Implementing Robust and Scalable Art Integration

Steve Kestell
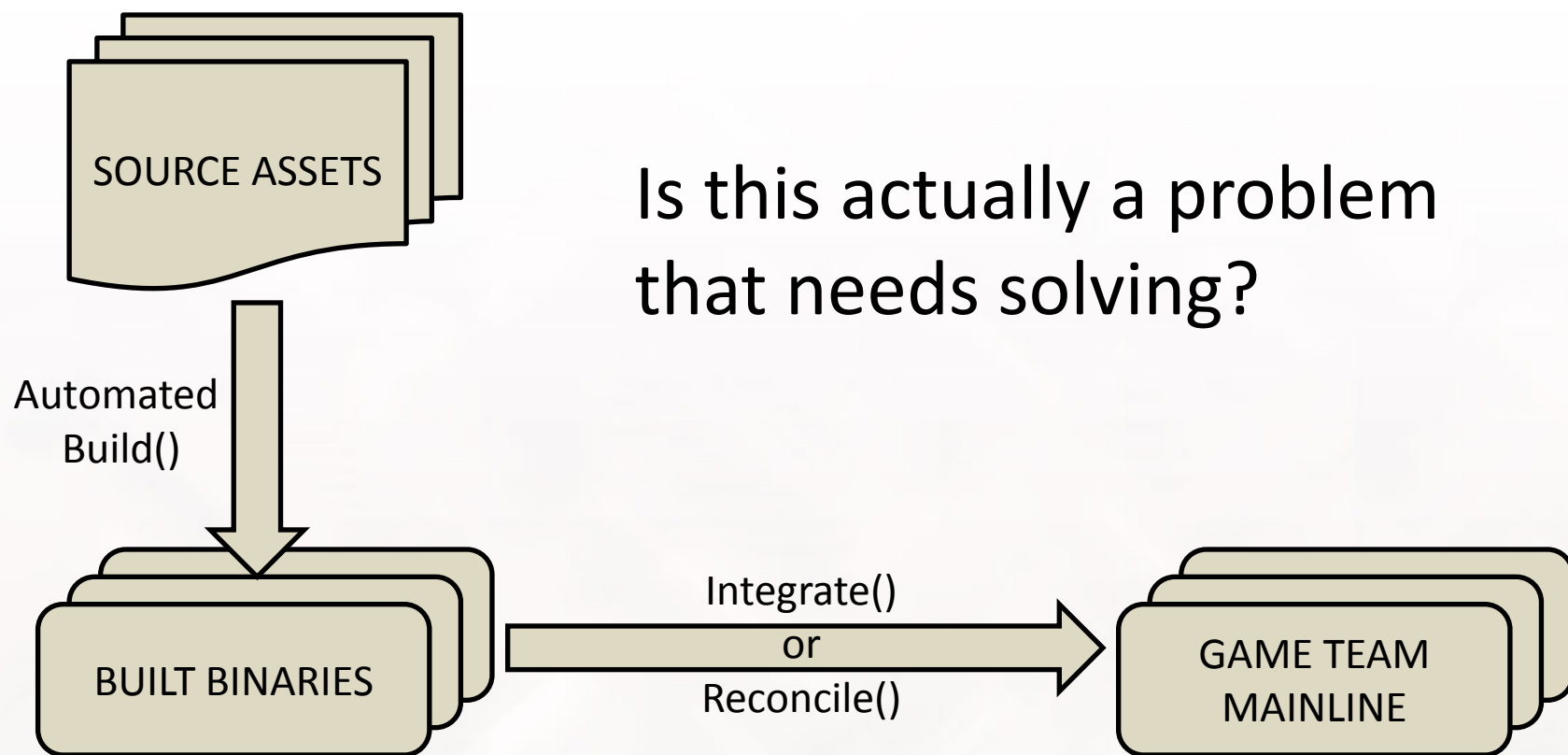*Associate CG Supervisor, EA Canada*

PREFACE
HOUSEKEEPING

ME

GAME CREDITS

ACKNOWLEDGEMENTS

- Claude Martins (co-author)
- Artworks Technical Art Team (EA CANADA)

WHAT AM I TALKING ABOUT?

Art Integration: The process which drives art assets from source to submission into the game's mainline.

SOURCE ASSETS

Is this actually a problem that needs solving?

Automated Build()

BUILT BINARIES

Integrate()
or
Reconcile()

