



Revolutionising Mainframe Developer Experience With Empathy and Design Thinking

Project iMpala



About us

We are all part of the Retail Retirements Business at Legal & General



Tariq Surty
IT Director



Jennifer Pickard
Head of Engineering



Bharghava Bhogireddy
Snr Operations Architect

About Legal & General

One of the world's largest **asset manager** focused on **Life and Pensions** with over **£1Trillion** assets under management



10,000+ employees
across **UK and US**

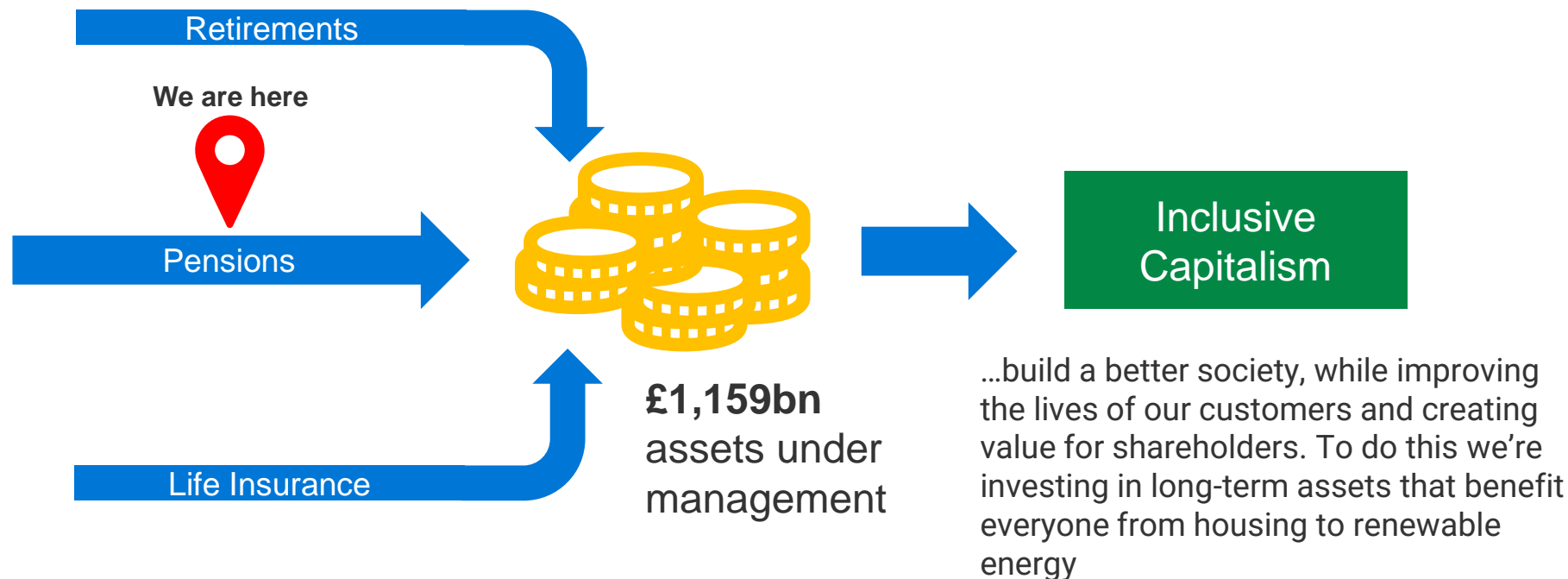
Focused on Pensions,
Retirements, Insurance...

