

SHIP-HATS

Unified Quality Dashboards (UQD) for Actionable Insights

CEP Developer Productivity Programme

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Official Open

Agenda

- Problem Statement
- What are we measuring - 4 Pillars of Delivery Health
- Unified Quality Dashboard (UQD) Views
- UQD Views & Metrics & Insights
- Action Required
- Demo
- Q&A

Q & A

URL

<https://pigeonhole.at/SHIPHATS>



Problem Statement

Agencies' delivery teams are experiencing limited visibility into delivery quality where issues are surfaced too late in the development stages and limited objective data to drive decisions.

This results in missed opportunities for early intervention and creates risk to delivery timelines and quality.

As vendors embrace AI-Driven Development, traditional Quality Metrics alone will become inadequate for managing modern delivery partnerships.

Four Pillars of Delivery Health

Partnering with SWE Practice and GDT Excellence & Performance, we are shifting to an **AI-augmented development model** supported by a **future-ready, outcome-centric measurement framework**

Flow Efficiency

- How smoothly work moves through the delivery system

Deployment Cadence

- How often value reaches users

Recovery Capability

- How effectively teams responds to failures

Security Postures

- How effectively teams managed exploitable risks

Unified Quality Dashboard (UQD) for Actionable Insights

Your unified **Source of Truth** to monitor delivery quality and provide insights for early intervention

Primarily source coming from SG Tech Stack tools

Coming Soon in this quarter
(FY26Q1)

Strategic View : High Level Insights

- For CIOs & Agency Leaders
- Oversight of agency delivery performance, setting standards and improve.

Operational View : Removing Delivery Blockers

- For Delivery Teams
- Insights into delivery quality metrics, early intervention to remove blockers.

Diagnostic View : Optimizing Engineering Practices

- For Delivery Teams
- Diagnose and identify bottlenecks to be resolved.

Operational View

Strategic View - High Level Insights

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Operational View - Removing Delivery Blockers

- For Program/Project Managers and Delivery Leads
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Focusing on Flow Efficiency & Deployment Cadence

Flow Efficiency

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UQD Beta Release will focus on this 2 pillars first as data are readily available

Operational View

Visibility of measurable metrics in this 2 pillars as AI-augmented development naturally surfaces them. They are also the vital signs of delivery health that work across all teams and projects.

Flow Efficiency

- How smoothly work moves through the delivery system
 - 1.Total Merged Requests
 - 2.Merged Cycle Time
 - 3.Pipeline Durations

Total Merge Requests — Number of code changes merged in a given period.

Merge Cycle Time — Time taken for a code change to be reviewed and merged (prod ready).

Pipeline Duration — Time taken for automated checks and tests to complete

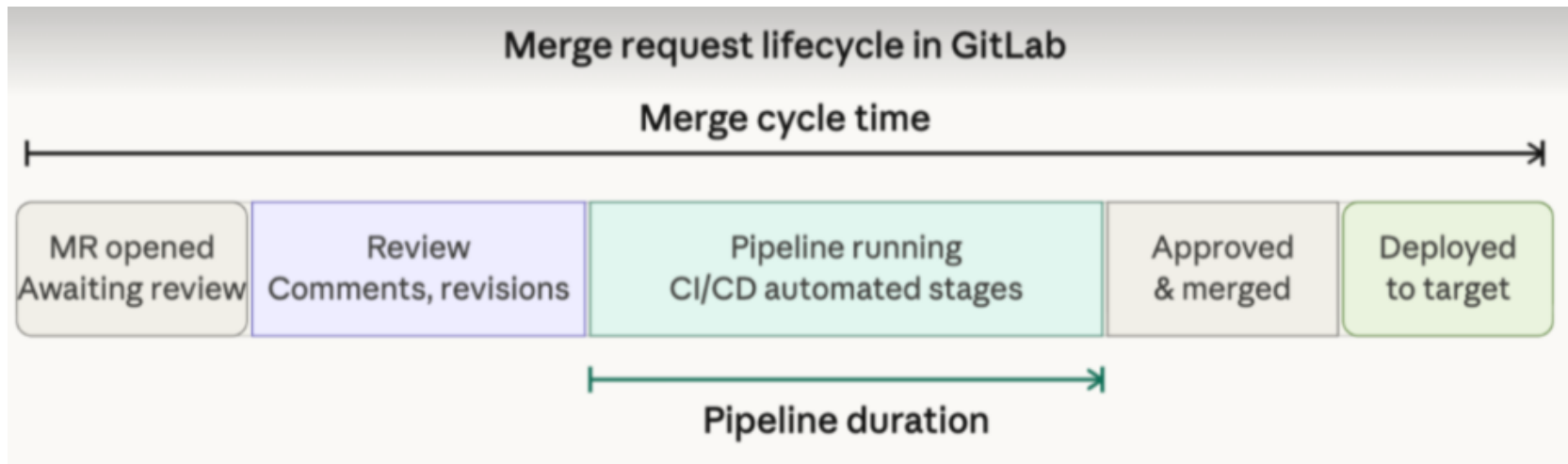
Deployment Cadence

- How often value reaches users
 - 1.Deployment Frequency (DF) for Production
 - 2.Deployment Frequency (DF) for lower environments

Deployment Frequency (Production) — How often changes are released to the live system

Deployment Frequency (Non-Production) — How often changes are deployed to staging env

Drill Down of Flow Efficiency Metrics



**Understanding and Removing the bottlenecks ->
Improved deployment frequency**

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Diagnostic View - Optimizing Engineering Practices

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Diagnostic View

- Complements metrics in Operational View, allowing the teams to analyse quality further across the 3 dimensions: process maturity, code, and system functional quality.
- Over time, as AI Driven Development become mainstream in vendor delivery, this diagnostic metrics may need to evolve to capture emerging quality indicators.

