Adapting

Test strategies

to modern deployment methods

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| Enabling engineering teams deliver ...

RELEASE MGMT AND SOLUTION DELIVERY

TECHNICAL WRITER

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DEPLOYMENT

A brief history of a software deployments

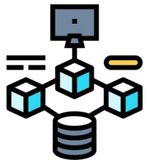
Early 2010

Emergence of DevOps practices, CI/CD becomes the centre of focus

Mid 2010

Containerisation and rise of Dockers

Late 2000



Microservices architecture becomes mainstream

Early 2020

Serverless Architecture in rise, FAAS (Function as a service) become common deployment

Present

Growth of edge computing. Multi and Hybrid cloud deployments becomes common

Late 2020

Advanced Devops like GitOps and AIOps in rise

DevOps and Containerization

Serverless, Edge Computing, and Advanced DevOps

SOFTWARE TESTING

Routine

APPLICATION

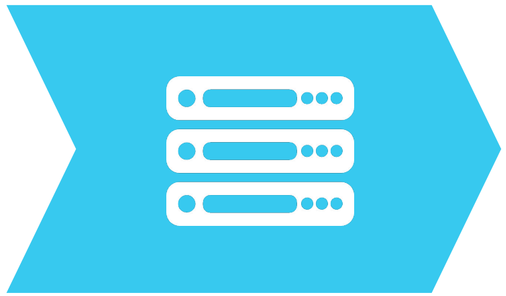
Monilithic

Single standard code base

Cloud Application

An onPremise application moved as SaaS application

Single production

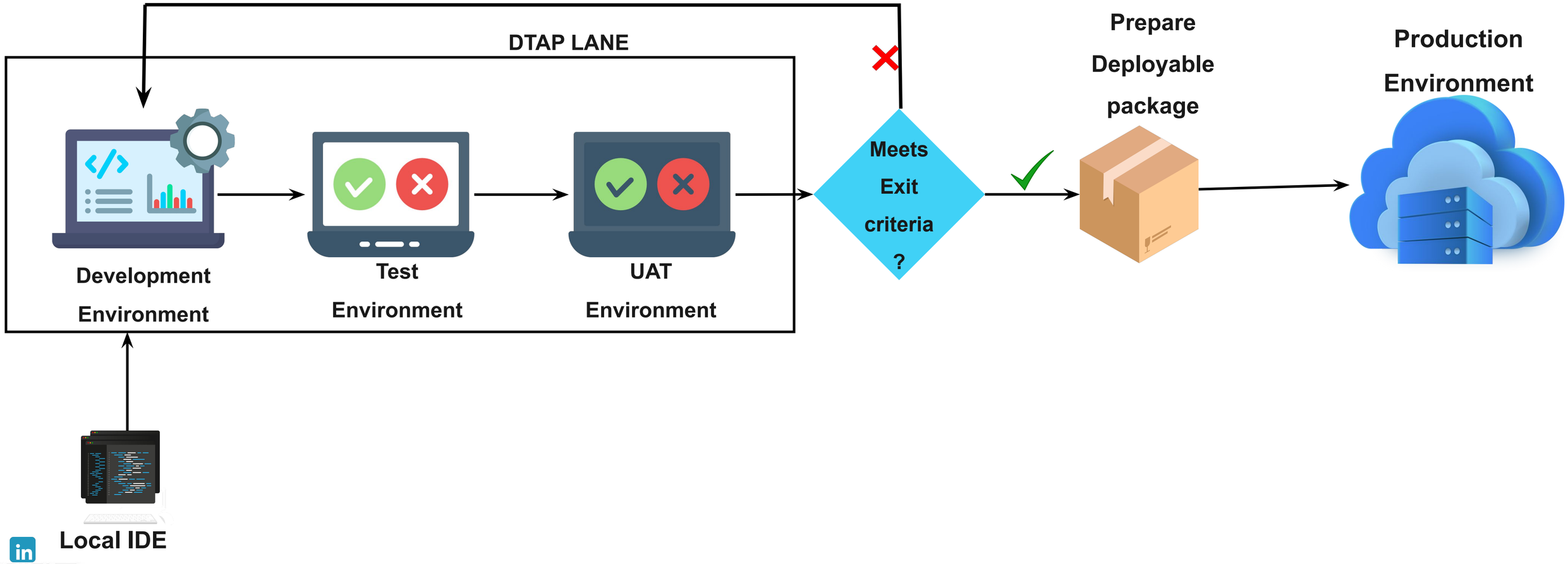


Presence in single geography

Standard Test system

Standard DTAP lane

HIGHOVER DEPLOYMENT



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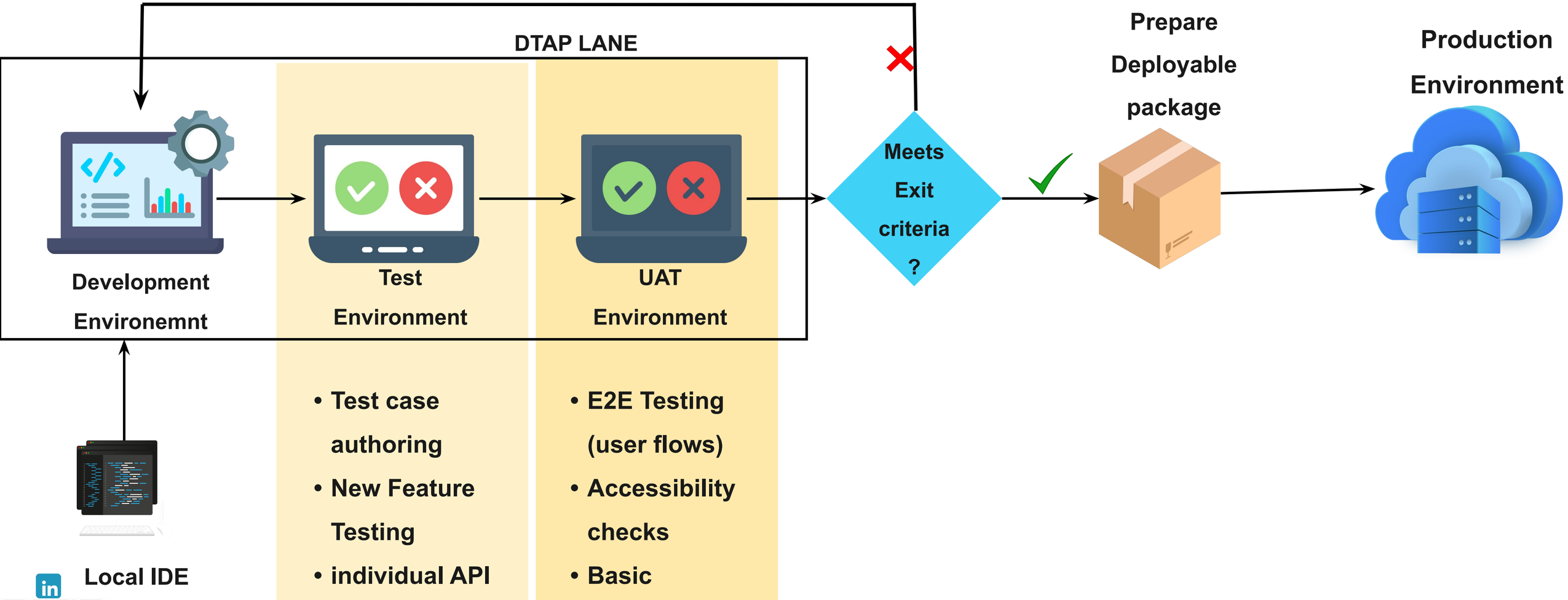