...and Asset
Management

For one Purpose



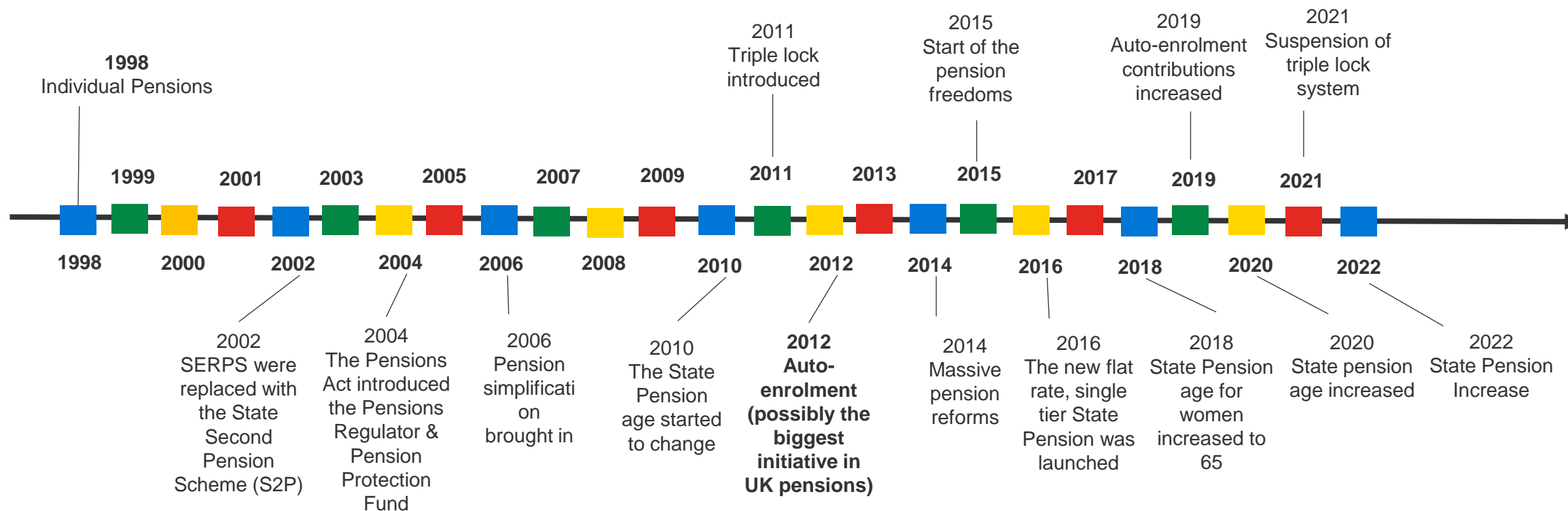
2022 & 2023



****Bring the US side of the business – Retail and The TIMES World 's 500 Sustainable companies, US logo**

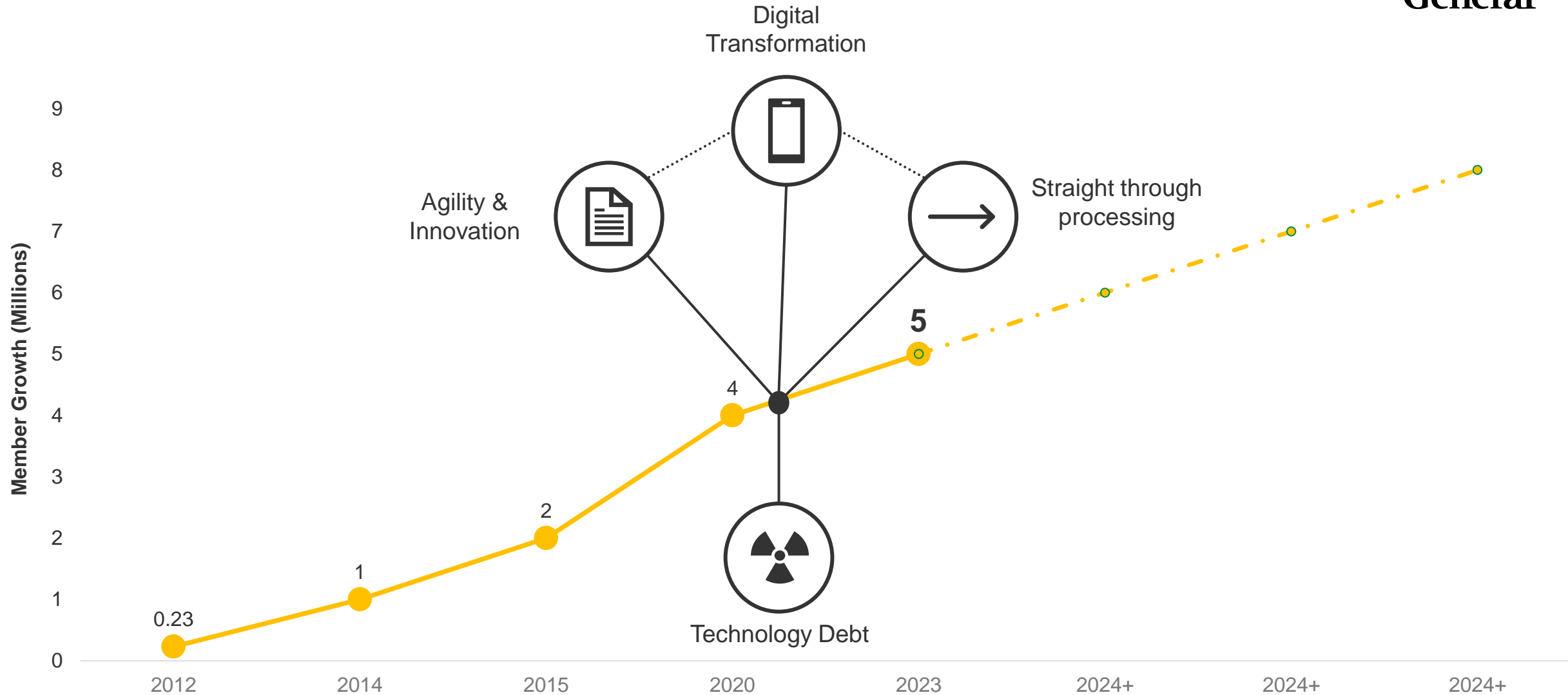
Case of Change: Unrelenting volume of change