GAME TEAM MAINLINE

STORY I
THE BUSINESS OWNER

MY WORLD

GAME TEAM

PRODUCTION

- - - - - - - - - - - - - - - - -

DESIGN

- - - - - - - - - - - - - - - - -

ART/CONTENT

- - - - - - - - - - - - - - - - -

ENGINEERING

- - - - - - - - - - - - - - - - -

QA

MY WORLD

TEAM 1	TEAM 2	TEAM 3	TEAM 4
TEAM 5	TEAM 6	TEAM 7	TEAM n

MY WORLD

CENTRALIZED CONTENT CREATION

TEAM 1

TEAM 2

TEAM 3

TEAM 4

TEAM 5

TEAM 6

TEAM 7

TEAM n

TODAY

OUTSOURCED CONTENT VENDOR

OUTSOURCED CONTENT VENDOR

OUTSOURCED CONTENT VENDOR

OUTSOURCED CONTENT VENDOR

EA TIBURON

CENTRALIZED CONTENT CREATION

TEAM 1

TEAM 2

TEAM 3

TEAM n

EA CANADA
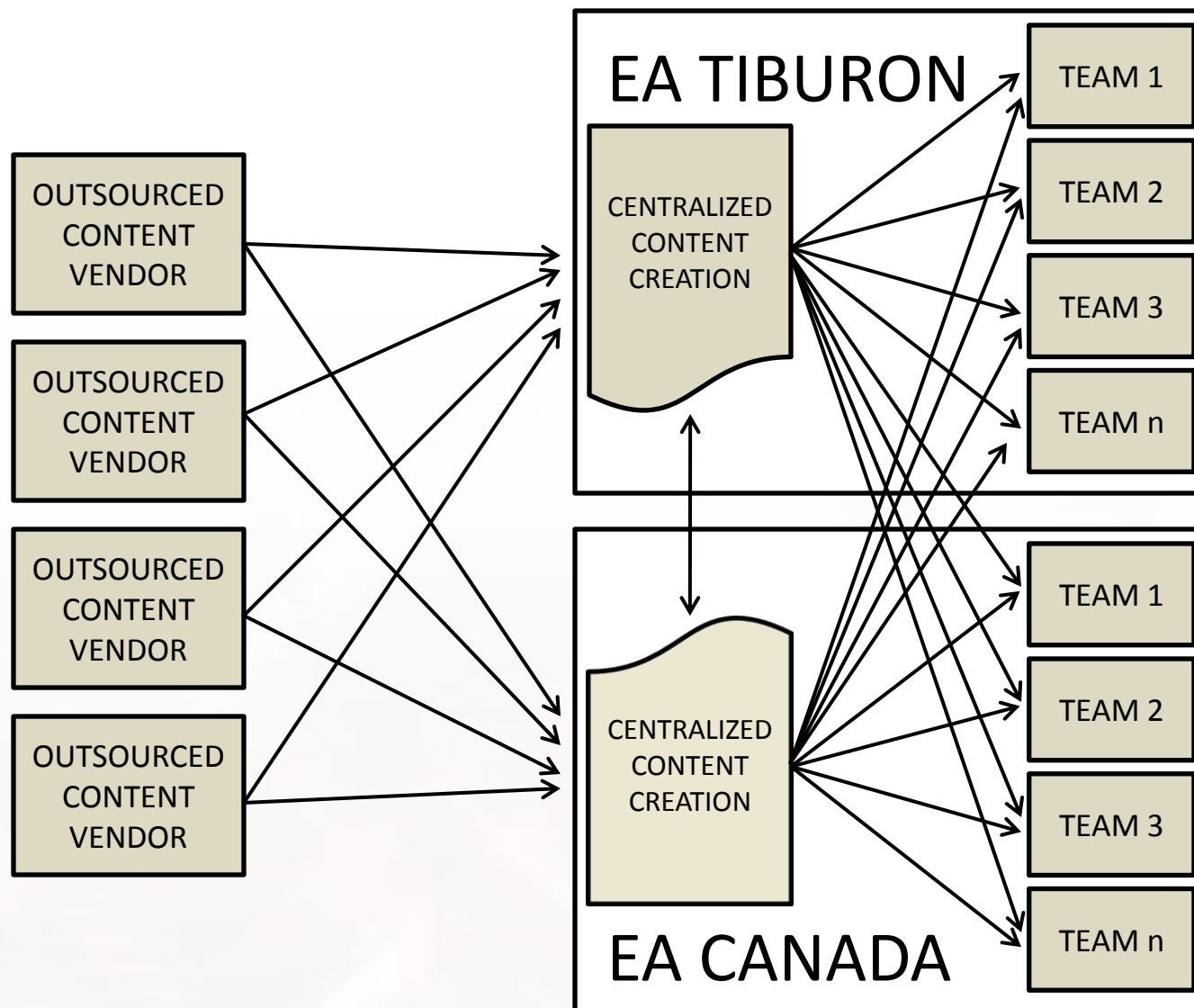
CENTRALIZED CONTENT CREATION
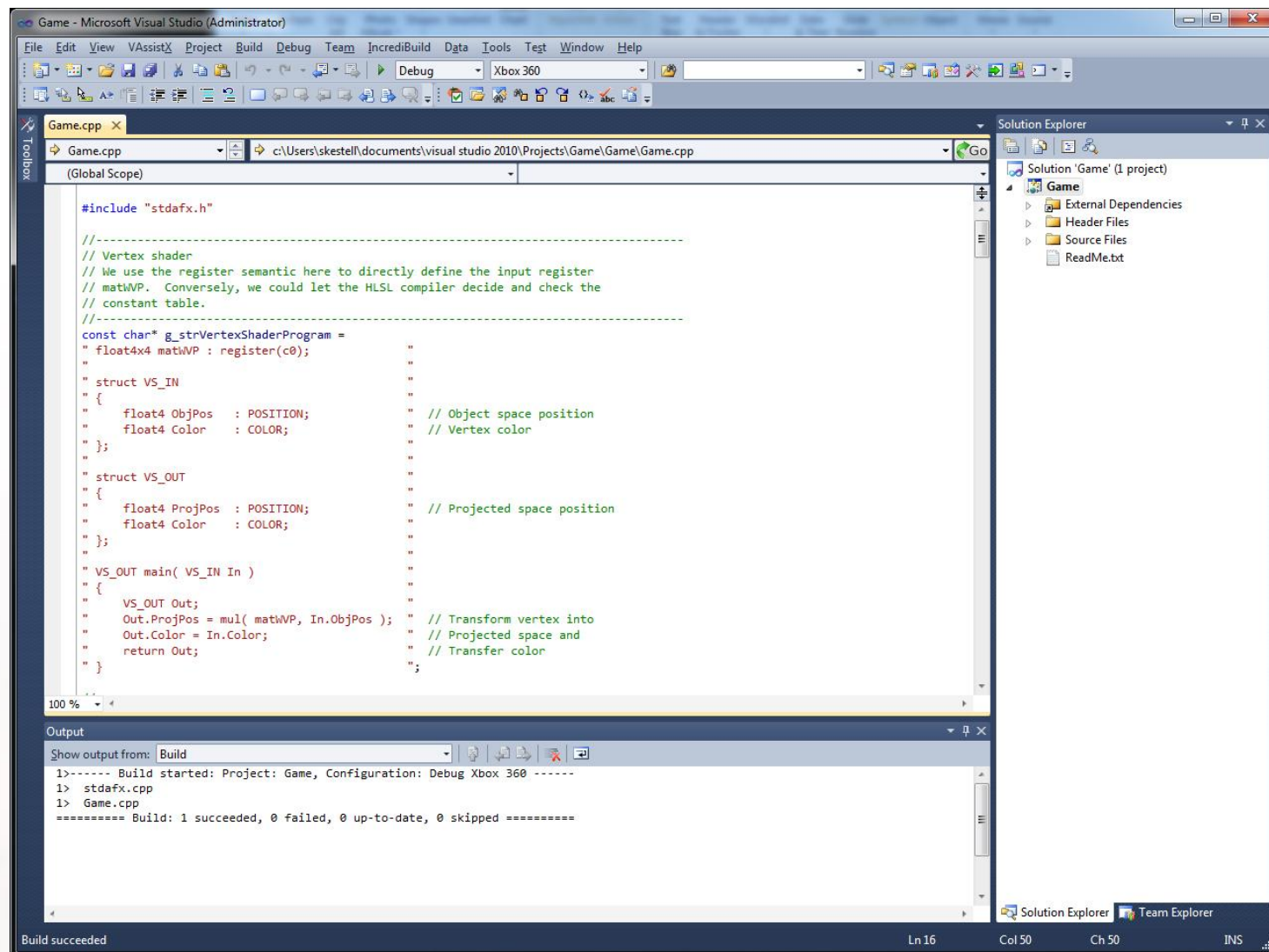
TEAM 1