TEST ENGINEERING

Prelim Perf. test

Test Automation

Functional Scripts

API automation

Cross team Collaboration

Test Plans

Test Artifacts

Capacity/Effort planning

Test Dataset /Refreshes

New Features

Functional tests

Frontend checks

Integration Tests

Prelim Security checks

API health checks

E2E Test execution

Code scans

Unit tests

Application Monitoring

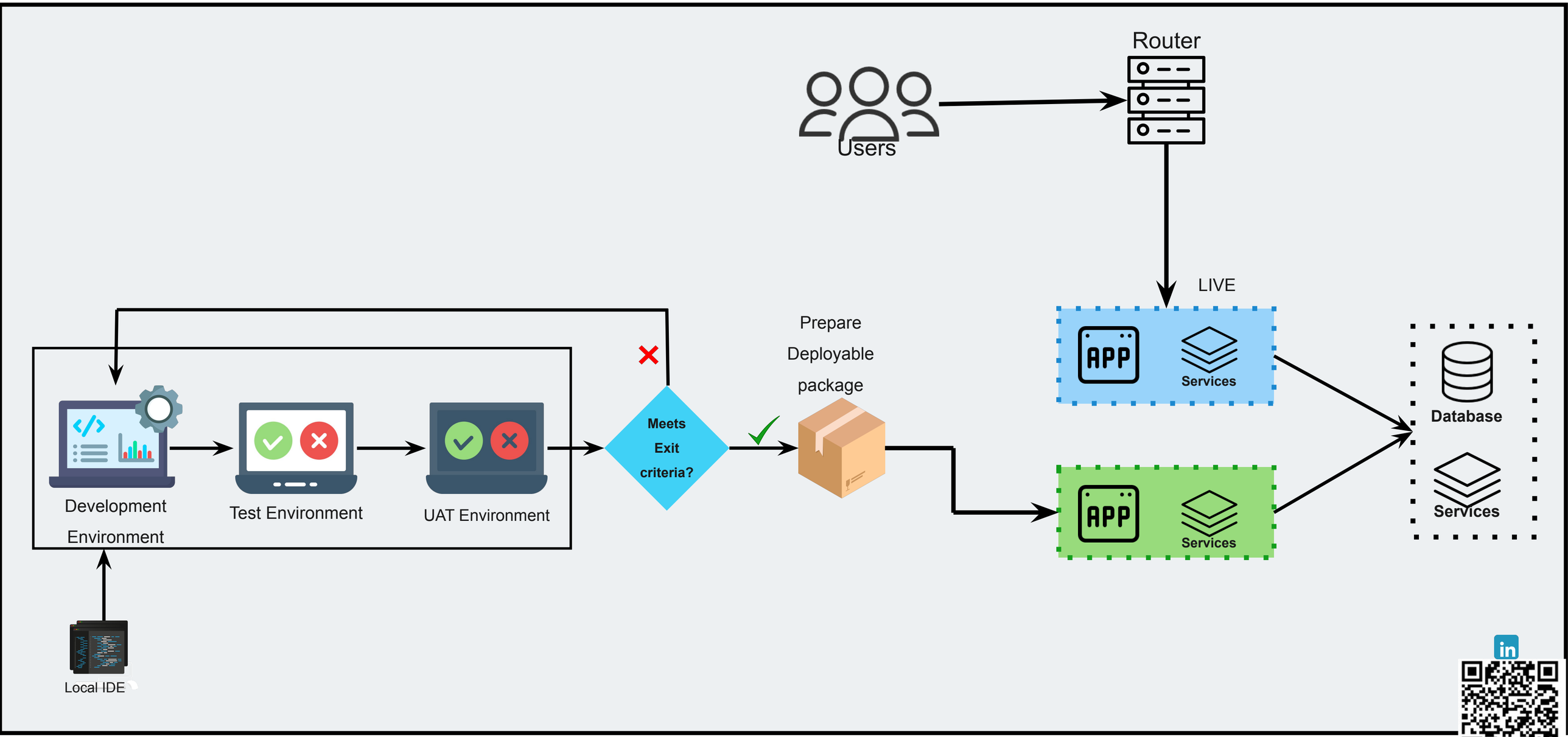
Plan

Implement

Build

Deploy

BLUE-GREEN DEPLOYMENT



TIME TO REVIST TEST STRATEGY