Pension sector in UK has been undergoing significant regulatory change.



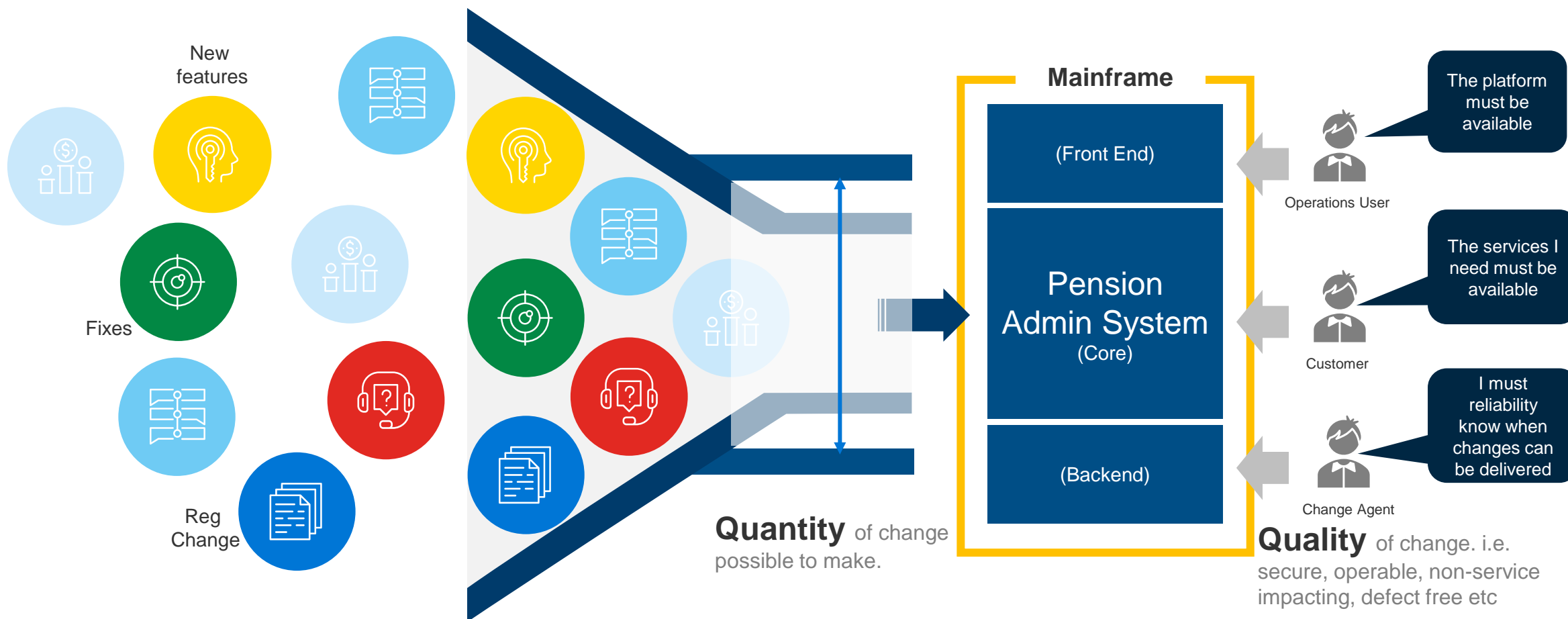
Case for Change: Growth and even more growth

Increase in members driving the need for transformation to enable efficient growth



Joining the IT Revolution

From “mainframe modernisation” to “**modernising the mainframe**” to enable us to adopt modern SSDLC capabilities and processes and drive the 3 Qs.



