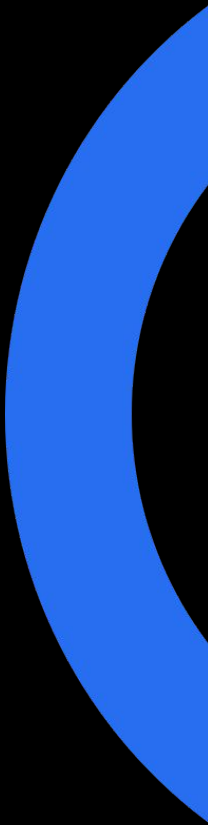# Isomer Infrastructure Migration briefing

10, 17, 21, 22 August 2023

This briefing is meant for CMS-compliant sites.

Non-CMS-compliant sites will be contacted in mid to end-September for migration

Agenda

1. *Addressing the* Circular Minute[1] on raising Internet Hygiene

2. Isomer site infrastructure migration

3. Upcoming upgrades to the IsomerCMS

4. Actionables by agencies

5. Questions and Answers (all Q&As will be answered at the end)

[1] PMO (SNDGO) Circular Minute No. 2/2023: Raising Internet Hygiene Across Whole of Government Digital Services and Email Systems

Addressing the
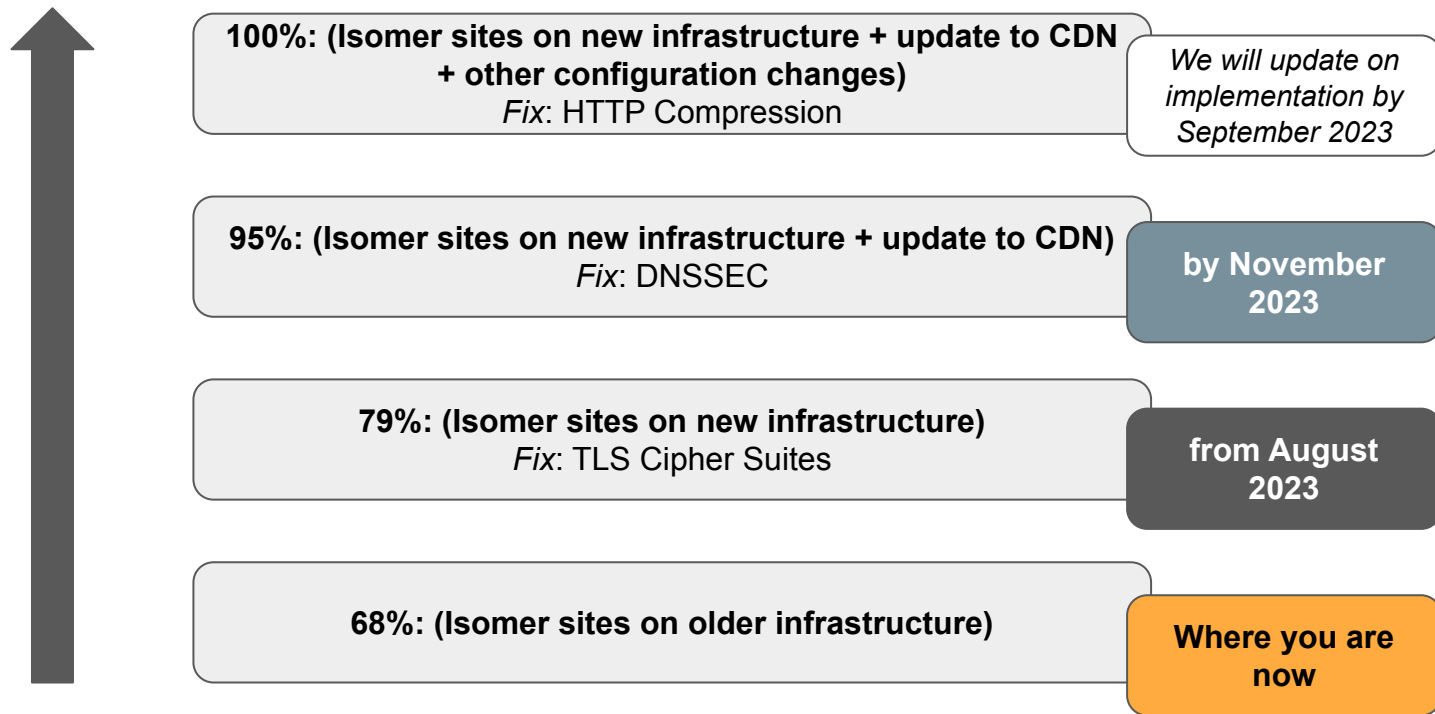**Circular Minute on raising
Internet Hygiene**
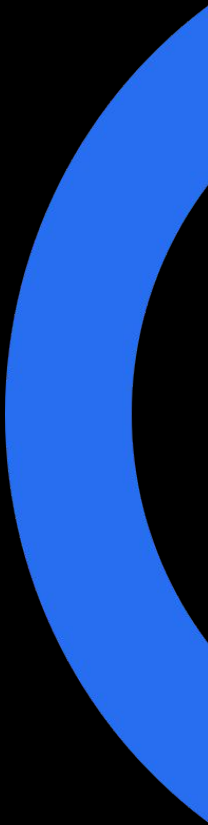
Key points from the Circular Minute