TEAM 2

TEAM 3
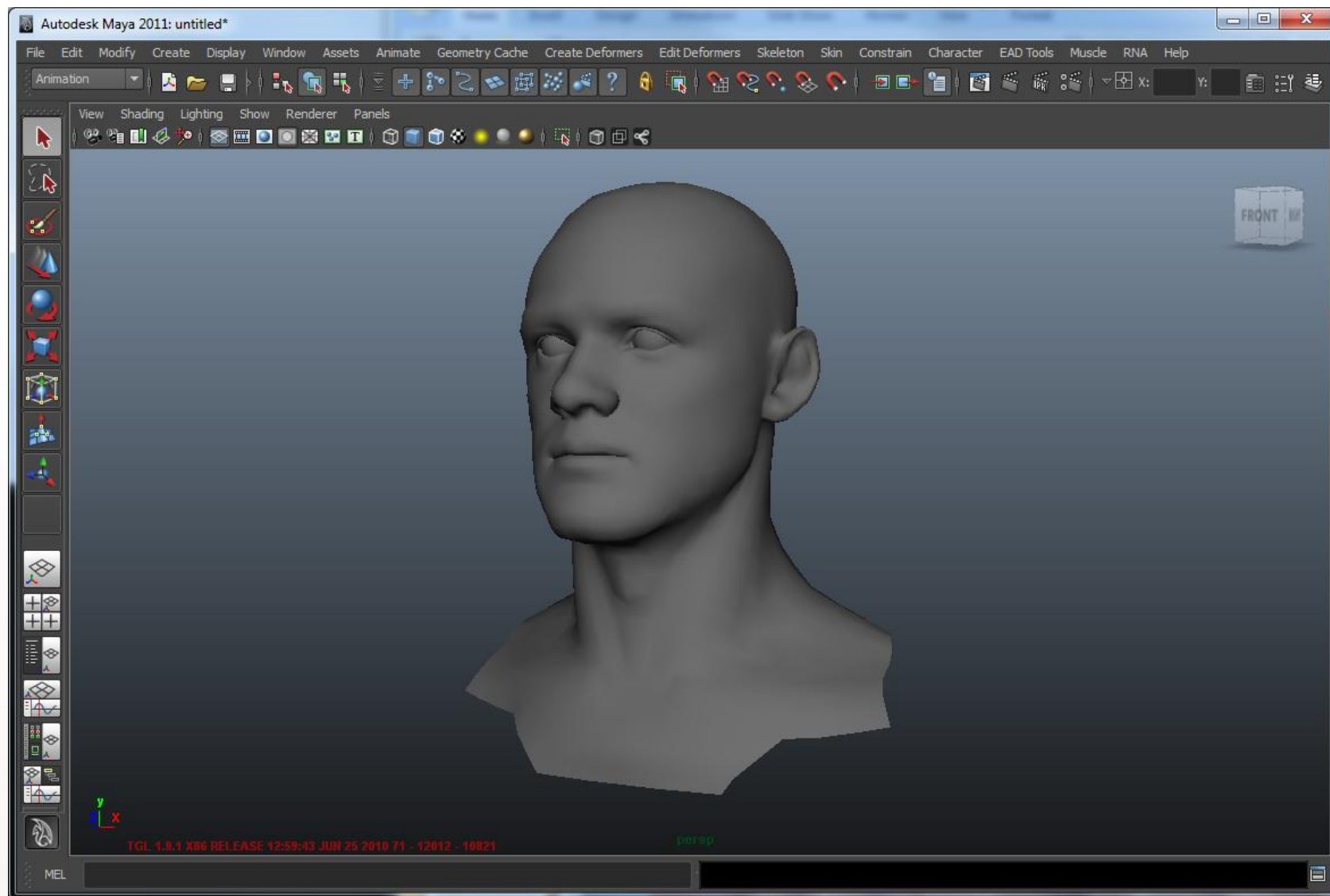
TEAM n
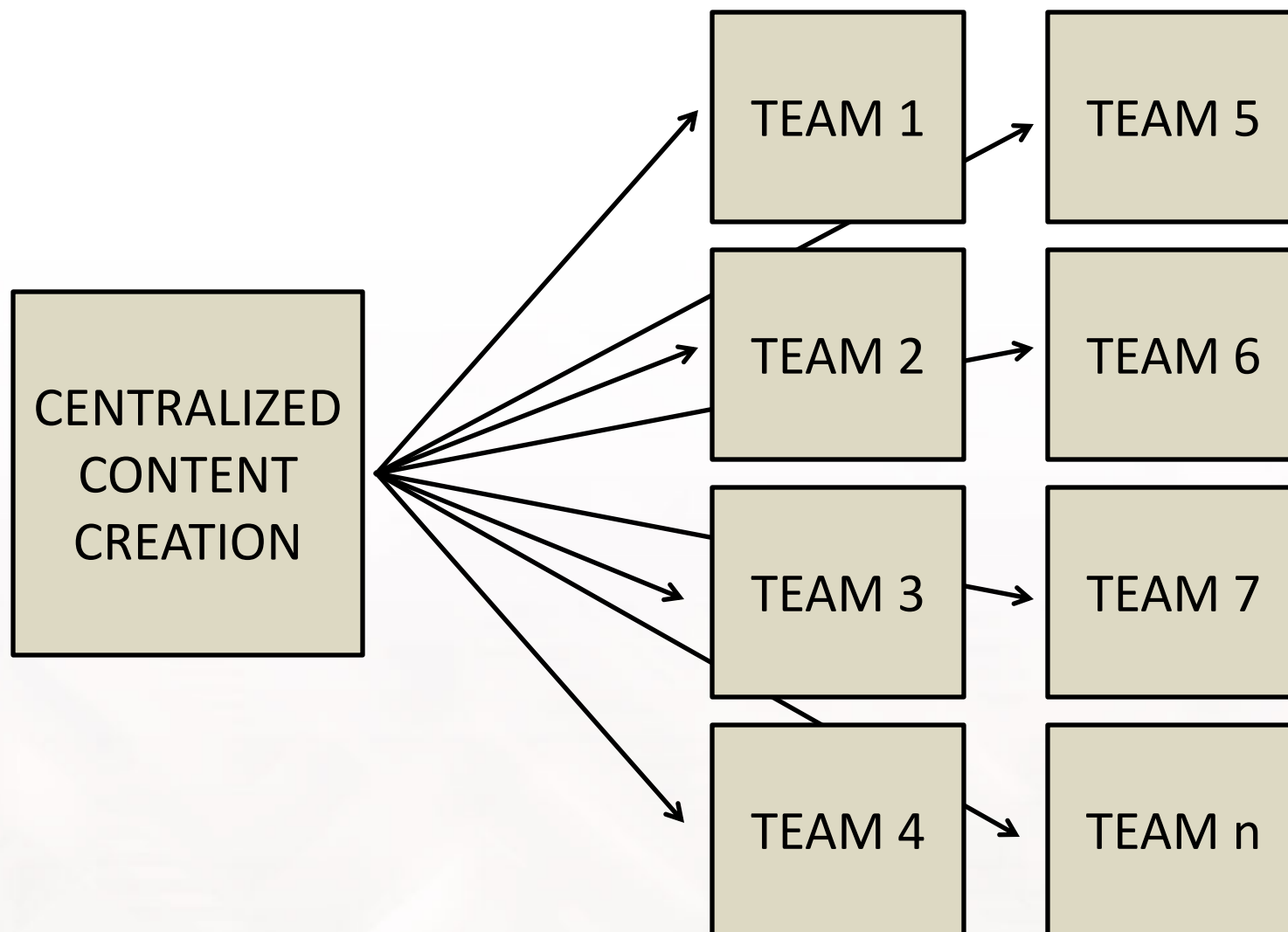
STORY II
THE ENGINEER