What's in a Name: Impala



Heritage technology

+



Agility

=



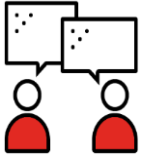
Improve
Mainframe
Developer
Experience



Approach

Empathy based Design Thinking Approach

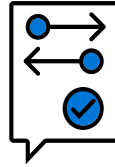
Multiple Iterations



Empathise



To understand
people's needs
better



Define



Big problem to
solve



Ideate



Solutions that might
be useful



Implement/
Prototype



Create mock-ups to
be tested



Test



Share and gain
feedback

Purposeful

Delivering what's right for our business,
stakeholders, customers and colleagues



Straightforward

Working and communicating in an honest,
clear, inclusive and respectful manner





DEVELOPERS



BUILD & OPERATIONS



QUALITY



BUSINESS & IT LEADERS



CHANGE TEAMS



PRODUCT OWNERS



MULTIPLE CROSS FUNCTIONAL WORKSHOPS



- Pain points
- Frequency of change
- Base-line metrics
- “As Is” Processes, Tools & Teams
- Impacts to Ways of Working
- Hand-offs/ dependencies

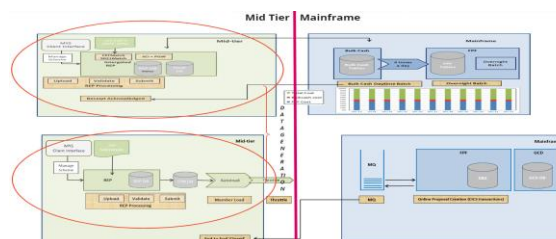


TOOLS, DATA & PROCESS CONCERNS

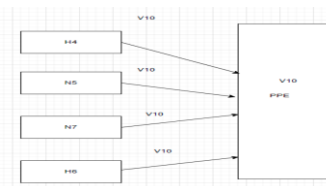
Lack of Tools
e.g. No Modern IDE



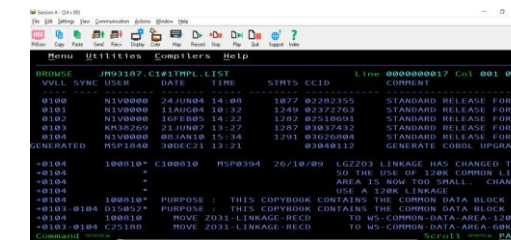
Data Creation Times & Quality



Manual Code Contention



Manual Code Deployments



OPERATIONAL CONCERNS

Environment Overload



Rollout – Not Big Bang



Next Generation?



Influencers - Detractors



Define

Problem Statements



BIG QUESTIONS ...

How to do CI/CD on the mainframe? Tools, Data, Automation

Why not do Cloud based mainframe development?

How ensure adoption of new ways of working? Not big bang

How ensure teams continue to be curious, measure, learn & adapt?

How to encourage the next generation of mainframe engineer?

FOCUS ON PEOPLE

Graduate Engineer

Developer Experience Role

Early Adopters

Open Teams Channel

Open Conversations

Surveys & Anonymous feedback

Games & Prizes

Regular Show & Tells

Measure & Learn

Senior Leader Engagements

Modern PAS Developer

Introducing LESLIE



We asked Co Pilot to describe
a modern mainframe developer and proud to say
most of our DEV's have reached that stage now

“A modern mainframe developer is someone who can code in both COBOL and Python, **who can switch between green screens and GUIs**, and who can handle terabytes of data with ease. A modern mainframe developer is **someone who is not afraid of legacy systems** but embraces them as a challenge and an opportunity. A modern mainframe developer is someone who knows how to **balance the old and the new**, the reliable and the innovative, the secure and the agile. A modern mainframe developer is someone who can make jokes about punch cards, hexadecimals, and JCL, but also knows **how to use cloud computing, artificial intelligence, and DevOps**. A modern mainframe developer is someone who is a master of both worlds.”