Process Quality

1. DevSecOps Maturity Score
2. User Story Acceptance Rate

Code Quality

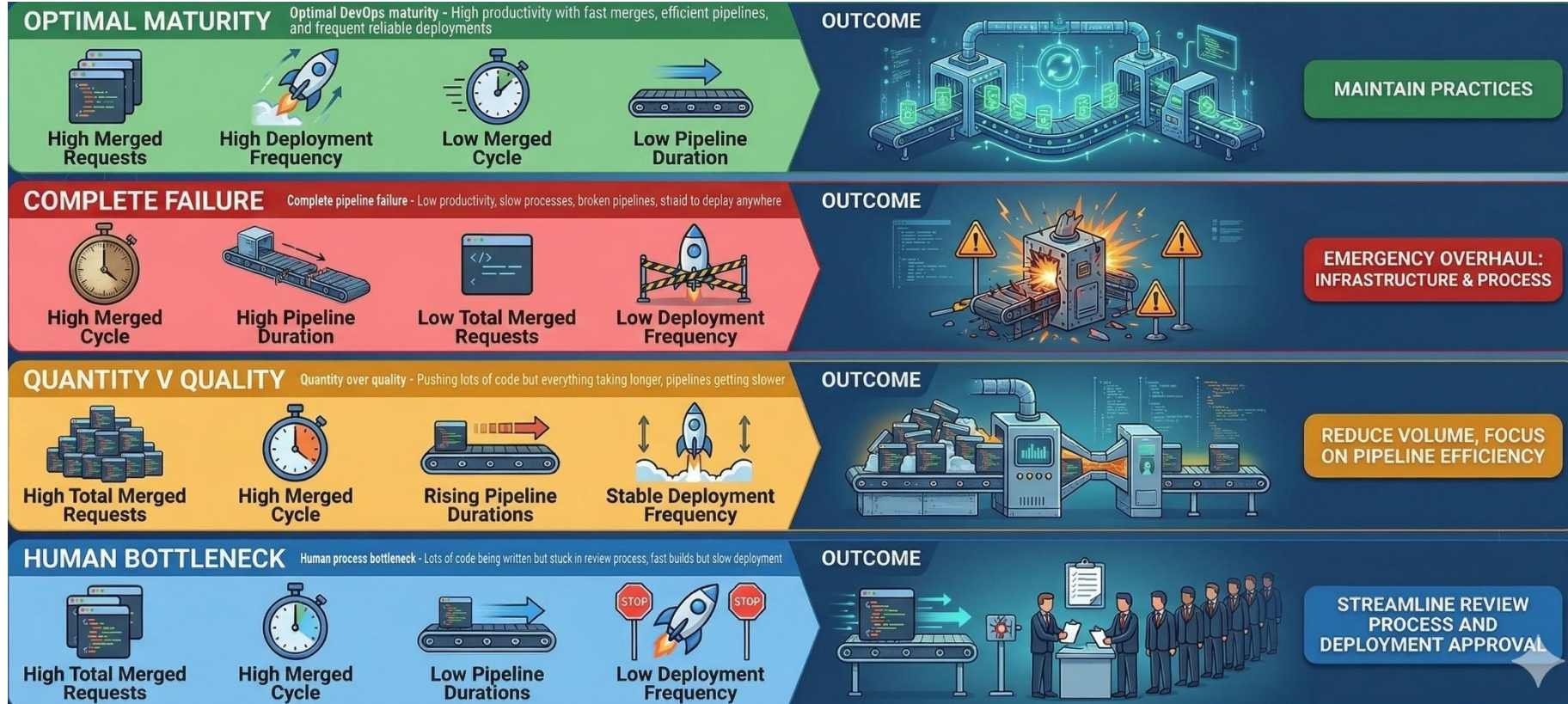
1. Vulnerability
2. Code Defect
3. Code Smell