MY WORLD

STORY III
THE ARTIST

MY WORLD

```
Message: This will never happen. Hi Mom!
In File: Main.cpp
In Function: Game::DoStuff()
On Line: 278
Condition: mEngineer->CheckedInBadCode == true




Enter or Spacebar to confirm selection.

    --> Ignore this assertion once
        Ignore this assertion forever
        Terminate application
        Break into debugger
        Cause NULL-pointer exception
```
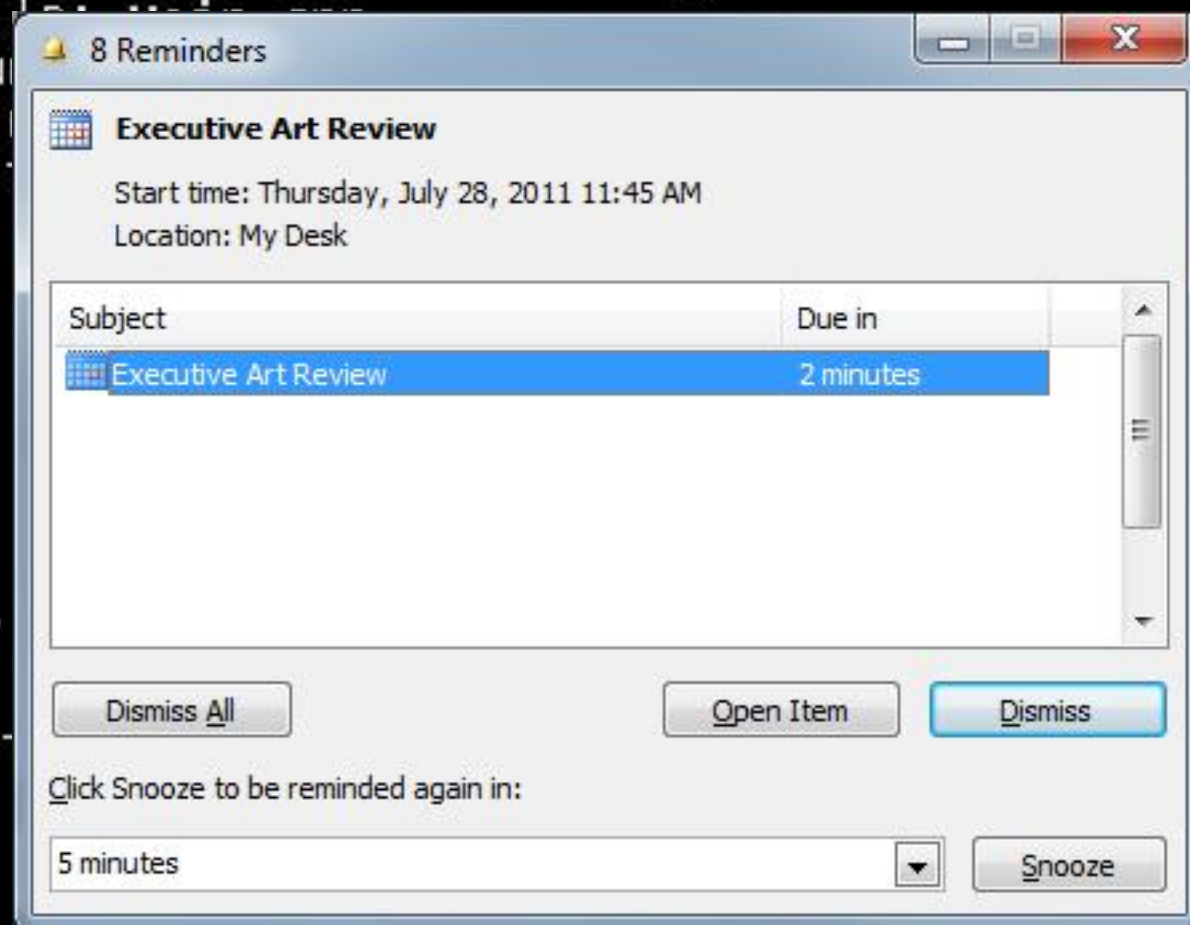
Message: This will never happen. Hi Mom!
In File: Main.cpp
In Fu...
On Li...
Condi...   e

Enter

Cause NULL-pointer exception

8 Reminders

Executive Art Review

Start time: Thursday, July 28, 2011 11:45 AM
Location: My Desk

Subject	Due in
Executive Art Review	2 minutes

Dismiss All   Open Item   Dismiss

Click Snooze to be reminded again in:

