Git based Pipeline on EC
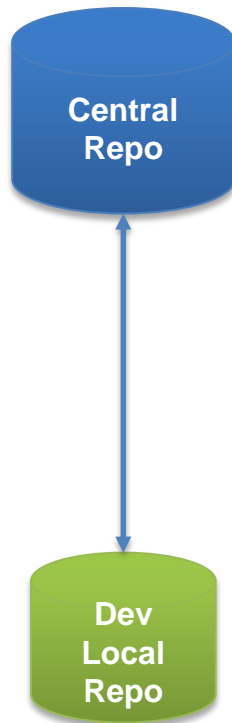
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Agenda

- What's the current status?

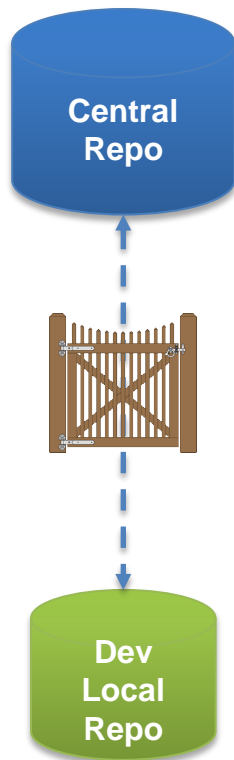- What's the pipeline?

- Practice

Central Repo

What's current status?

- **Build failure frequently**
- **Unfinished codes in the repo**
- **Undeliverable codes in the repo**
- **…**

Dev Local Repo

WHY?

Anyone can check-in without control

HOW?

We need a gate

Central Repo

What's the Gate?

- **Repo Guard**

- **Protect the central repo**

- **Keep out of bad codes**

- **…**

Dev Local Repo

How is the Gate working?

Central Repo

Fork Repo

Dev Local Repo
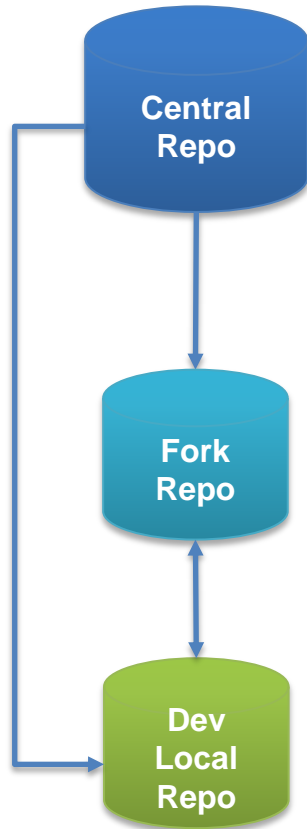
What's the fork?

- **Makes a copy of a repository on git server**

- **No direct pushing to the remote central repository**

- **Synch changes from the remote central repository**
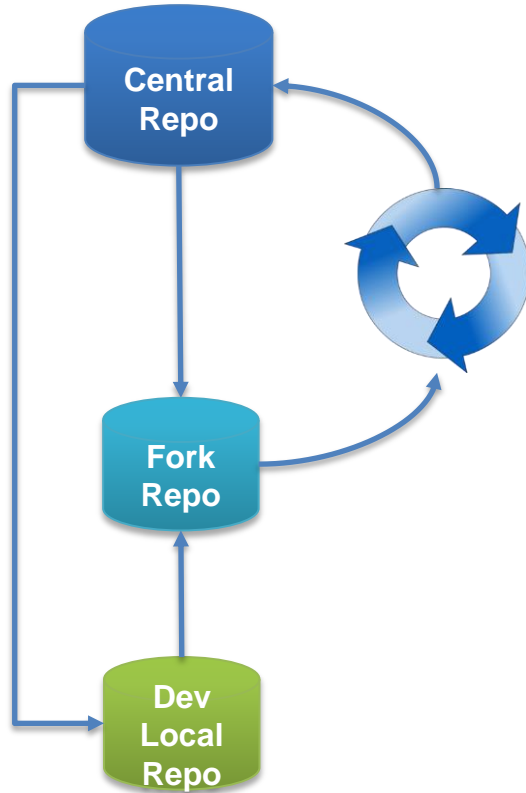
Gate build

- **Merge codes**
- **Compile**
- **Unit Test**
- **Package**
- **Deploy**
- **TA**
- **Push codes to central if build success**