System Quality

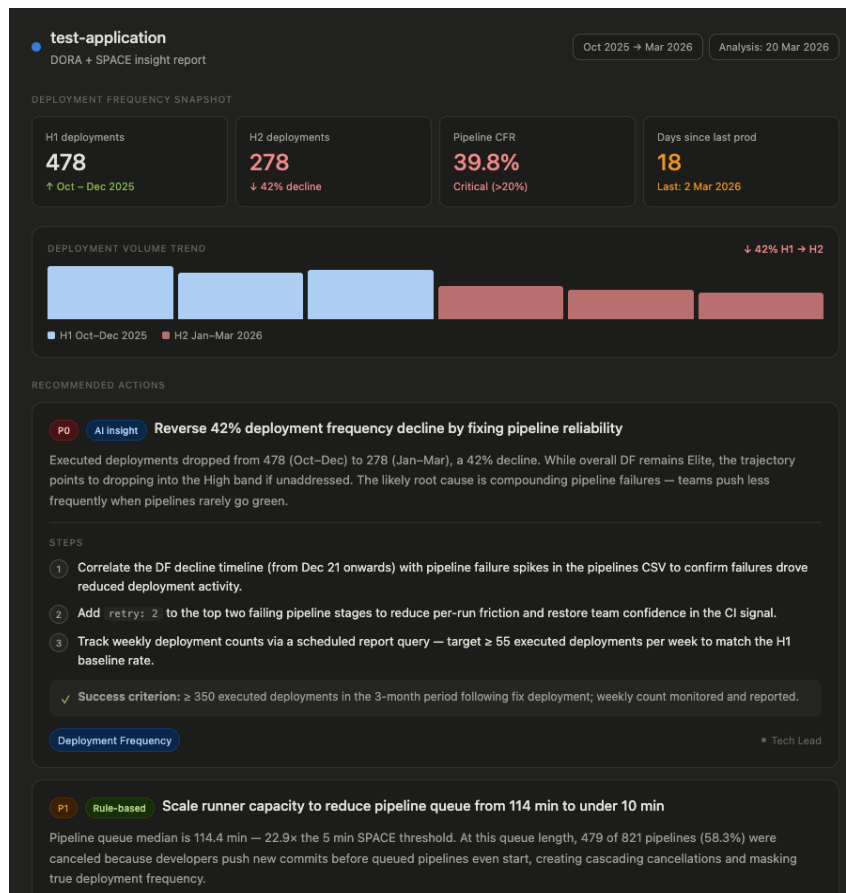
1. Sprint UAT Bugs*
2. Pre-release UAT Bugs*
3. Open Bugs

**Additional data tagging needed in JIRA
(We will talk more in subsequent slides)*

Typical Interventions for DevOps Friction



UQD Insights (Upcoming)



Access to UQD

- **CIOs and DSMs:** Access is provisioned automatically. Sign in using a Techpass account. If you do not have one, please register for Techpass here: <https://portal.techpass.gov.sg/public/signup>
- **SHIP-HATS Users (Public Officers):** You can view dashboard by default.
- **SHIP-HATS Users (Vendors):** Request your Subscription Admin to raise a SHIP-HATS service request to grant you access to specific project in UQD.

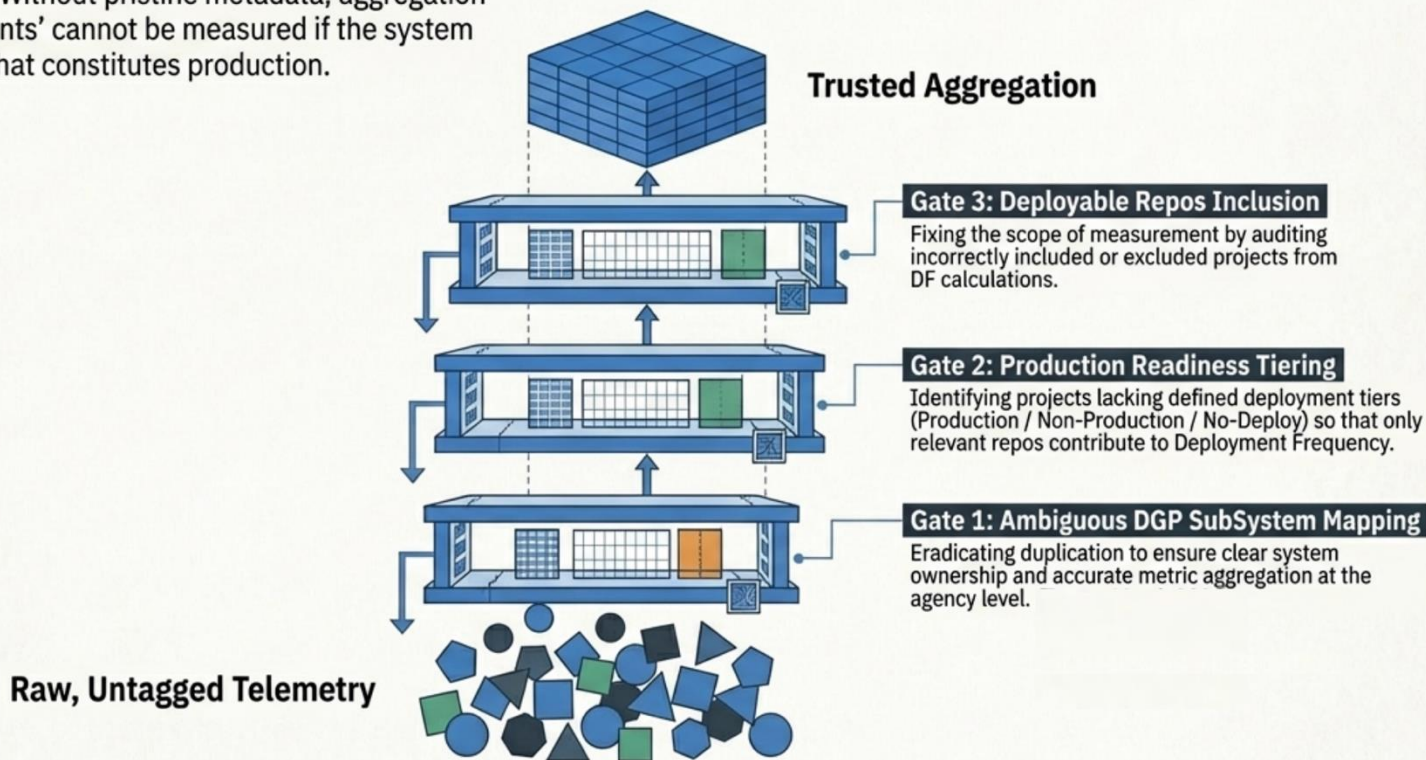
Note: COMET: issue -> can use ctrl-shift-alt-2 (workaround)

