project to develop the pipeline and improve overall maturity.
* Guiding and mentoring new core team members to get familiarize with the overall process flow for assessment and reassessment application.

**Mitigating and Resolving Coverity vulnerabilities:**

**BUSINESS VALUE**

**High/Medium Severity Coverity issues are critical and makes application vulnerable to various attacks. Our Business is committed to not introduce any new Coverity vulnerabilities in our application and to eliminate or mitigate the exiting issues.**

**Role and Responsibility**

* During each deployment we are committed the run the Coverity pipeline against the development code and eliminate any new issues are coming. **We must not merge code to release branch with any new Coverity issue and resolve it.**
* **With our continuous effort and commitment, we have elevated our Coverity compliance rate from 97% to 100%.**

**Digital-Led Growth**

**Automated pipeline creation for Coverity scans**

* Automated the DWR Coverity scans by creating the Coverity pipeline from scratch. We have used the docker image having the latest Coverity artifacts as well as Websphere 8.5 server from SRES and mirrored the TFS git branch to gitlab branch.
* Configured different jobs in the pipeline with does scan weekly/monthly as well as when developer merges its feature code to develop branch of TFS git, the mirror functionality will mirror the code to Gitlab, builds the code, runs the artifact and publish the result in DWR Coverity portal against DEV/Prod streams.
* In 1st quarter, took a technical session for entire BtnE, IT/DA employees explaining them the entire process so that other application irrespective of the technology can adopt this setup.

**Savings**

* Manual Coverity scan on an average took **1.5 - 2** **hrs** to get completed and publish in portal. In every  sprint, we have to do minimum 3 dev scan (after each merge from feature) and 2 UAT scan after each CR merge(to release). Total time taken earlier was **10 hours per sprint** which has been significantly reduced to less than 30 min as developer doesn’t need to invest anytime for scans.

**Created a DWR Azure pipeline for DWR build and deployment**

* CI - Setup an Azure pipeline in TFS-GIT for the CI process. Created various task like Ant and publish artifact which based on the triggers take the latest code build it and publish it to the local registry of Azure.
* CD - We create a release pipeline which has Artifacts and Stages. Artifacts takes the publish artifact build in CI process and based on trigger will creates a release every time we have a new build.
* We have also defined stages in our release pipeline which define our release strategy what we are going to do with our artifact and where we are going to deploy it. In our case we are going to deploy it into WAS server.

**Savings**:

* Manual build and deployment in DWR took **20-25 mins**. With CI/CD in place the build and deployment are automated and will not require any developer time and hence we save almost 20 min per deployment and which in turns saves **3-4 hrs per sprint**.

**Improved the deployment refresh time** to 4hours to instantaneous deployment on WebSphere.

**Employee Digital Experience**

* Mentoring the freshers by providing adequate time and KT and slowly bringing them to speed. Guiding them on professional and personal aspect to make their journey memorable in Boeing.
* Helping freshers take the ownership of the DWR module. Working with them closely and reviewing their code and helping them to adopt best practices.
* Making them lead the demo session and meetings to improve their confidence and making them grow professionally.
* Member of Team engagement focal for BtnE team. Organized the Funtasy event for Srini's IT/DA employees.
* Leading the DSO initiative on IT&DA employees. Conducting technical session to demonstrate the benefits of adopting DSO best practices.

**Personal Growth & IDP**

* Completed certification courses from open source platform for Docker and Kubernetes (K8s).
* Going to be certified with CKAD( Certified Kubernetes Application Developer) which focus upon candidates can design, build and deploy cloud-native applications for Kubernetes.
* Continuously learning the LLD and HLD from Scaler platform.
* Becoming domain expert in DevSecOps. Connecting with different experts to grow in the field.