1. Agencies in general are required to **attain 100%** on the Cybersecurity Agency of Singapore (CSA)'s Internet Hygiene Portal (IHP)

2. **Deadline** for most domains: **2nd November 2023, otherwise 2nd February 2024**
    a. Inability to comply by the deadline requires agencies to submit a **Internet Security Remediation Plan to the IM8 Secretariat**

3. **As of today, Isomer sites cannot attain 100% on the IHP, and as a product, we will help you to comply to the Circular Minute.**
    a. Should, for whatever reasons, the Isomer team is unable to get Isomer sites up to 100%, the Isomer team will do the necessary follow-ups

Isomer site infrastructure migration

Getting Isomer sites to attain 100% on CSA IHP

100%: (Isomer sites on new infrastructure + update to CDN + other configuration changes)
Fix: HTTP Compression

We will update on implementation by September 2023

95%: (Isomer sites on new infrastructure + update to CDN)
Fix: DNSSEC

by November 2023

79%: (Isomer sites on new infrastructure)
Fix: TLS Cipher Suites

from August 2023

68%: (Isomer sites on older infrastructure)

Where you are now

Immediate next steps

100%: (Isomer sites on new infrastructure + update to CDN + other configuration changes)
Fix: HTTP Compression

We will update on implementation by September 2023

95%: (Isomer sites on new infrastructure + update to CDN)
Fix: DNSSEC

by November 2023

79%: (Isomer sites on new infrastructure)
Fix: TLS Cipher Suites

from August 2023

68%: (Isomer sites on older infrastructure)

Where you are now

Currently: **Isomer** Infrastructure 2.0 (with IsomerCMS)