UQD DEMO

<https://console.developer.tech.gov.sg/core-sec/dashboard/>

Tagging – the key enabler for accurate insight

Core Principle: Without pristine metadata, aggregation fails. 'Deployments' cannot be measured if the system doesn't know what constitutes production.

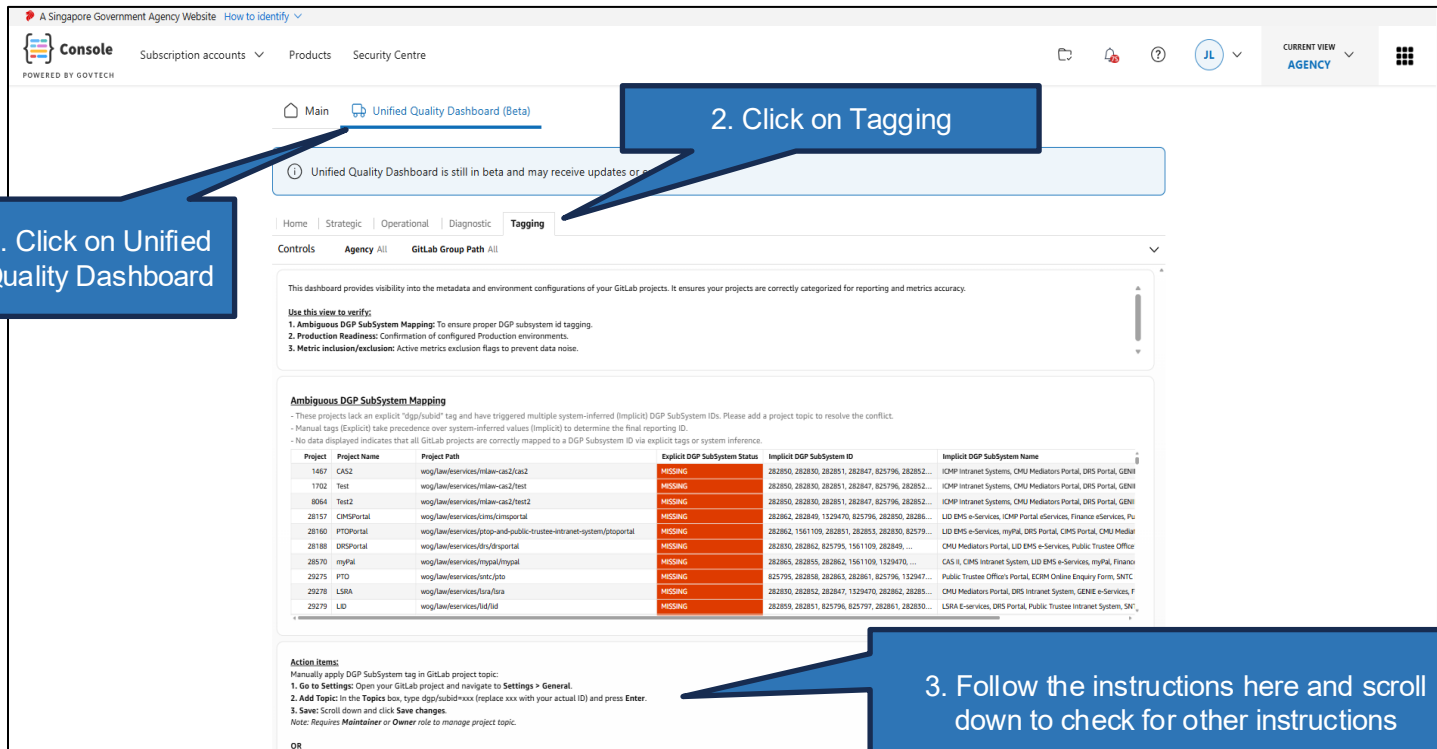


Tagging your repos via “Tagging” Tab

We have provided a tab in UQD to help users easily identify areas requires attention.