5 minutes   Snooze

THE IMPORTANT PART

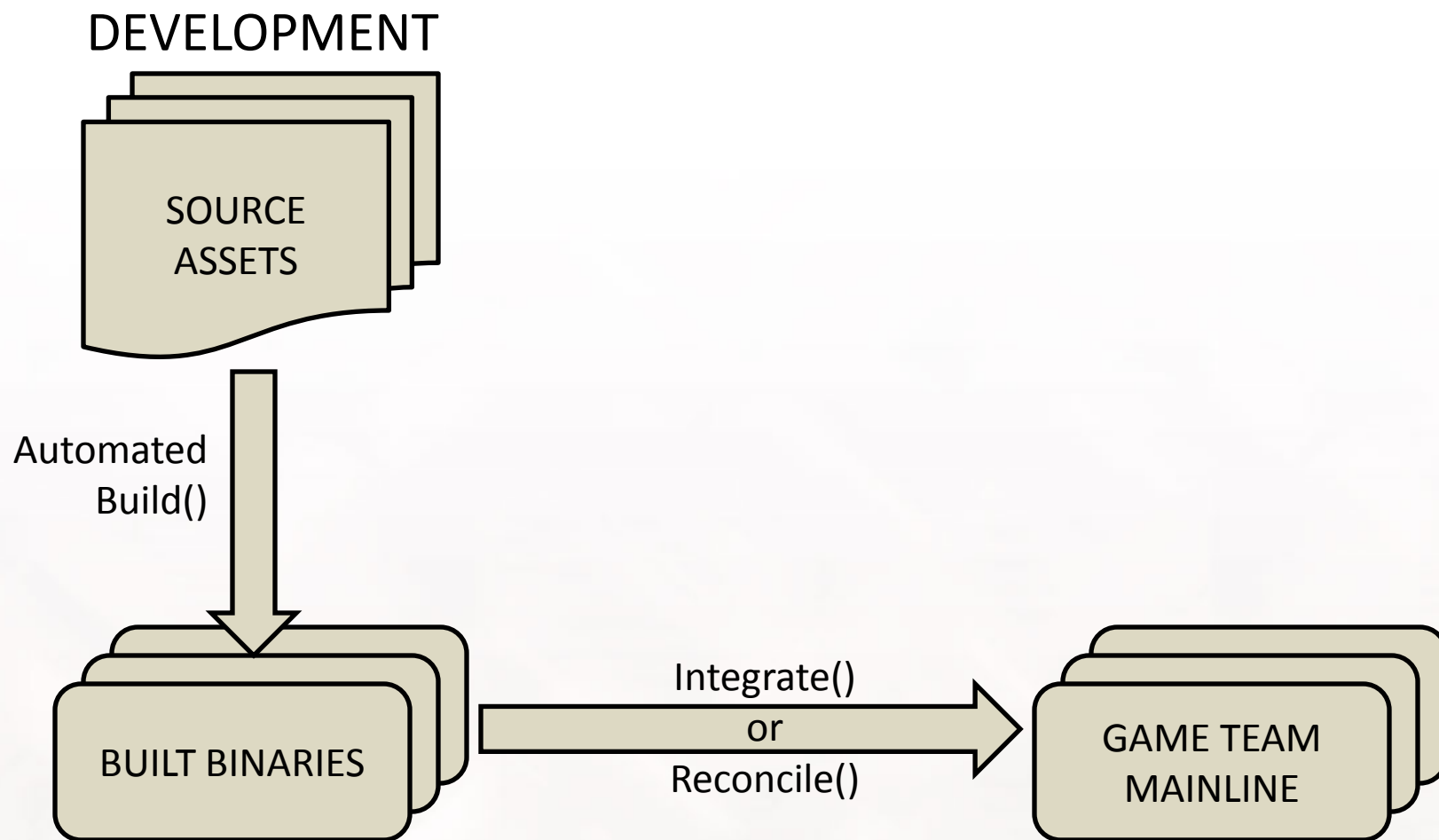# IMPLEMENTING ROBUST AND SCALABLE ART INTEGRATION

ART INTEGRATION PROCESS GOALS

- Isolate artists from bad code

- Isolate engineers from bad art

- Scale depending on project size and complexity

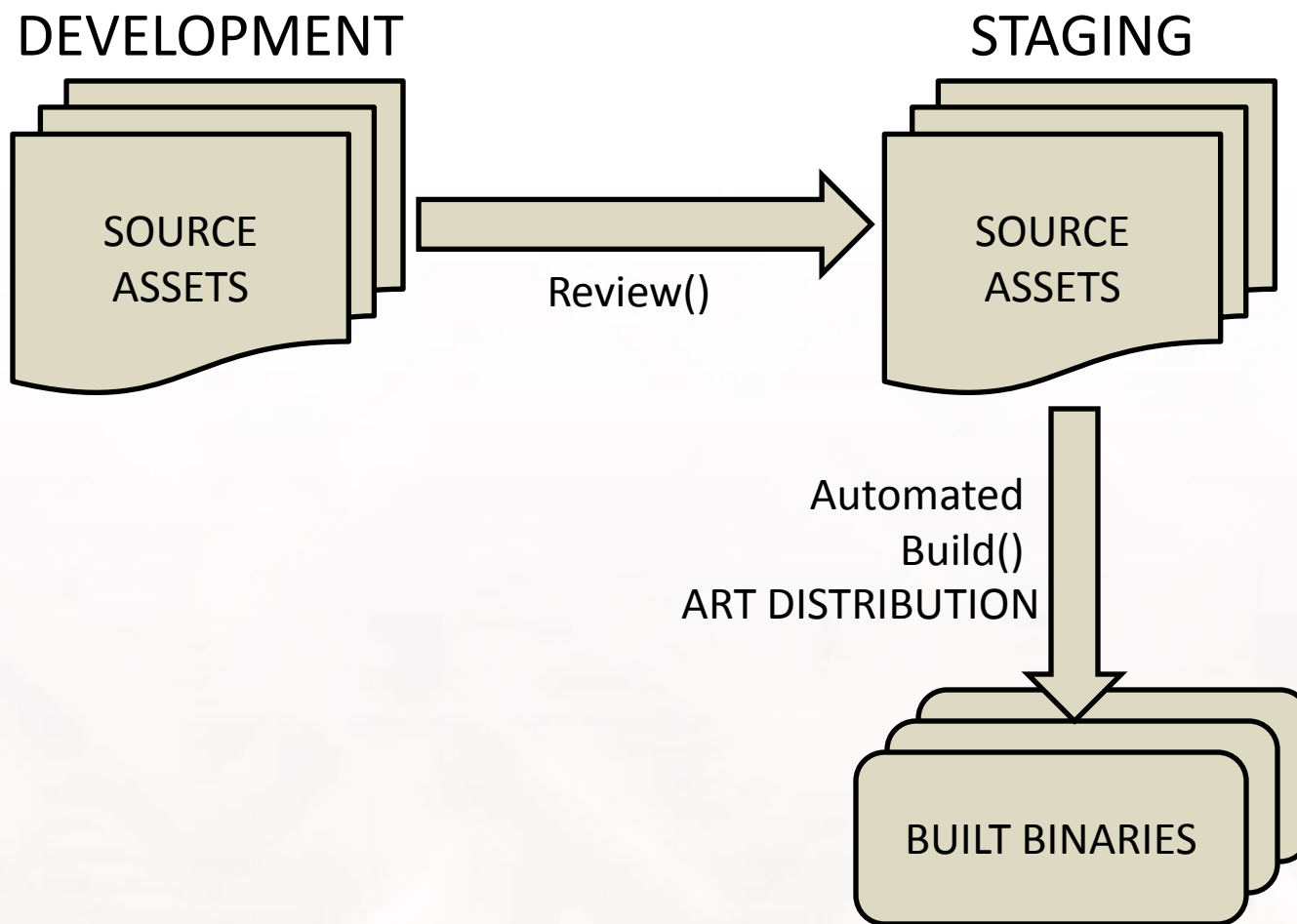- Work across multiple studios and time zones