Netlify
Staging website

Netlify
Front-end

Staging branch

Gov Central DNS
DNS

Citizen

Agency user

isomer CMS

Master Branch

Netlify
Site hosting

KeyCDN
Primary CDN

Redirection server

GitHub
CMS/Raw file storage

AWS Elastic Beanstalk
Back-end
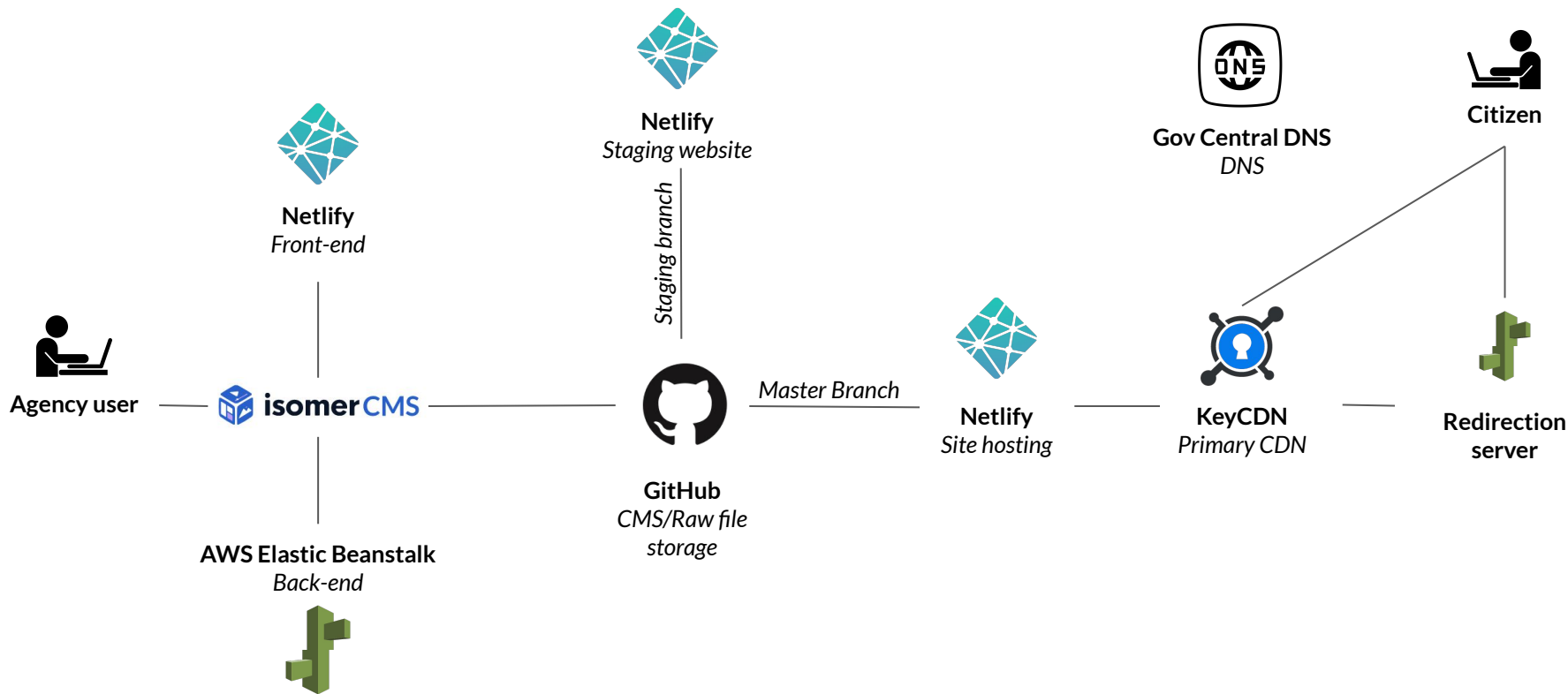
After migration: **Isomer** Infrastructure 3.0 (with IsomerCMS)

AWS Amplify
Staging website

Staging branch

AWS Amplify
Front-end

Gov Central DNS
DNS

Citizen

Agency user

isomer CMS

Master Branch

AWS Amplify
Site hosting

AWS CloudFront
Primary CDN
(Managed through AWS Amplify)

Redirection server

GitHub
CMS/Raw file storage

AWS Elastic Beanstalk
Back-end
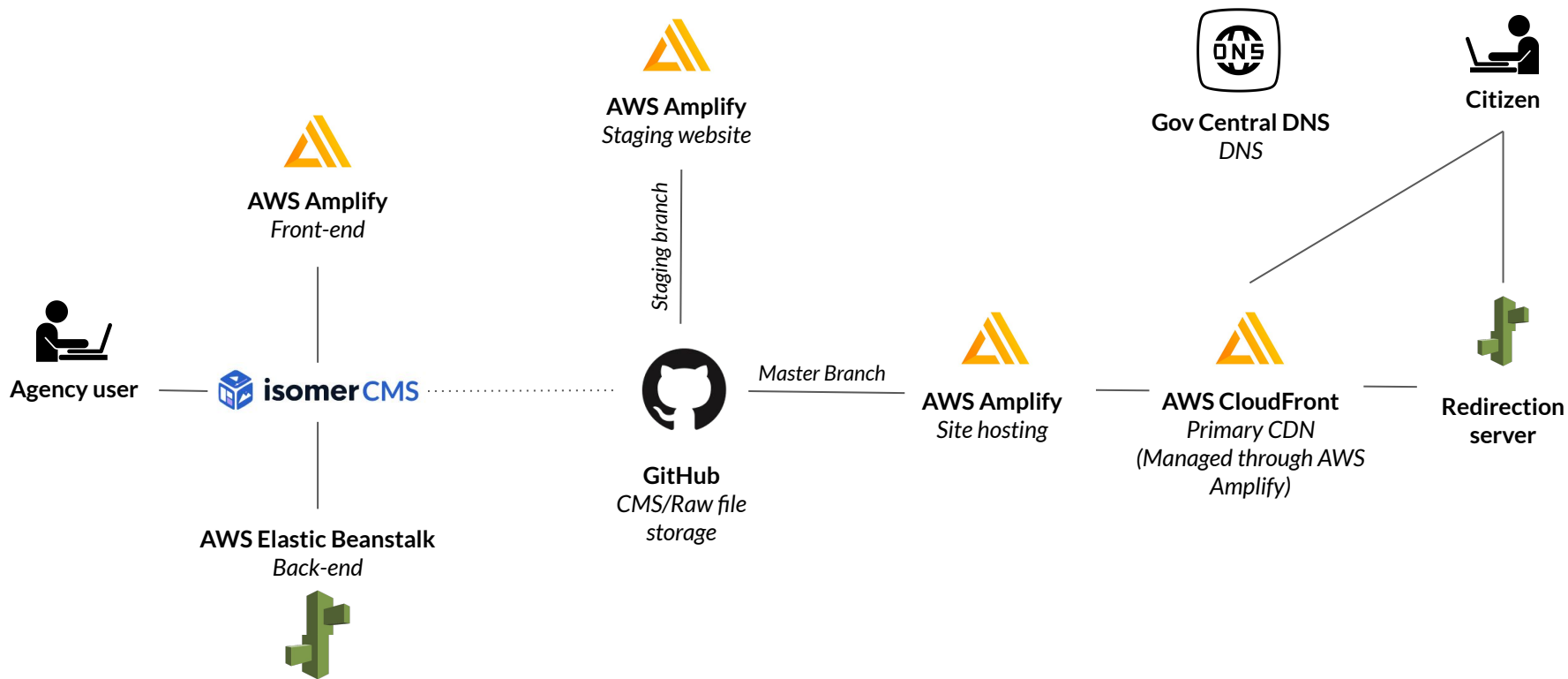
Overview: 4 steps in the infrastructure migration