1. Click on Unified Quality Dashboard

2. Click on Tagging



Unified Quality Dashboard (Beta)

Unified Quality Dashboard is still in beta and may receive updates or changes

Home | Strategic | Operational | Diagnostic | **Tagging**

Controls | Agency All | GitLab Group Path All

This dashboard provides visibility into the metadata and environment configurations of your GitLab projects. It ensures your projects are correctly categorized for reporting and metrics accuracy.

Use this view to verify:

- Ambiguous DGP SubSystem Mapping:** To ensure proper DGP subsystem id tagging.
- Production Readiness:** Confirmation of configured Production environments.
- Metric inclusion/exclusion:** Active metrics exclusion flags to prevent data noise.

Ambiguous DGP SubSystem Mapping

- These projects lack an explicit "dgp/hubid" tag and have triggered multiple system-inferred (Implicit) DGP SubSystem IDs. Please add a project topic to resolve the conflict.
- Manual tags (Explicit) take precedence over system-inferred values (Implicit) to determine the final reporting ID.
- No data displayed indicates that all GitLab projects are correctly mapped to a DGP Subsystem ID via explicit tags or system inference.

Project	Project Name	Project Path	Explicit DGP SubSystem Status	Implicit DGP SubSystem ID	Implicit DGP SubSystem Name
1467	CAS2	wog/law/services/intra-cas2/cas2	MISSING	282850, 282830, 282851, 282847, 825796, 282852...	ICMP Intranet Systems, CHU Mediators Portal, DRS Portal, GENI
1702	Test	wog/law/services/intra-cas2/test	MISSING	282850, 282830, 282851, 282847, 825796, 282852...	ICMP Intranet Systems, CHU Mediators Portal, DRS Portal, GENI
8064	Test2	wog/law/services/intra-cas2/test2	MISSING	282850, 282830, 282851, 282847, 825796, 282852...	ICMP Intranet Systems, CHU Mediators Portal, DRS Portal, GENI
28157	CHMPortal	wog/law/services/oms/omsportal	MISSING	282862, 282849, 1329470, 825796, 282850, 28286...	LID EMS e-Services, ICMP Portal eServices, Finance eServices, Pu
28160	PTOPortal	wog/law/services/ptop-and-public-trustee-intranet-system/ptopportal	MISSING	282862, 1561109, 282851, 282853, 82579...	LID EMS e-Services, myPal, DRS Portal, CMS Portal, CHU Media
28188	DRSPortal	wog/law/services/oms/omsportal	MISSING	282850, 282862, 825795, 1561109, 282849, ...	CHU Mediators Portal, LID EMS e-Services, Public Trustee Office
28570	myPal	wog/law/services/impal/mypal	MISSING	282865, 282855, 282862, 1561109, 1329470, ...	CAS II, CMS Intranet System, LID EMS e-Services, myPal, Financ
29275	PTD	wog/law/services/oms/ptd	MISSING	825795, 282858, 282863, 282861, 825796, 132947...	Public Trustee Office's Portal, ECOM Online Enquiry Form, SNTC
29278	LSRA	wog/law/services/fora/lsra	MISSING	282850, 282852, 282847, 1329470, 282862, 28285...	CHU Mediators Portal, DRS Intranet System, GENIE e-Services, F
29279	LID	wog/law/services/fora/lid	MISSING	282859, 282851, 825796, 825797, 282861, 282830...	LSRA e-services, DRS Portal, Public Trustee Intranet System, SN

Action Items:

Manually apply DGP SubSystem tag in GitLab project topic:

- Go to Settings:** Open your GitLab project and navigate to **Settings** > **General**.
- Add Topic:** In the **Topics** box, type `dgp/subidxxx` (replace xxx with your actual ID) and press **Enter**.
- Save:** Scroll down and click **Save changes**.

Note: Requires Maintainer or Owner role to manage project topic.

3. Follow the instructions here and scroll down to check for other instructions

Release Roadmap

Unified Quality Dashboard (UQD): 6-Month Capability Maturity Roadmap

MONTHS 1-2: CONTEXTUAL OBSERVABILITY FOUNDATION



Unified Strategic
& Operational
Visibility



Granular Flow
& Security
Diagnostics

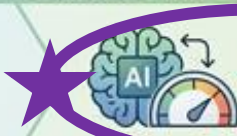


Frictionless
Onboarding &
Enablement

MONTHS 3-4: DECENTRALIZED GOVERNANCE & AI INTELLIGENCE



Autonomous
Agency-Tailored
Baselines



GenAI Impact
& ROI Analytics



Proactive
Event-Driven
Alerting

MONTHS 5-6: HOLISTIC ECOSYSTEM INTEGRATION & ACTIONABILITY



External Vendor
Performance
Profiling



Developer
Experience
(DevEx)
Correlation



Predictive,
Contextual AI
Recommendations



Enterprise Data
Democratization

UQD

Recap - Benefits of using UQD

- Clear, end-to-end visibility into how software is delivered today
- A single, system-level view across projects to **spot bottlenecks and track improvement**
- Data-driven insight into speed, quality, and engineering practices (e.g. deployment frequency, merge/pipeline times, code & system quality)

This is not meant to be a tool to compare or rank teams but is designed to help each teams **understand where they are** and **support continuous improvements** within each team, based on own context

Action Required

While you can access the dashboards now, your data will not show correctly if it is not tagged. To get useful insights, you must take following steps to clean and tag your data.