STABLE BUILDS

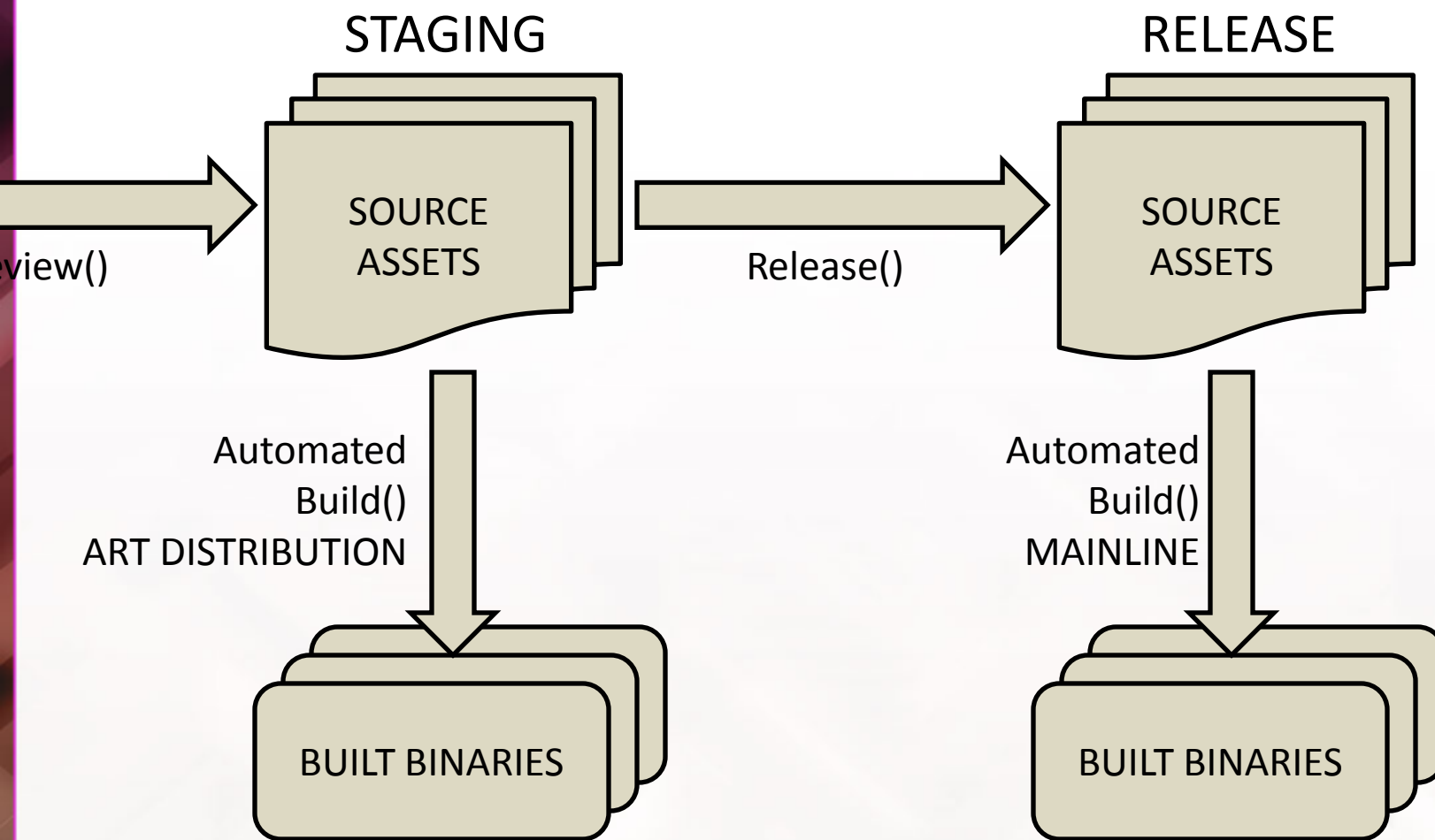**Art Distribution Build:** A snapshot of the game **AND** pipelines known to be stable.