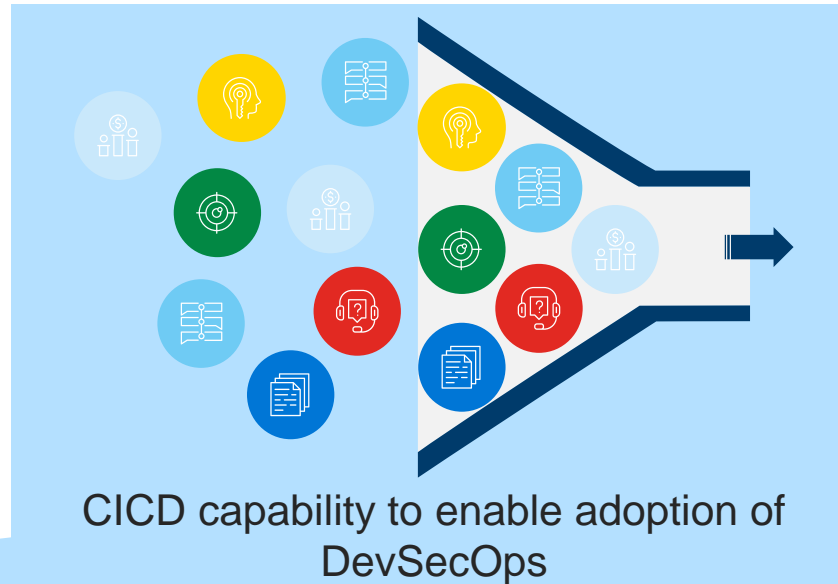
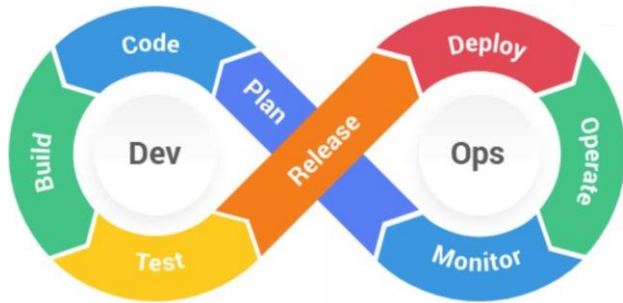
Solution