1. Staging Site migration:

Verify that everything in your Staging sites are working

Whilst the Isomer team has, on a best effort basis, ensured that each site migration to new infra to not cause any breaking issues, **the responsibility is on you to verify that nothing is broken on your site.**

2. Report or confirm Staging Sites:

If no issues to report:
You will **confirm via a form** (which will be sent to you on Day 1) to proceed on with Production site migration.

If have issues to report:
You will **confirm via a form** (which will be sent to you on Day 1) to report on issues for rectification

3. Prepare for Production Site migration:

At least 24 hours before Production site migration:

Modify DNS records' **TTL** to 5 minutes for fast propagation of new DNS records and reduce possibility of downtime
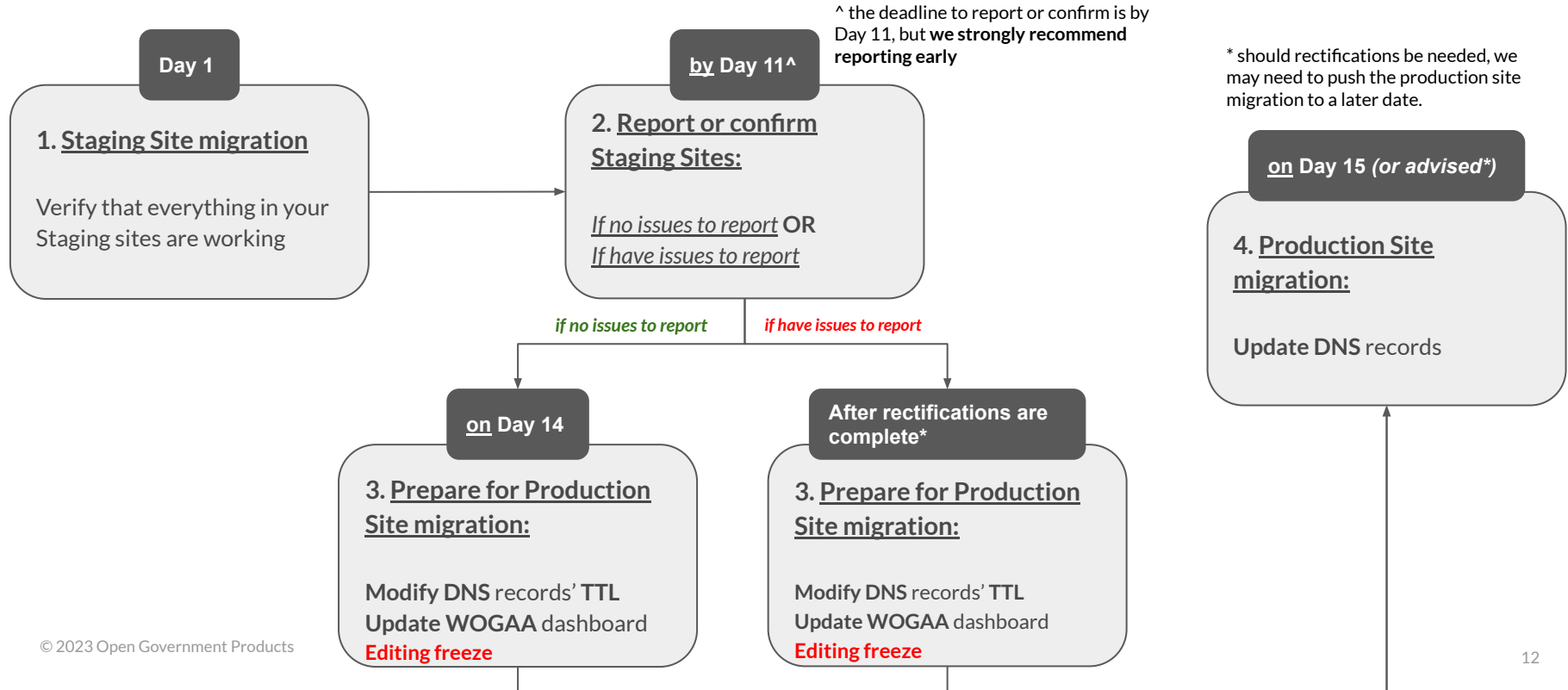
Update your WOGAA dashboard of possible downtime of 2 hours (date and time to be advised by the Isomer team)