63%

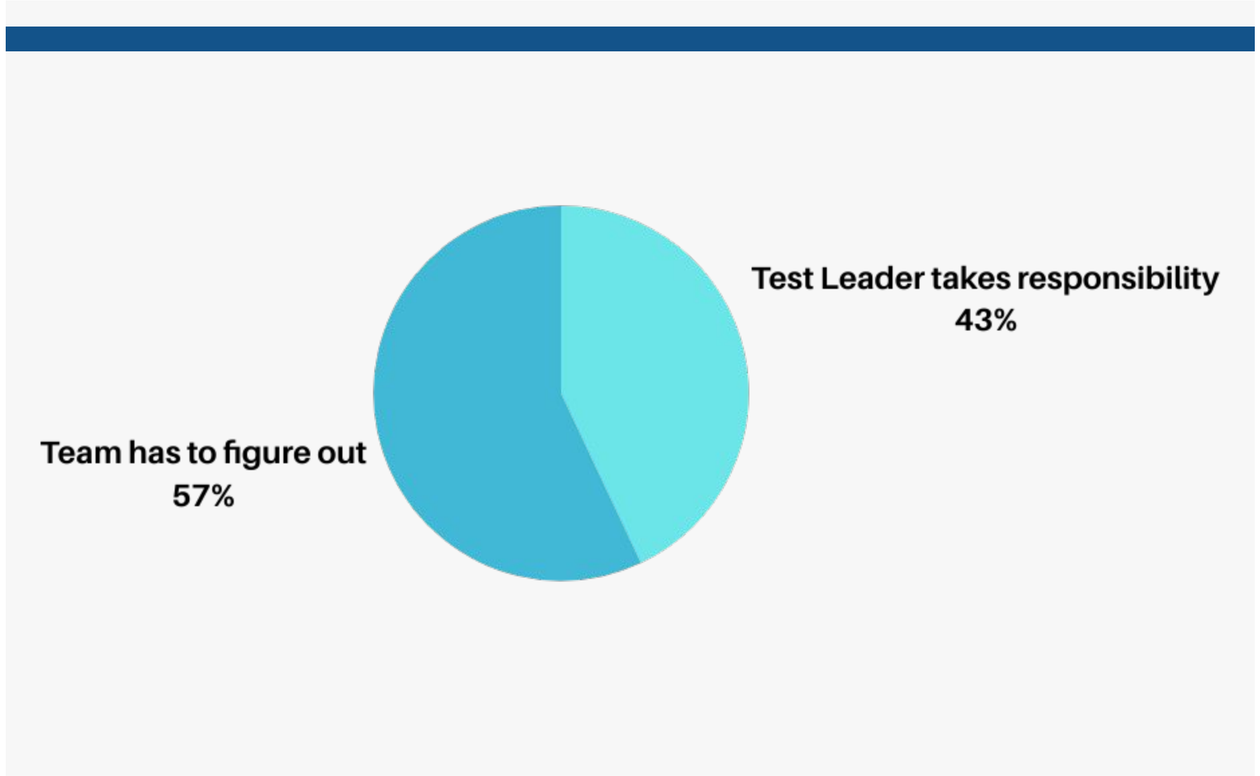
No change in process or delivering structure.

52%

Expressed feeling left behind during the change

82%

Replied they prefer training before change



5 ESSENTIAL DIMENSIONS

for test leaders

IMPACT

New deployment strategy opened new challenges

During the Shift from Blue to Green system the data sync should be taken in place

Data synchronisation

During the transition, the long running transactions should not be interrupted.