ART INTEGRATION REVISITED

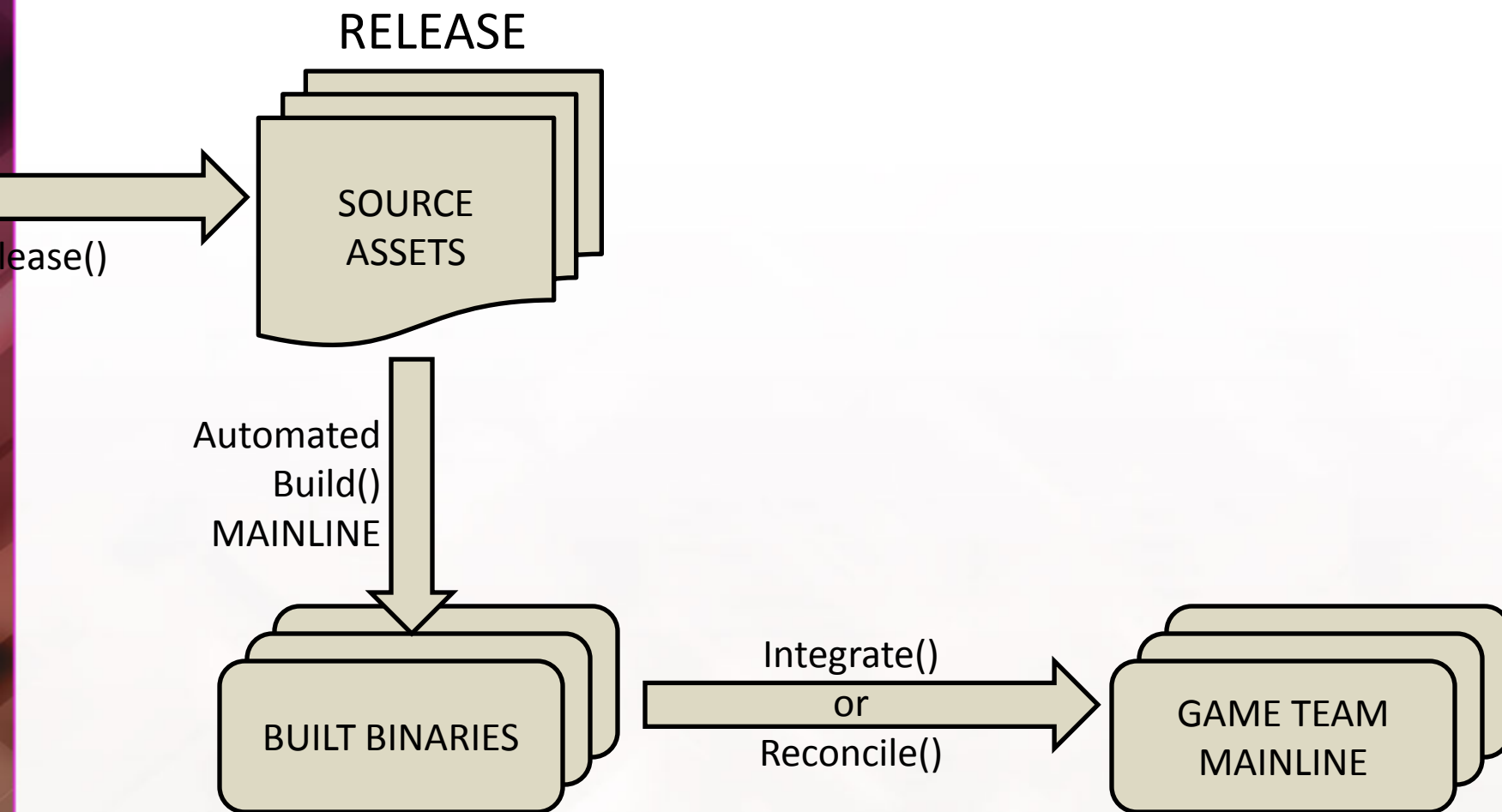DEVELOPMENT

SOURCE ASSETS

Automated Build()

BUILT BINARIES

Integrate()
or
Reconcile()

GAME TEAM MAINLINE

ART INTEGRATION REVISITED

DEVELOPMENT

STAGING

SOURCE ASSETS

Review()

SOURCE ASSETS

Automated
Build()
ART DISTRIBUTION

BUILT BINARIES

ART INTEGRATION REVISITED

STAGING

RELEASE

SOURCE ASSETS

SOURCE ASSETS

view()

Release()

Automated
Build()
ART DISTRIBUTION

Automated
Build()
MAINLINE

BUILT BINARIES

BUILT BINARIES

ART INTEGRATION REVISITED

RELEASE

SOURCE ASSETS

lease()

Automated
Build()
MAINLINE

BUILT BINARIES

Integrate()
or
Reconcile()

GAME TEAM
MAINLINE

THE WHOLE PICTURE

THE WHOLE PICTURE

DEVELOPMENT ASSETS

CLIENTS: Artists

BUILDS: Local Only

PIPELINE: Art Distribution

CONTENT: WIP Assets

CHANGE FREQUENCY: Daily

BREAKAGE IMPACT: None

THE WHOLE PICTURE

STAGING ASSETS

CLIENTS: Artists/TAs

BUILDS: Automated

PIPELINE: Art Distribution

CONTENT: Ready for Review

CHANGE FREQUENCY: As Assets are Ready

BREAKAGE IMPACT: Minimal, Art Fix Required

THE WHOLE PICTURE

RELEASE ASSETS

CLIENTS: Game Team CGSup/TAs

BUILDS: Automated

PIPELINE: Mainline

CONTENT: Game Ready Verified Assets

CHANGE FREQUENCY: As Assets are Verified

BREAKAGE IMPACT: Minimal, Likely Code Issue,
Investigate and Fix ASAP

ART INTEGRATION PROCESS GOALS

✓ • Isolate artists from bad code

✓ • Isolate engineers from bad art

✓ • Scale depending on project size and complexity

✓ • Work across multiple studios and time zones

THINGS TO THINK ABOUT

- Frequency of art distribution build creation

- Infrastructure and hardware requirements

- Loose file builds vs. pak file builds

- Asset dependency tracking and incremental builds vs. clean builds

- Prototyping new features and propagating source data format changes

- Release assets often don't wait for final approval!

THANK-YOU!

EPILOGUE

[STEVE]: /DISCUSS?