Editing freeze from EOD to production site is migrated: All Pull Requests must be merged or closed.

4. Production Site migration:

Update DNS records to point to the new CDN (which runs on the new infrastructure)

11

Timeline: 4 steps in the infrastructure migration

Day 1

1. Staging Site migration

Verify that everything in your Staging sites are working

^ the deadline to report or confirm is by Day 11, but **we strongly recommend reporting early**

by Day 11^

2. Report or confirm Staging Sites:

If no issues to report **OR**
If have issues to report

if no issues to report   *if have issues to report*

on Day 14

3. Prepare for Production Site migration:

Modify DNS records' **TTL**
Update WOGAA dashboard
Editing freeze

After rectifications are complete*

3. Prepare for Production Site migration:

Modify DNS records' **TTL**
Update WOGAA dashboard
Editing freeze

* should rectifications be needed, we may need to push the production site migration to a later date.

on Day 15 *(or advised*)*

4. Production Site migration:

Update DNS records

Production Site migration: DNS records **sample**

<u>Domain verification CNAME record</u>

Source:
_c23f530f20f8df697631ebf612e91f
31.yoursitename.gov.sg

Target:
_a10c899a62428b57890858f2ff7131
e9.sggfvksfyf.acm-validations.a
ws

<u>www (or 4th-level domain) CNAME record</u>

Source:
www.yoursitename.gov.sg

Target:
d2lriv0abcplo2.cloudfront.net

This is the record that you will **need to add**

This is the record that you will **need to update**

Upcoming upgrades to the IsomerCMS

We will be removing access to the underlying GitHub repository by Q4 2023.

AWS Amplify
Staging website

Gov Central DNS
DNS

Citizen

AWS Amplify
Front-end

Staging branch

Agency user

isomer CMS

File storage done on GitHub, but no direct user access

GitHub
CMS/Raw file storage

Master Branch

AWS Amplify
Site hosting

AWS CloudFront
Primary CDN (Managed through AWS Amplify)