Delayed transactions

In the cusp of transition, Blue and Green system access same DB

Parallel DB updates

IaaS provided flexiblity for the Right shift testing

Embracing right shift testing

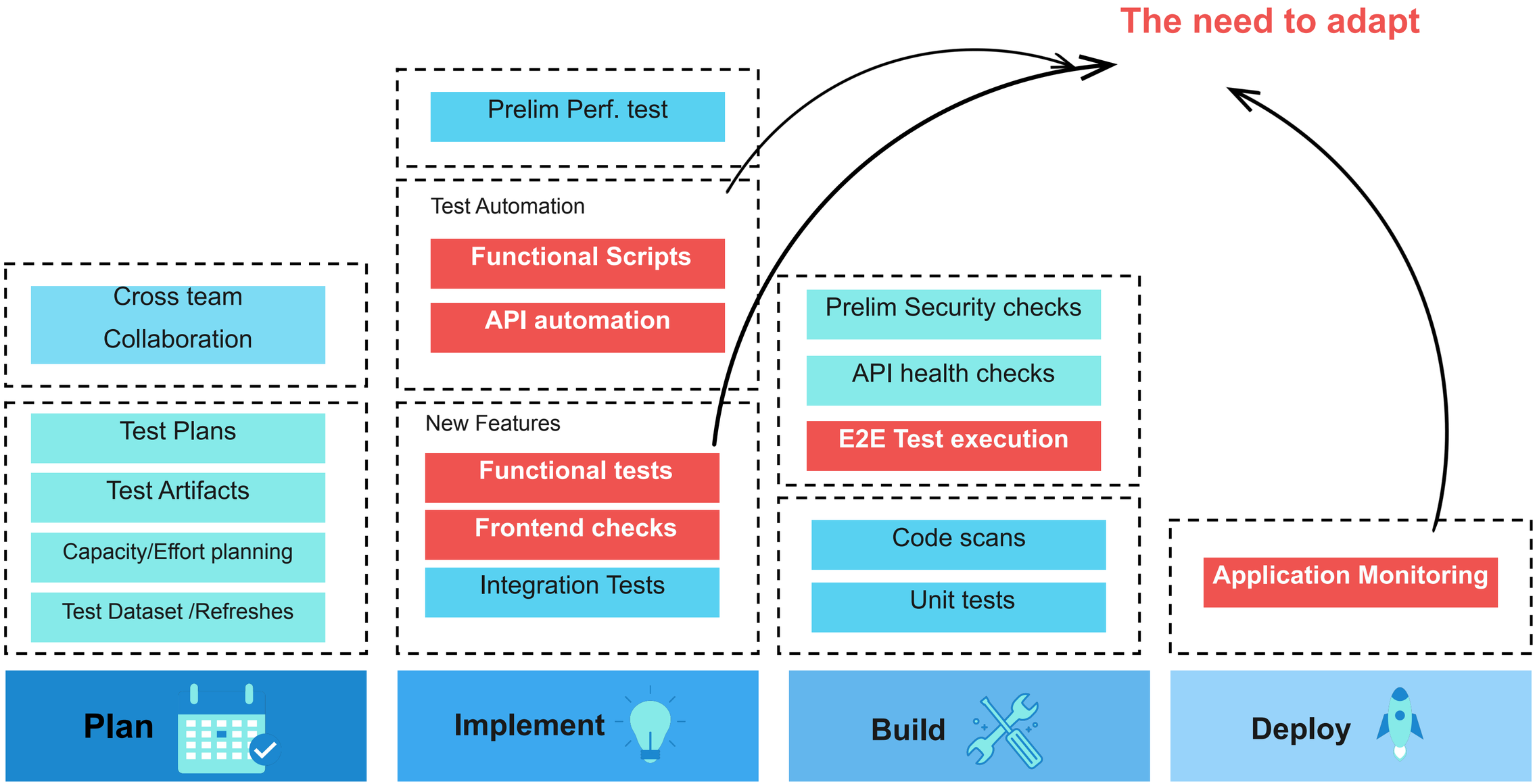
API test first approach

Microservice architecture

Cold start/Warm start

Service Mesh

ZOOM IN....


