Accelerating CI

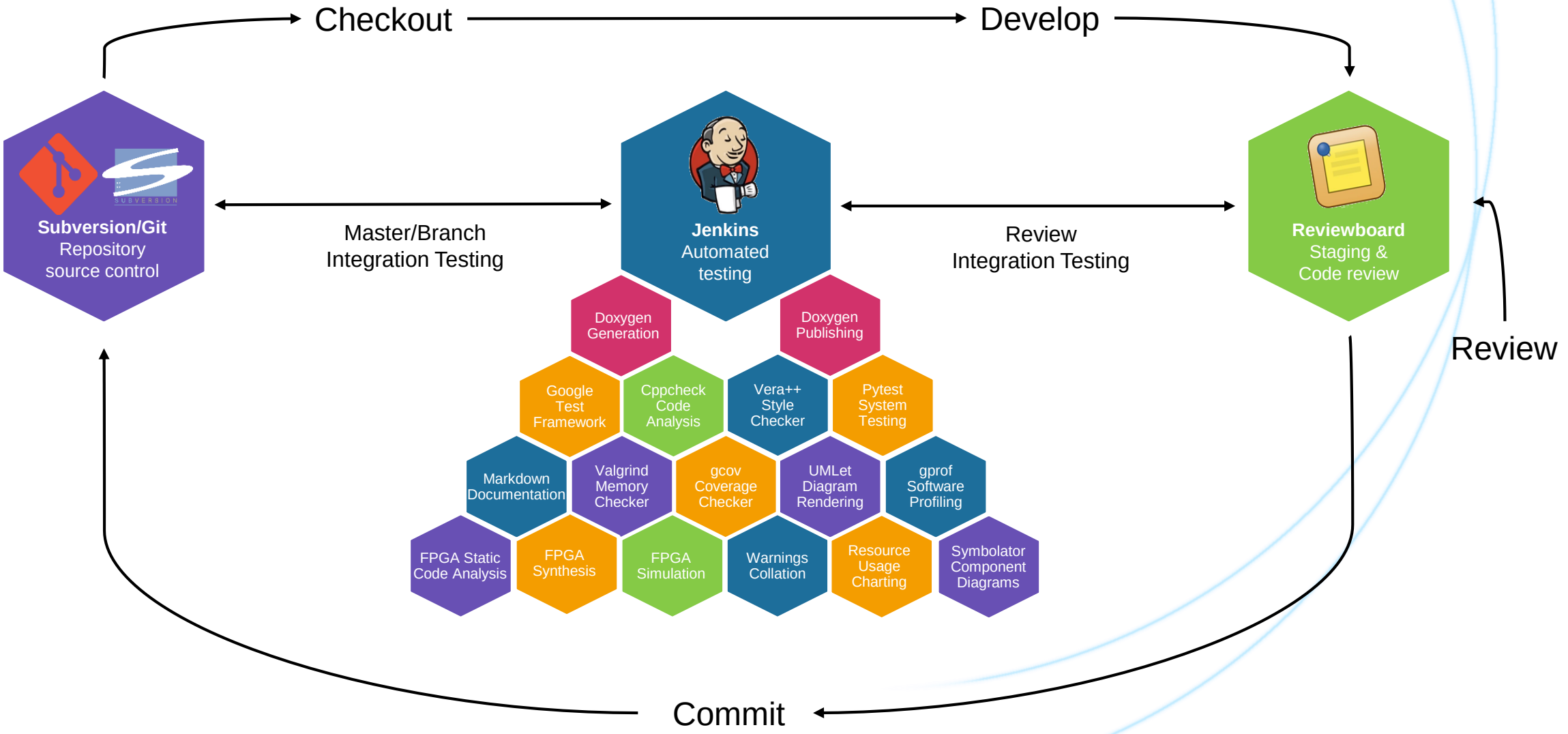
CI at ITDev

Accelerating CI Adoption

Accelerating CI Deployment

Accelerating CI Maintenance

CI at ITDev


Checkout
Develop
Subversion/Git
Repository
source control
Master/Branch
Integration Testing
Jenkins
Automated
testing
Review
Integration Testing
Reviewboard
Staging &
Code review
Review
Doxygen
Generation
Doxygen
Publishing
Google
Test
Framework
Cppcheck
Code
Analysis
Vera++
Style
Checker
Pytest
System
Testing
Markdown
Documentation
Valgrind
Memory
Checker
gcov
Coverage
Checker
UMLet
Diagram
Rendering
gprof
Software
Profiling
FPGA Static
Code Analysis
FPGA
Synthesis
FPGA
Simulation
Warnings
Collation
Resource
Usage
Charting
Symbolator
Component
Diagrams
Commit

Accelerating CI Adoption

Variations between projects

Use a common configuration across projects

Developers switching projects already have familiarity with the common CI environment

Complex CI environments can be hard to understand

Document the common CI environment

New developers have documentation to read to get them started

Accelerating CI Deployment

Installation and configuration of tools takes time

Automated machine creation with necessary tools and dependencies

A new template CI virtual machine can be created in a couple of hours

Creating Jenkins jobs can take time

Pre-made Job templates

Jobs only need final tweaks and enabling

Accelerating CI Maintenance

- ⚠ GUI based Jenkins job configurations are slow to modify
- ⚙ Migrate to pipeline jobs
- ✓ Updates from other projects can simply be patched in

- ⚠ CI job configuration and product code separated
- ⚙ Move Job configurations to sit alongside product code in SCM
- ✓ CI is maintained at the same time as product code

- ⚠ Large pipelines become unmanageable
- ⚙ Split out to individual modules for each stage
- ✓ Jobs can import modules required

Accelerate CI

Combining the adoption, deployment and maintenance gives us *Accelerate* CI

- Automation of CI VM creation
- Isolated CI environment per project
- Templated job pipelines and modular stages
- Fully documented workflows
- Everything under version control

Recently rolled out to a client

- Wanted to duplicate our CI environment

Available as a service

- Built on what we've developed over many years
- Customised for each client's needs