

GITLAB AUTODIODE PROJECT

<https://gitlab.sandia.gov/dace/autodiode-application>

- The Autodiode is a tool for replicating GitLab projects across multiple GitLab servers across multiple classification levels
- From a single source project, SNL code can be automatically replicated to multiple read-only target projects on different GitLab servers (uni-directionally)

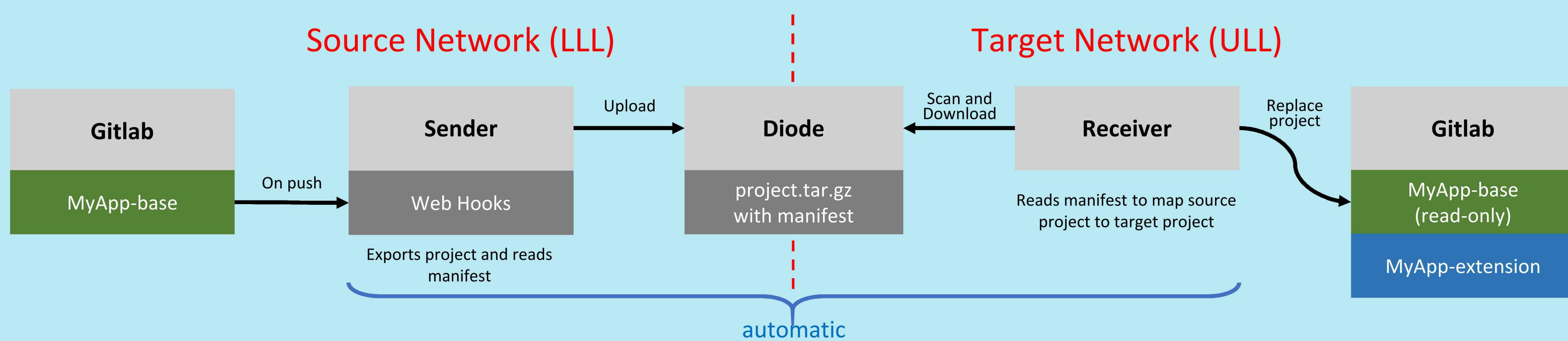
- Benefits:

- Better experience for developers here at Sandia that have to code on multiple networks
- Better automation opportunities
- No divergence: a single authority, no merging necessary
- No overclassifying: all development happens at the appropriate level
- No manual dioding

EXAMPLE

MyApp-base has a configuration file and git hook to communicate with the Autodiode Sender. On push, the Sender automatically downloads the repository and upshifts it to the ULL.

On the ULL, the Receiver automatically downloads the updated project and uploads it to the target GitLab instance. Another project on the ULL, MyApp-extension, can now extend MyApp-base, adding any classified details.



FULLY CONFIGURABLE

Sender Config (LLL example):

```
diodes-out:
  - name: ULL1
    type: owl
    path: /mnt/diode_to_ull1
  - name: ULL2
    type: rafts2
    url: https://rafts2.sandia.gov/rafts
```

Receiver Config (ULL example):

```
working_directory: /tmp/tmp_working_dir
current_network: ULL1
diodes-in:
  - name: LLL
    type: rafts2
    url: https://rafts2.sandia.gov/rafts
  - name: ULL1
    type: owl
    path: /mnt/diode_from_ull1
```

Per-project Config (.autodiode_config.yaml):

```
# just FYI
poc: youremail@sandia.gov
origin:
  network: LLL
  gitlab: gitlab.sandia.gov
  project: MyGroup/MyApp-base

# the important bit
destinations:
  - network: ULL1
    gitlab: gitlab.ull1.sandia.gov
    project: MyGroup/MyApp-base
  - network: ULL2
    gitlab: gitlab.sandia.gov
    project: MyGroup/MyApp-base
  - network: LLL
    gitlab: cee-gitlab.sandia.gov
    project: MyGroup/MyApp-base
```

FUTURE WORK

- Deploy to all ULL (Upper Level LANs)
 - We are ready to do this once there are GitLabs to deploy to...
- Add git LFS support
- Add Docker Registry dioding
- Add GitLab project information (issue/merge request/etc.) dioding
- Extend support to <https://cee-gitlab.sandia.gov/>
- If increased excitement or desire, inner-source to allow community contributions