The need to adapt
Prelim Perf. test
Test Automation
Functional Scripts
API automation
Cross team
Collaboration
Prelim Security checks
API health checks
E2E Test execution
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New Features
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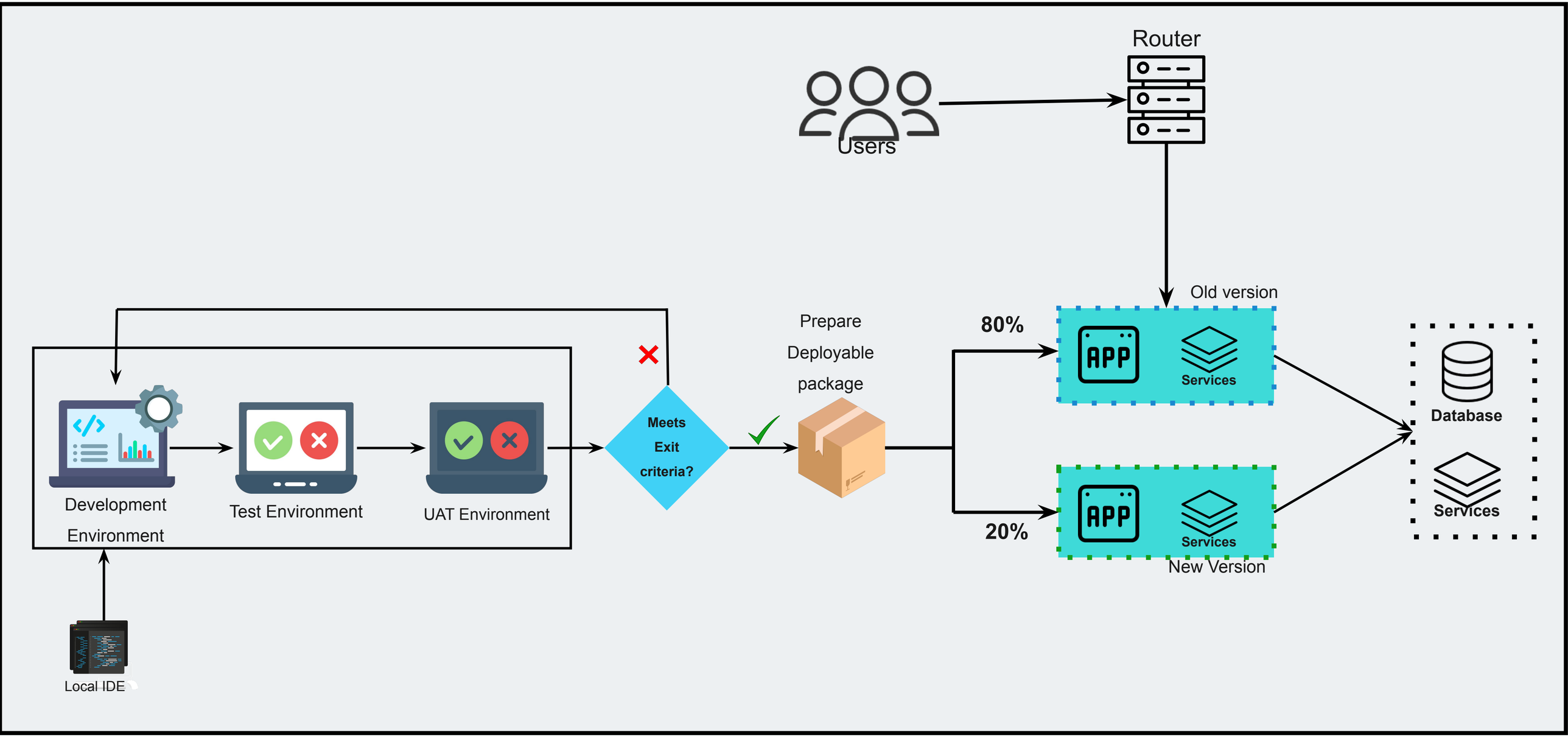
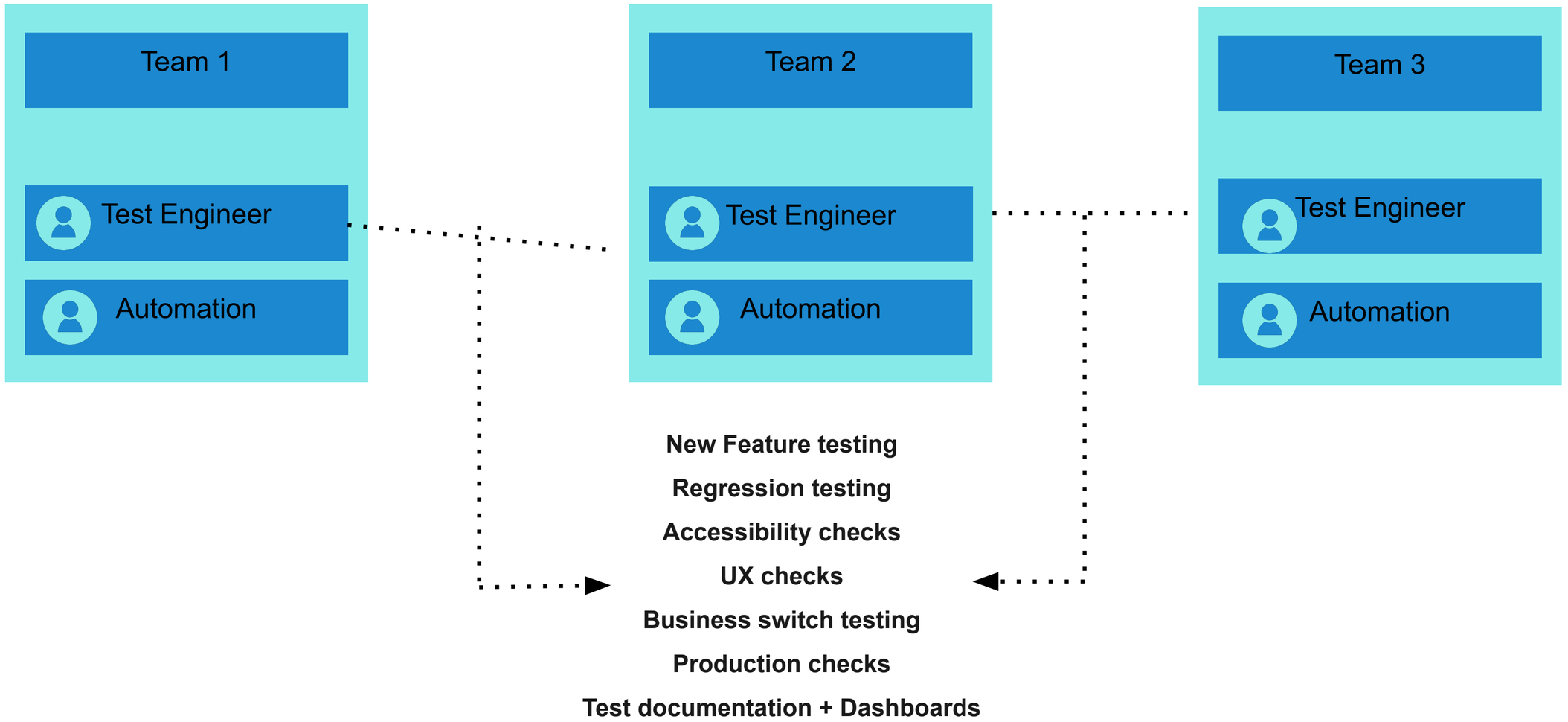
Implement
Build
Deploy