Term

Git Repo	Branch	Privilege	Build Type
cctg central repo *(e.g: /cctg/webex-webtest-apidispatcher)*	master	Dev R Builder RW	Official build
cctg fork repo *(e.g: /cctg-fork/webex-webtest-apidispatcher)*	Gate branch Naming conversion: gate/<dev_name> *(e.g: gate/linda)*	Dev RW Builder R	Gate build
cctg fork repo *(e.g: /cctg-fork/webex-webtest-apidispatcher)*	Feature branch Naming conversion: feature/<feature_name/id> *(e.g: feature/F280)*	Dev RW Builder R	Feature build

Official build: CI build which only checkout codes from central repo

Gate build: CI build which checkout from central repo and merge with gate branch. After merge and build success, the gate branch codes will be pushed to central repo

Feature build: CI build which only checkout codes from feature branch
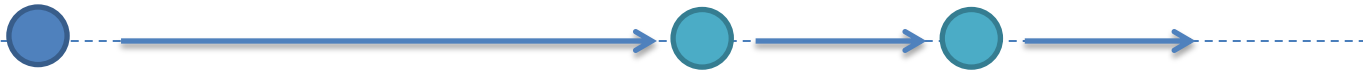
EC Git CI Pipeline
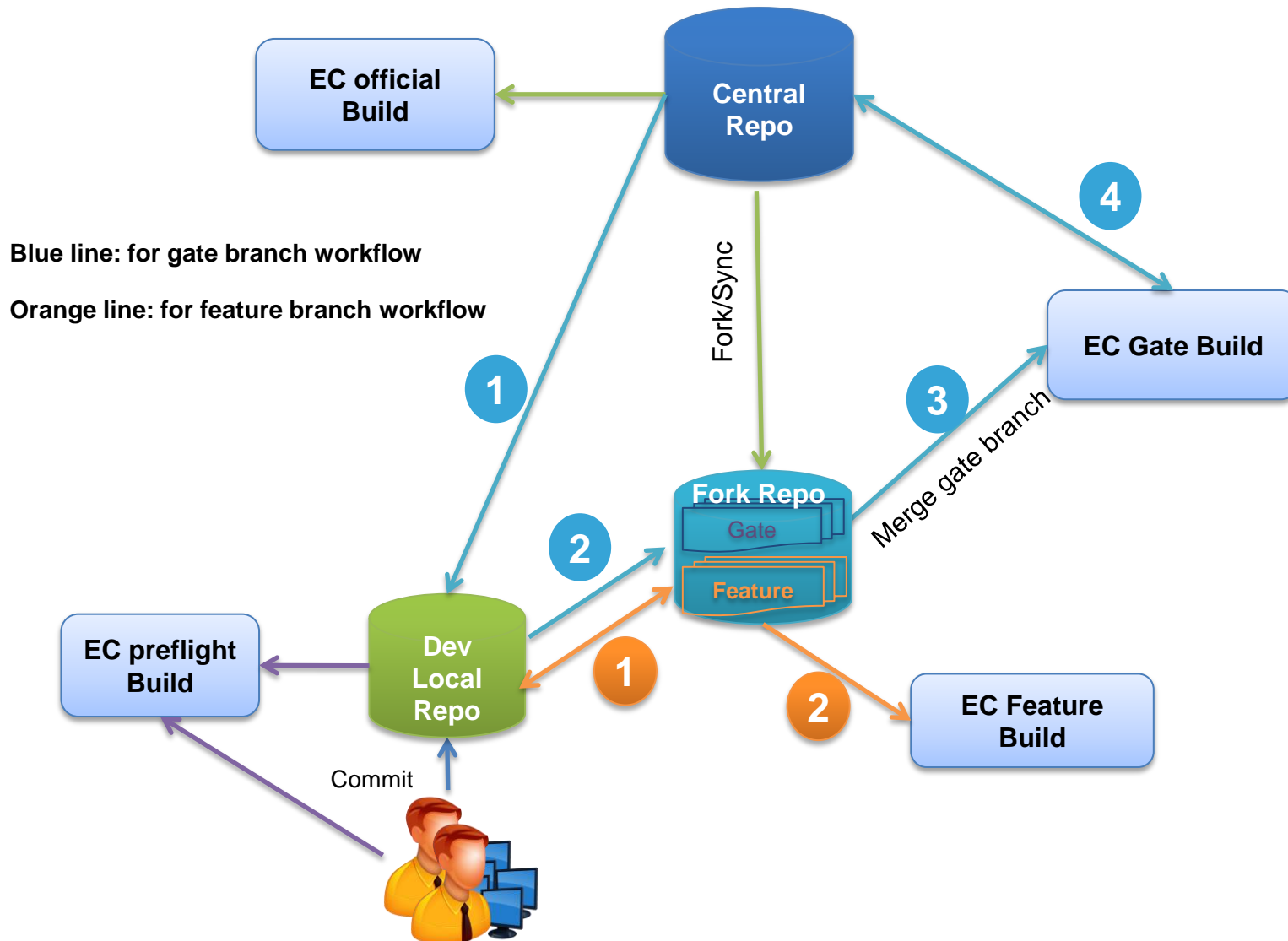
Gate branch workflow