1. **Go to the Console:** <http://console.developer.tech.gov.sg/>
2. **Tag your projects:** Refer to the “**Tagging**” tab in UQD and follow the instructions closely to ensure your projects are properly labelled.
3. **Validate your metrics:** Check your metrics in UQD. Please note that your information will appear one day after you complete the tagging.
4. **By 15 May 2026, submit FormSG** to update SHIP-HATS, which of your systems have been baselined. <https://go.gov.sg/repotagging>

Videos & Documentation

- [Edit System DGP Id in Console](#)
- [Configure GitLab Topics](#)
- [Production Environment](#)
- [Create environment with Custom name](#)
- [Documentation](#)

Support

If you require assistance, contact the team via a [SHIP-HATS support ticket](#) and select the “UQD” component.

Let's hear from you!

Q & A

URL

<https://pigeonhole.at/SHIPHATS>



FAQs

1. Is onboarding to the UQD mandatory?

Agencies are encouraged to go onboard UQD as it provides agency teams a set of Quality Metrics for continuous monitoring on team performance during project stage

2. Will HQ be using UQD to track agency's delivery performance?

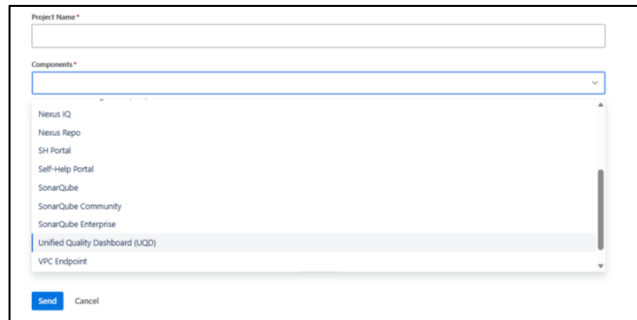
The data collected in UQD will provide more precise and meaningful insights for agencies to support ongoing improvements in software quality across the organization including uplift their vendors delivery quality.

3. What happens if agency cannot complete the baselining by the date line?

Agency can seek help via SHIP-HATS Service Desk, select

Component = Unified Quality Dashboard (UQD) if they encounter any difficulties in tagging the repository.

[SHIP-HATS Service Desk \(SSD2\) - Jira Service Management](#)

A screenshot of a web form for onboarding to the Unified Quality Dashboard (UQD). The form has two main sections: 'Project Name' and 'Components'. The 'Project Name' section has a text input field. The 'Components' section has a dropdown menu that is currently open, showing a list of components: Nexus IQ, Nexus Repo, SH Portal, Self-Help Portal, SonarCube, SonarCube Community, SonarCube Enterprise, Unified Quality Dashboard (UQD), and VPC Endpoint. The 'Unified Quality Dashboard (UQD)' option is highlighted. At the bottom of the form, there are two buttons: 'Send' and 'Cancel'.

4. Who has access to UQD?

UQD is currently available in Console <http://console.developer.tech.gov.sg/>

SHIP-HATS users who has a valid agency subscription (excludes Vendors) will have direct access to the dashboard. If vendors require access to UQD, please also log a SHIP-HATS service request.

Annex

Diagnostic View: DevOps Health & Interventions

Four project health scenarios correlating Maturity, Story Acceptance, Code Defects, and Bugs to provide a clear path forward for each state.



High Maturity

Team delivers quality stories and clean code, catching issues early through strong practices.



High Acceptance



Low Defects



Low Bugs

PRIMARY ACTION: Maintain current practices



Stable Maturity

Early Warning Sign

Processes remain stable, but deteriorating code quality suggests testing is not yet catching up.



Rising Defects



Stable Sprint Bugs

PRIMARY ACTION: Address code quality issues



Low Maturity

Project in Serious Trouble

Poor practices result in rejected stories, buggy code, and a pile of unresolved issues.



Low Acceptance



High Defects



High Bugs

PRIMARY ACTION: Emergency intervention on basics



High Acceptance

Hidden Quality Issues

Stories appear successful initially, but significant defects emerge late in testing or production.



High Pre-release Bugs



High Open Bugs

PRIMARY ACTION: Strengthen testing & Definition of Done

Operations vs Diagnostics: Navigating the Four States of DevOps Health

HIGH PRODUCTIVITY



Maintain Current Practices

Achieve fast delivery and high quality by maintaining current strong practices and clean code.