INCREMENTAL DEPLOYMENT

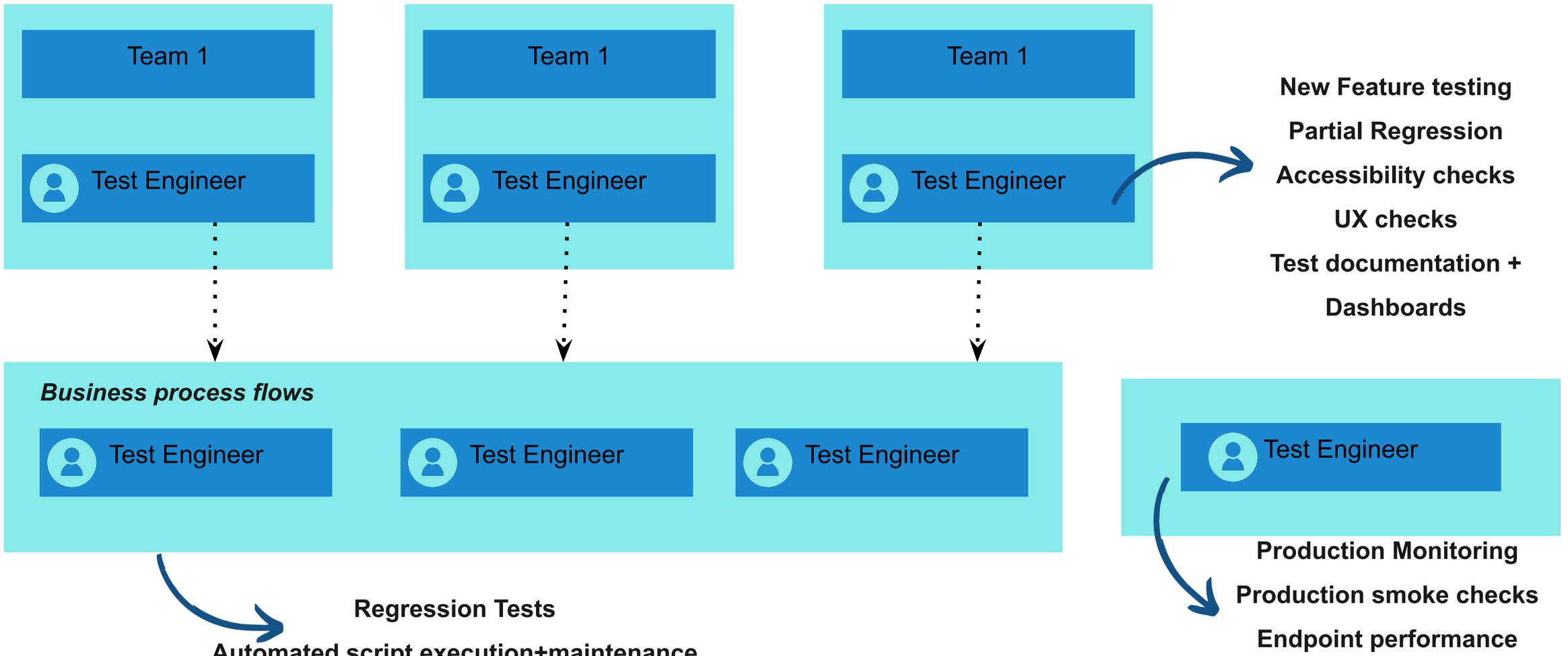
Controlled traffic



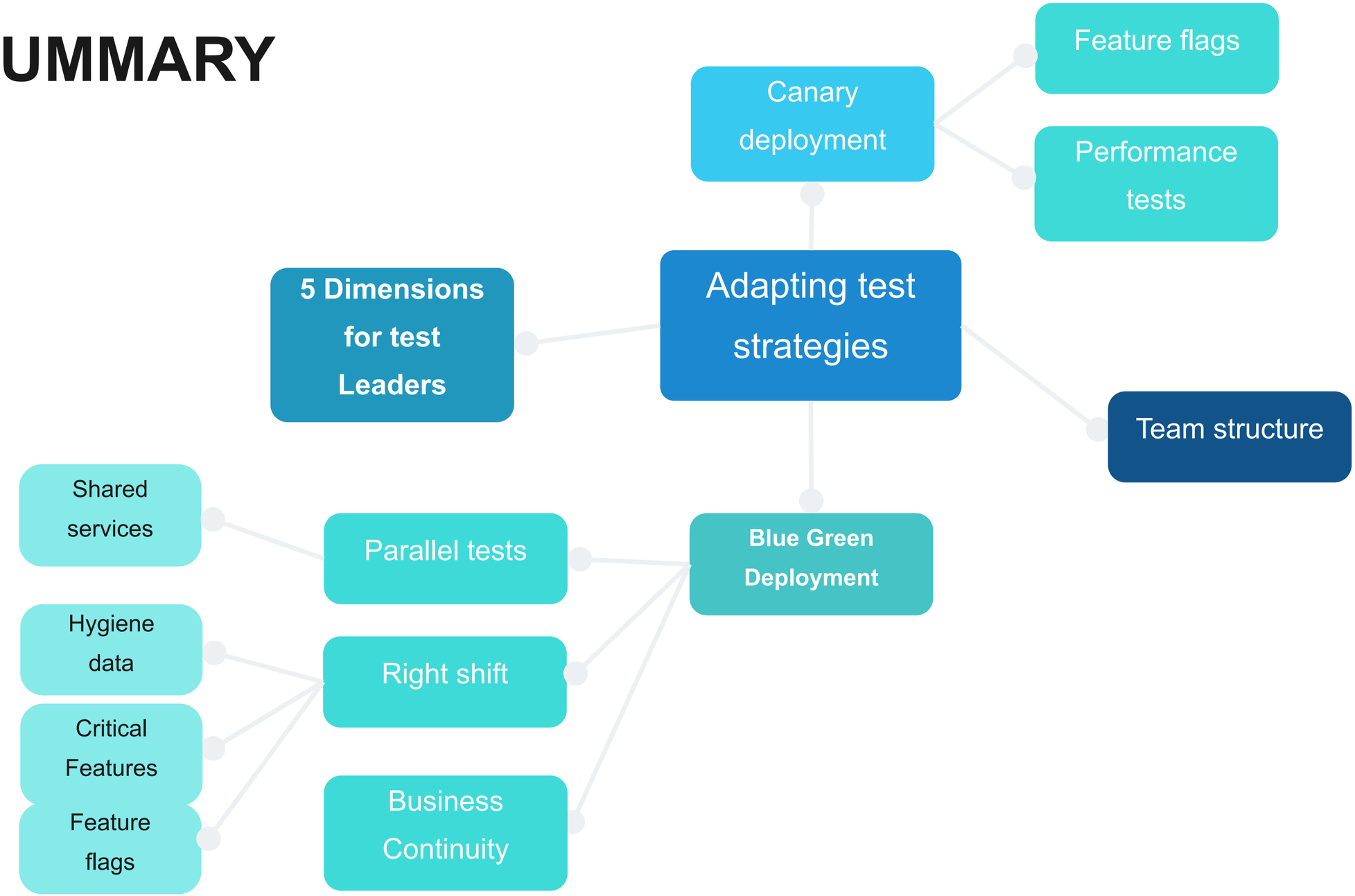
TEAM STRUCTURE



TEAM STRUCTURE... TO HERE



SUMMARY


Canary deployment
Feature flags
Performance tests
5 Dimensions for test Leaders
Adapting test strategies
Team structure
Shared services
Parallel tests
Blue Green Deployment
Hygiene data
Right shift
Critical Features
Feature flags
Business Continuity

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