Redirection server

AWS Elastic Beanstalk
Back-end
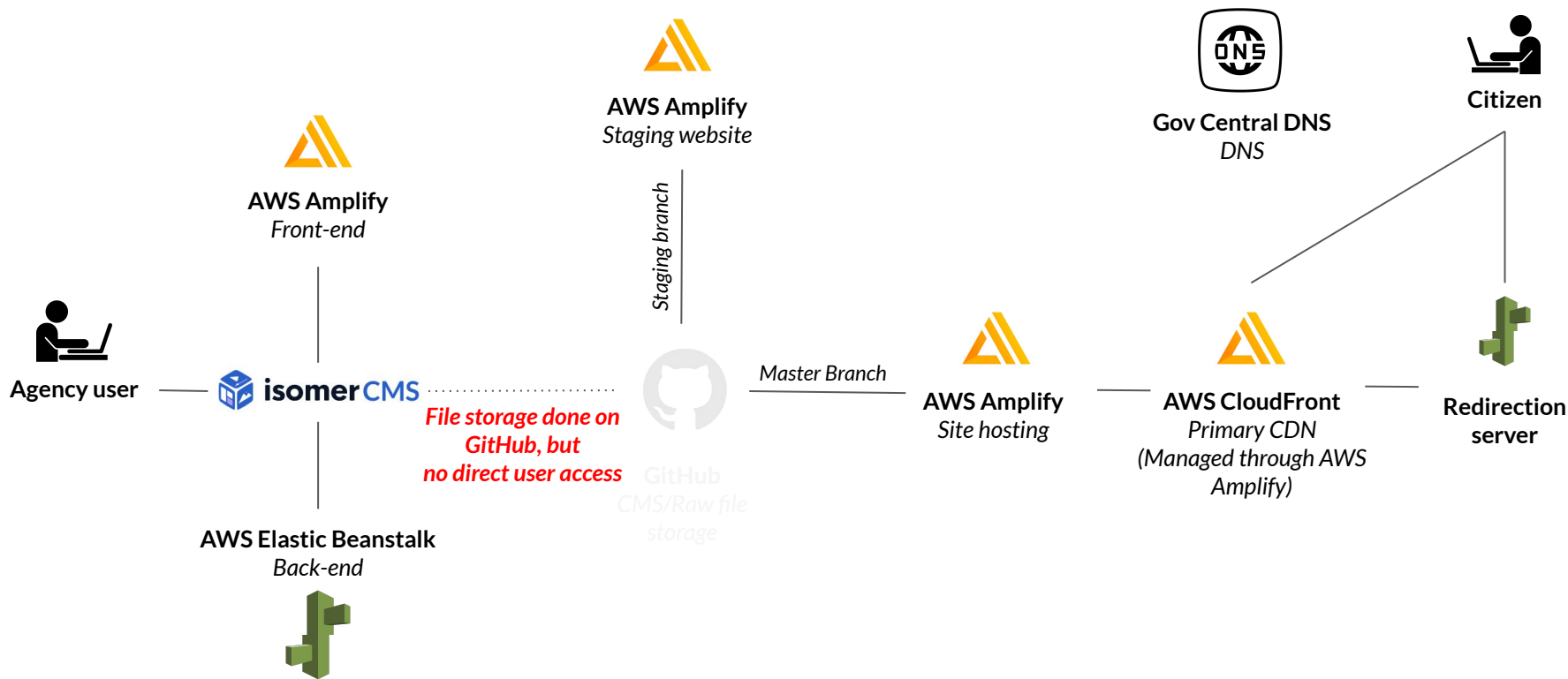
Enforcing an IsomerCMS-only experience

Improved access control posturing

1. Agencies no longer need to depend on GitHub accounts for user authentication **(use WOG email + OTP instead)**

2. Agencies can self-manage site editor permissions **(better control of site permissions)**

Improved user and ITD experience

1. Users need not create GitHub and go through the difficult GitHub-IsomerCMS onboarding process **(better onboarding experience)**

2. Pull Request done within IsomerCMS **(no more complicated flow on GitHub)**

3. **Guaranteed roll-out of new Isomer and IsomerCMS features**
   (hint: we'll be rolling out new homepage components in Q1-Q2 2024, and staging site privatisation in Q3-Q4 2023)

Known impact on agencies

1. **Edits are to be made only within the IsomerCMS**
   a. Agencies are actually supposed to edit their sites via the IsomerCMS only

2. **Direct edits on the underlying GitHub repository is not going to be possible**
   a. Agencies are to remove any self-added content/files found in the underlying GitHub repository that's not editable on the IsomerCMS
      i. The Isomer team will not be supporting any request to edit such content/files once agencies lose GitHub access.

Actionables by agencies

<u>Summary</u>: Actionables by agencies

1. **Select** your site's migration kickstart date: <u>go.gov.sg/isomermigrationselection</u>
   a. 10 sites will be migrated every Tuesday from 22nd August 2023
   b. **Deadline: 5th October 2023**

2. **Special for 10th August briefing:**
   a. **We have a special migration for 5 sites on 15th August 2023**
   b. Book here if you are interested: **go.gov.sg/isomermigrationspecial**

3. **Further instructions on next steps will be communicated after the Staging Site migration**

4. **Update contact details for sites**
   a. We'll send all updates w.r.t to the site's migration to users that have access to the Isomer site
   b. If you need to be looped in: fill up the form here: **go.gov.sg/isomermigrationcontactupdate**

Questions and Answers

Questions and Answers

1. **Please use the <u>raise hand</u> function to ask any questions, we will prompt you to ask your question when it's your turn. (preferred and prioritised)**
    a. We request that your camera to be on when asking questions

2. **Alternatively, you can type in your questions in the chat box.**

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