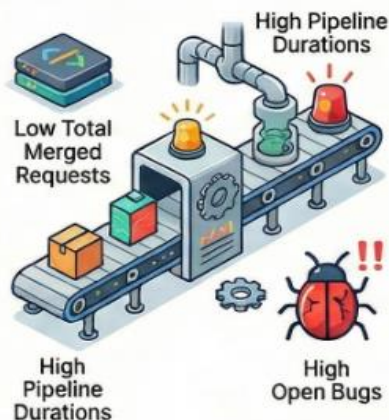
QUALITY OVER VOLUME



Slow Down; Focus on Quality over Volume

High output with rising technical debt requires slowing down to prioritise quality over quantity.

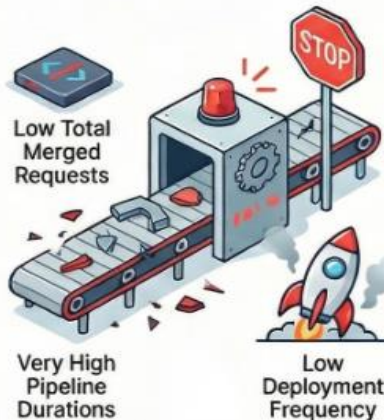
STABILISE SYSTEM



Stop New Features; Stabilise System

When bug counts rise and deployment slows, halt new features to focus on system stability.

BROKEN PROCESS



Fix Pipeline and Tooling First

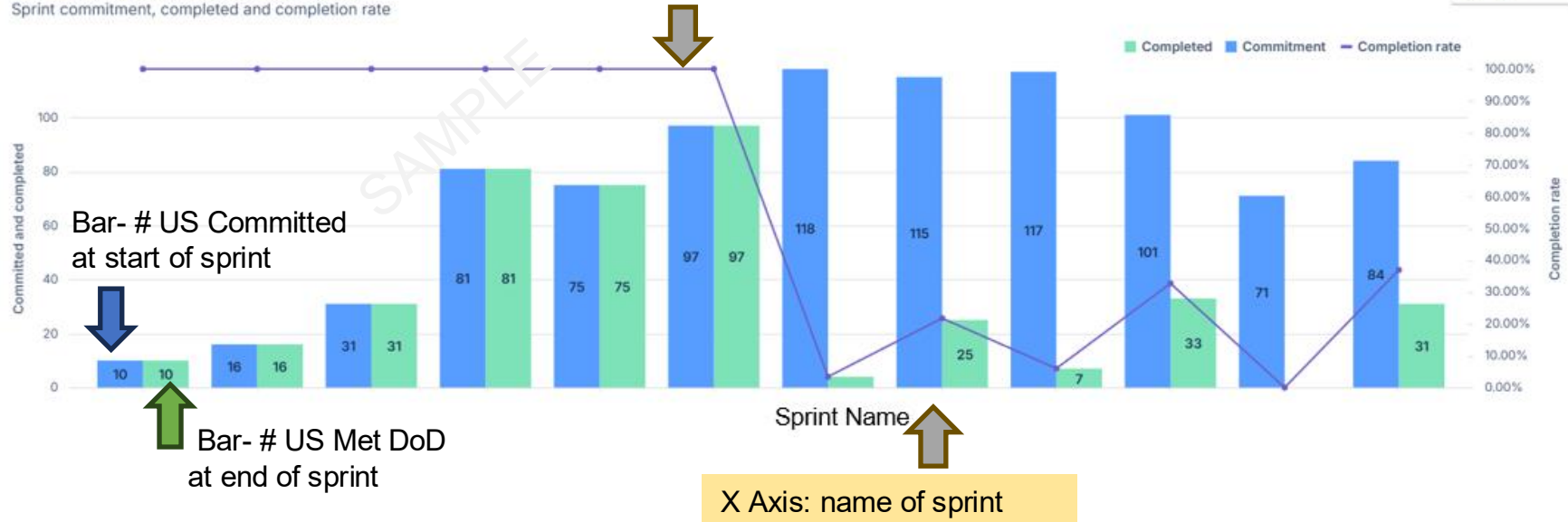
Extreme pipeline delays and poor code quality necessitate fixing tooling and builds before all else.

User Story Acceptance by Sprint – Show if Dev team is able to complete¹ all committed stories

What to look out for : If there is a consistent trend of dev team unable to meet the **DoD (>75%)**, there is a need to do a deeper dive to understand if there is any impediment.