Feature branch workflow

Code Review

- Code collaborator (http://wikicentral.cisco.com/display/CCATGWEBKB/Code+review+via+code+collaborator)

- Enforce per-check-in review in future

Case1: hot fixes

Steps:

- Dev clone the repo from the central repo

- Dev add cctg fork repo as remote repo

- Dev create his private branch and update codes (for example: gate/linda)

- Dev push the branch to fork repo

Result:

- gate build will be auto launched sequentially

    -- If merge code conflict, exit the build and dev will get email notification

    -- If build success, gate branch codes will be pushed to central repo

Case1: hot fixes - commands

git clone https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-apidispatcher.git

cd webex-webtest-apidispatcher

git remote add **cctg-fork** https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-apidispatcher.git

git pull origin

git checkout –b gate/linda

touch test.txt

git add test.txt && git commit –m "test gate by linda"

git push **cctg-fork** gate/linda

Case2: Feature development

Steps:

- Scrum master create feature branch at fork repo for team (for example: feature/F280)

- Dev work on feature branch

Result:

- feature build will be auto launched per check-in

- The package will be upload to RMC folder

Case2: Feature development - commands

SM:

git clone https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-apidispatcher.git

cd webex-webtest-apidispatcher

git remote add cctg-fork https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-apidispatcher.git

git checkout –b feature/F280

git push cctg-fork feature/F280

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Case2: Feature development - commands

Member:

git clone https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-apidispatcher.git

cd webex-webtest-apidispatcher

git remote add cctg-fork https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-apidispatcher.git

git fetch cctg-fork feature/F280

git checkout feature/F280

touch F280.txt

git add F280.txt && git commit –m "test feature F280"

git push cctg-fork feature/F280

Case3: Feature complete

Steps:

- Scrum master create pull request from fork repo-feature branch to central repo – master

- After one dev resolve the conflicts, the reviewer accept/deny the request

- After reviewer accept the request, one dev merge the code and push to gate branch

Result:

- gate build will be auto launched sequentially

- After gate build success, the official build will be auto launched.

Post-steps:

After feature branch codes haven been merged into central repo, SM delete feature branch from remote repo. If needs, re-create the branch again.

Case3: Feature complete - commands

git clone https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-apidispatcher.git

cd webex-webtest-apidispatcher

git remote add **cctg-fork** https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-apidispatcher.git

git pull origin master

git branch –d gate/linda   //delete local gate branch

git push cctg-fork :gate/linda   //delete remote gate branch

git fetch cctg-fork feature/F280

git checkout feature/F280

git checkout master

git merge cctg-fork/feature/F280   //if conflicts, need manually resolve

git push **cctg-fork** master:gate/linda

Case3: Release or QA team test

Steps:

- Any codes are pushed to central repo

Result:

- official build will be auto launched.

- The package will be upload to RMC folder

Practice

Team1: Hot fixes

* Role: Member(2~3)

* Case1 - 1) build success 2)code conflicts 3) build failure

Team2: F280

* Role: SM, SA, Member(2~3)

* Case2&3

Team3: F140

* Role: SM, SA, Member(2~3)

* Case2&3

Practice

- Pagecommon build

webex-webtest-apidispatcher

webex-webtest-dispatcher

webex-webtest-version

webex-webtest-applications-build

webex-webtest-applicationframework

- Central Repo

https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-apidispatcher.git

https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctg/webex-webtest-version.git

- Fork Repo

https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-apidispatcher.git

https://ranli@stash-eng-chn-sjc1.cisco.com/stash/scm/cctgfork/webex-webtest-version.git

Feature	SM	SA	Member	
F280	Gates	Timothy		
F140	KanYu	ChenYang		
F888	Leaf	Roy		