Workstreams

Definition



Adopt and Adapt Devops processes for the mainframe



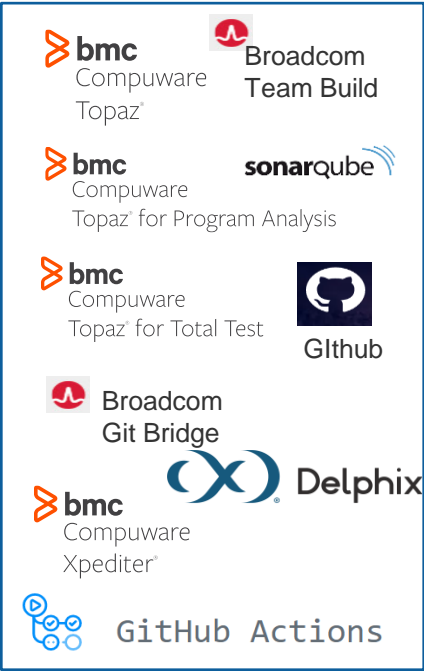
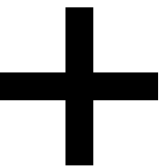
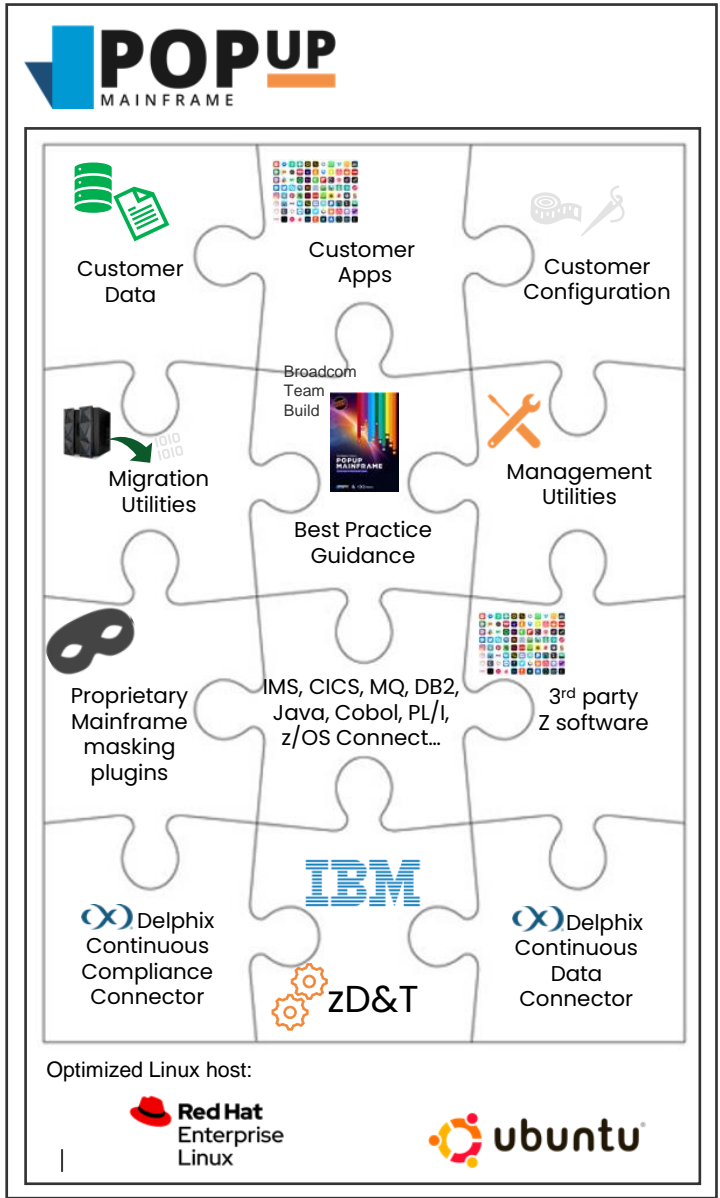
to provide 4 generations of developers a uniform developer experience



Tools & Process	Environment	Data	People & Org	Culture
To support continuous: Planning, Integration, Validation, Provisioning, Deployment, Testing and Monitoring	Immutable, integrated, scalable with service virtualisation or “stubs” for integration	Golden Source of production like Test data in a continuous manner	Inhouse Mainframe Engineering Team Remove Hero Culture	Automation Collaboration Everything as Code