1. User Story Acceptance Rate (by sprint)

Sprint commitment, completed and completion rate

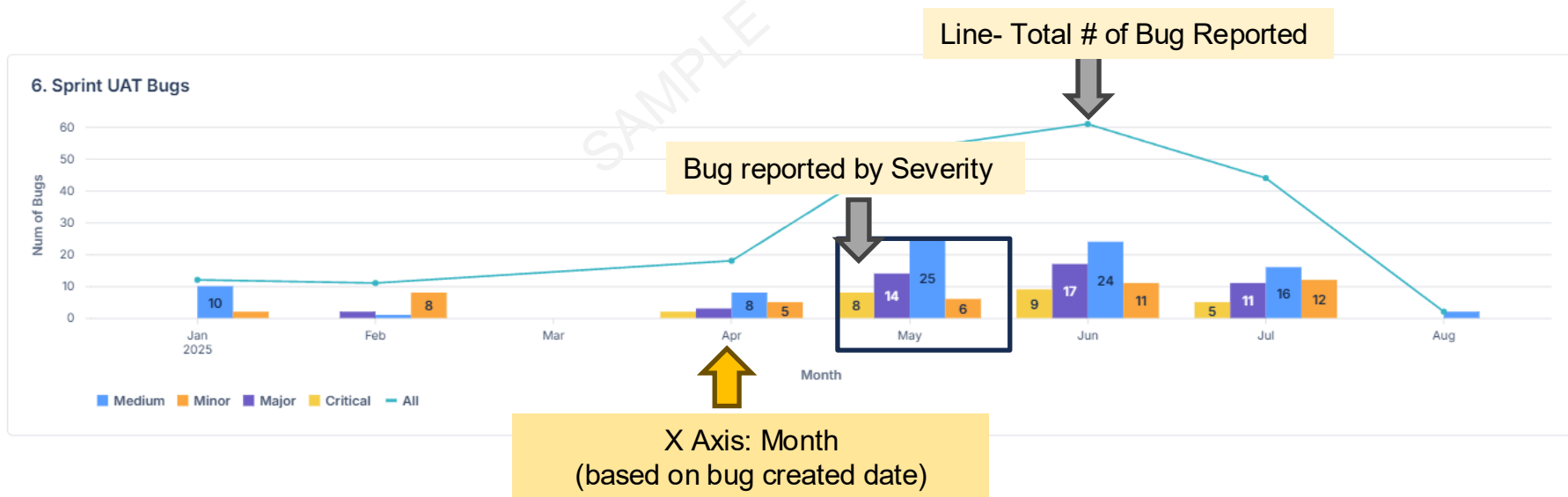


RESTRICTED/SENSITIVE NORMAL

¹Complete: Meeting the definition of done (including hands on testing by PO)

Sprint UAT Bugs by Month: Quality of the User Story delivered when Dev team indicate story as ready for acceptance

What to look out for : If sprint acceptance consistently surfacing **critical/high** severity bug, team will need to look at the root cause of these reported issue and improve the existing testing practice



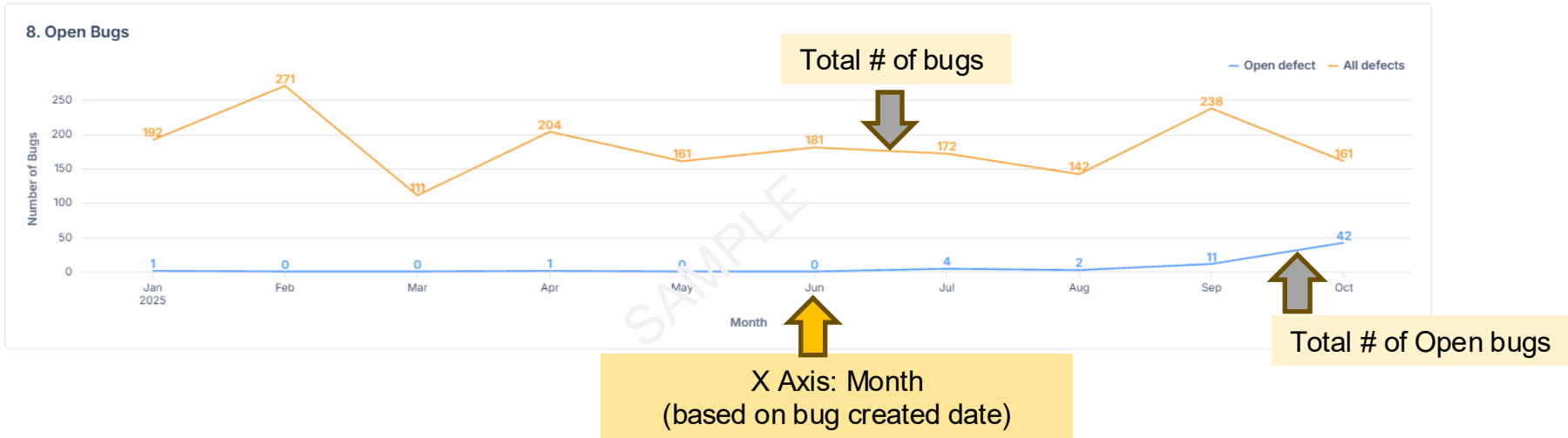
Pre-Release UAT Bug by Month: Show Quality of each Release

What to look out for : If pre-release surfacing **critical/high/medium** severity bug, team will need to look at why these issues only surfaced during pre-release. This is also a measure of quality across releases.



Open Bugs by Month – Show Technical Debt Accumulated

What to look out for : No open defects or trending down of open defects



RESTRICTED/SENSITIVE NORMAL

¹Bugs = Total bugs include those found during Dev, In Sprint, Pre-Release

A series of thin, white, wavy lines that flow across the upper half of the slide, creating a sense of movement and connectivity.

Thank you.