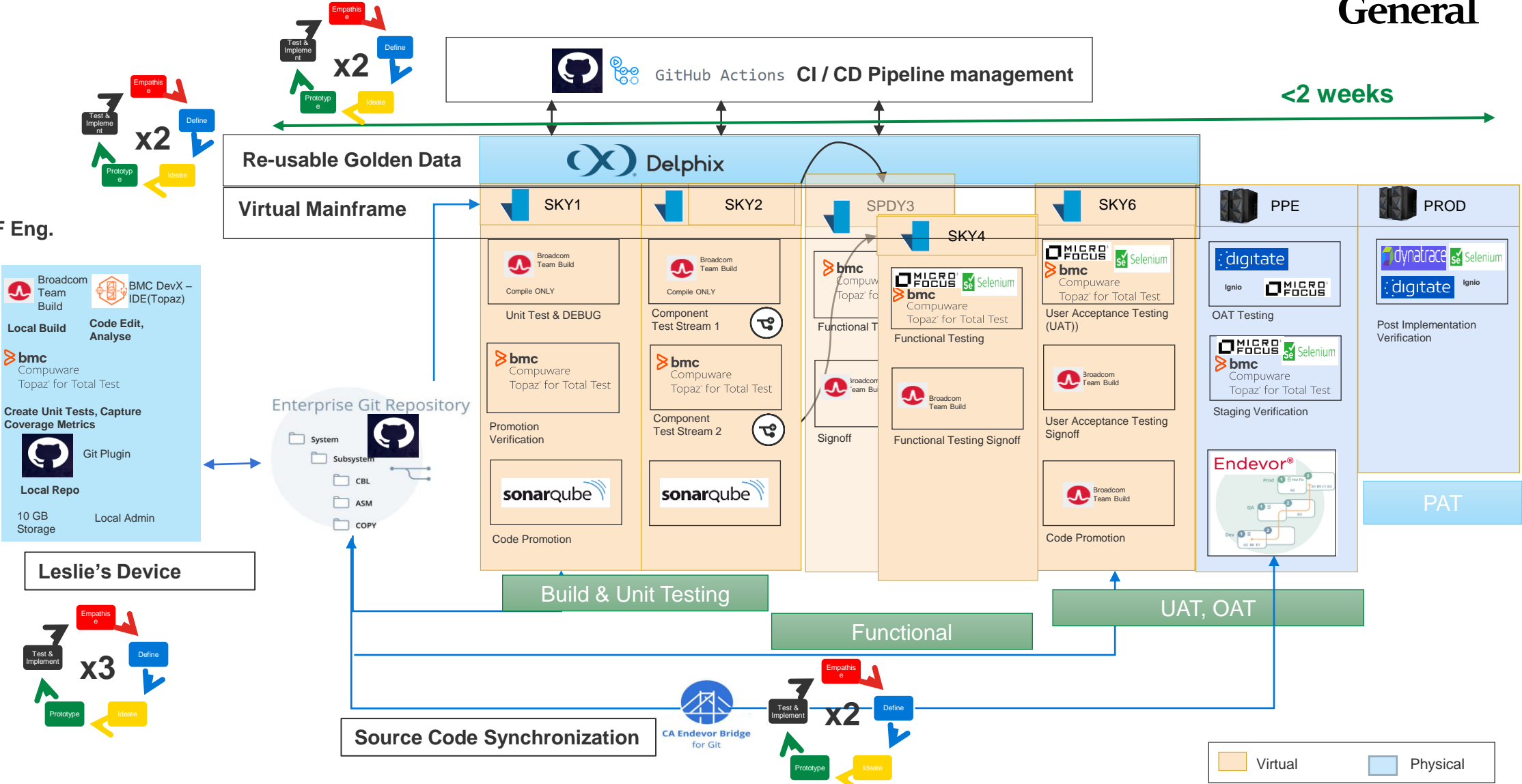
The Solution

Technical Aspects



Solution Blueprint

Day in the Life of Leslie re-imagined

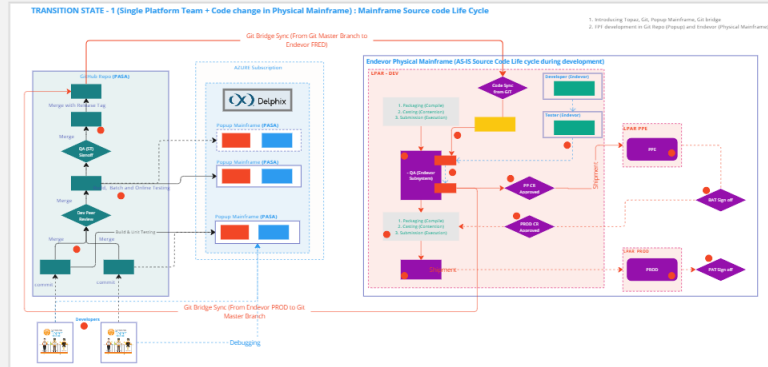


Service Design Blueprint

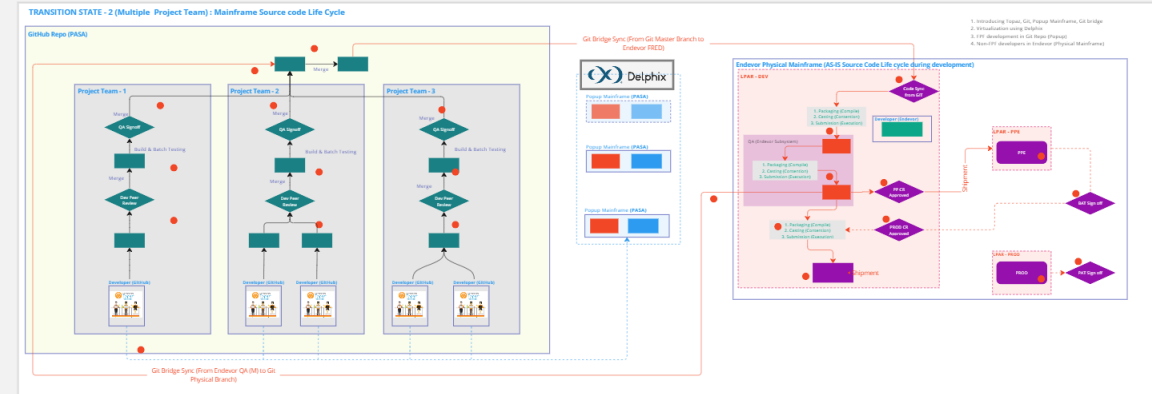
Transition States



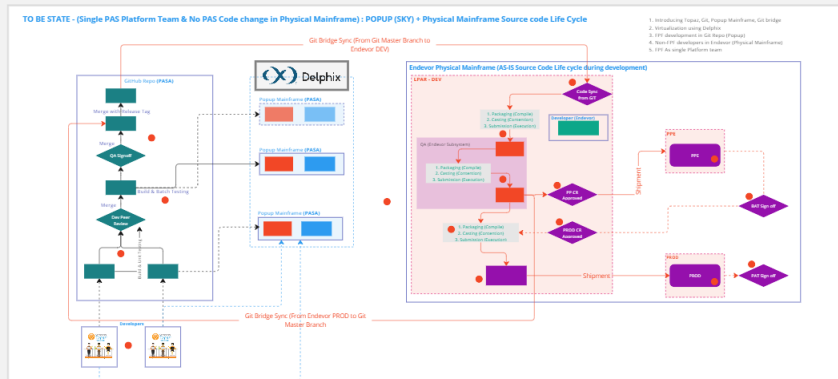
TRANSITION STATE - 1: Endeavor Bridge for Git (Sync Betw...



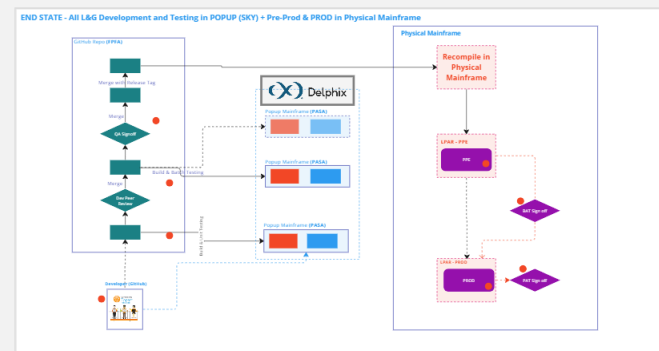
TRANSITION STATE - 2: Endeavor Bridge for Git (Sync Between GitHub Repo and Endeavor...



To Be State: Endeavor Bridge for Git (Sync Between GitHub Rep...



END STATE: Endeavor Bridge for Git (Sync Between...



Why Not ? Team Culture

Team Attitude has been Key



**Move Mainframe
Environments to Azure
without changing code (or)
config**



**Move PAS code to Git Hub
but keep the existing
configurations from
Endevor**



**Build CI/CD Pipelines
using GitHub Actions for
Mainframe SDLC**

kyndryl™



tcs



Delphix

BROADCOM™



Quickness, Quantity, Quality - Numbers to be proud of....

Success Stories



Quickness

Deliver change in
less than 4 hours
to Pre Prod



Quickness

Environment Creation
takes minutes.



Quantity

10 to 60 releases in
less than 24 months



Quality

Automated Unit Tests
with high percentage
of Code Coverage



Key Testimonials

Feedback



Legal and General's iMpala Project exemplifies the true spirit of innovation in the IT industry"

Amanda Hendley, Managing Director of CMG



2024 Environment Impact Honouree for using DevOps initiatives to drive Environment and Societal change by SustainableIT.org



Legal & General is honored with the Sustainability and Impact Award for their outstanding success in integrating sustainability within their DevOps and organizational structures

- DASA

"I didn't know what the fuss was about Mainframe Development? I am a trained Cloud Devops Engineer and am not finding any difference with Mainframe Devops Pipelines"

– Young Leslie

"I didn't think mainframe development in the Cloud would be possible but as I saw what was being done, I started to believe..."

- Senior Mainframe Engineer

Key Takeaways



kyndryl™

Microsoft

IBM
POPUP
MAINFRAME

tcs

Delphix

Delphix

BROADCOM™

bmc

Help we are Looking For...

Support

OTHERS EXPERIENCE OFF:

- Transition to automation first mindset
- Change focus from ££ to throughput/ value
- Models for measuring cost of change
- Sync up with others on similar journey...





Thanks for your time

