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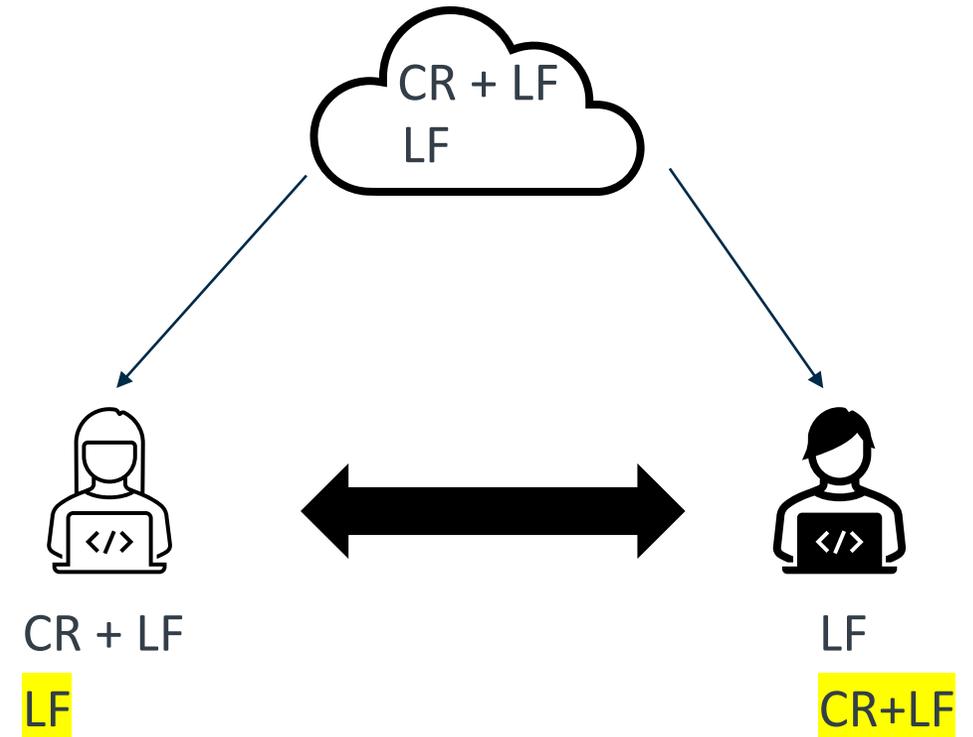
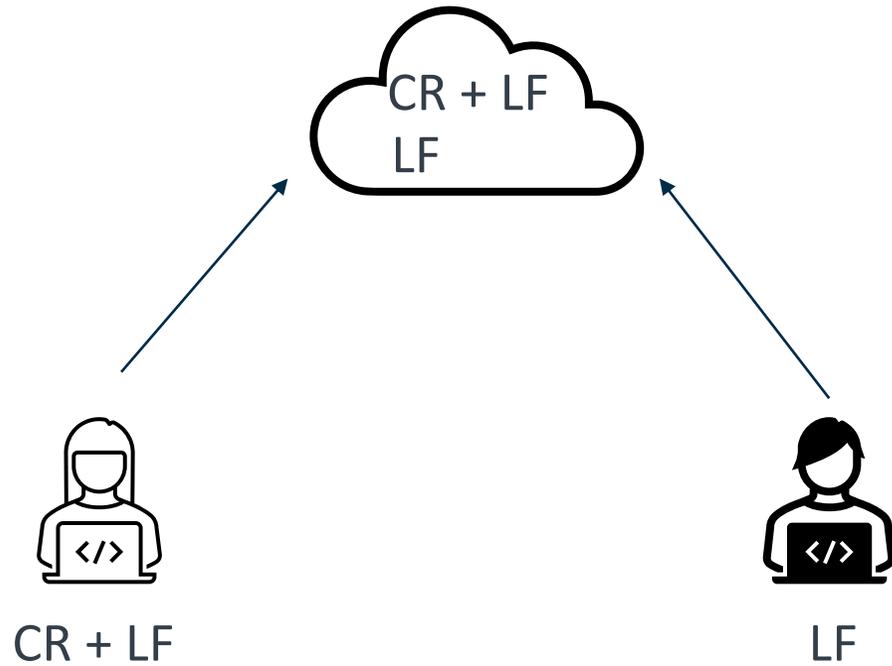
# Brief Introduction on end-of-line Normalization of Git

# End of Line/Line Ending

- End of Line (EOL) or line ending is some special character that indicates text editors to show a new line for **text files**.
- Most typical EOL:
  - LF (line feed) – Unix and Unix-like systems (Linux, MacOS...etc.)
  - CR (carriage return) + LF – Windows, Dos...etc.

# What happens

The whole project ends up with different EOL

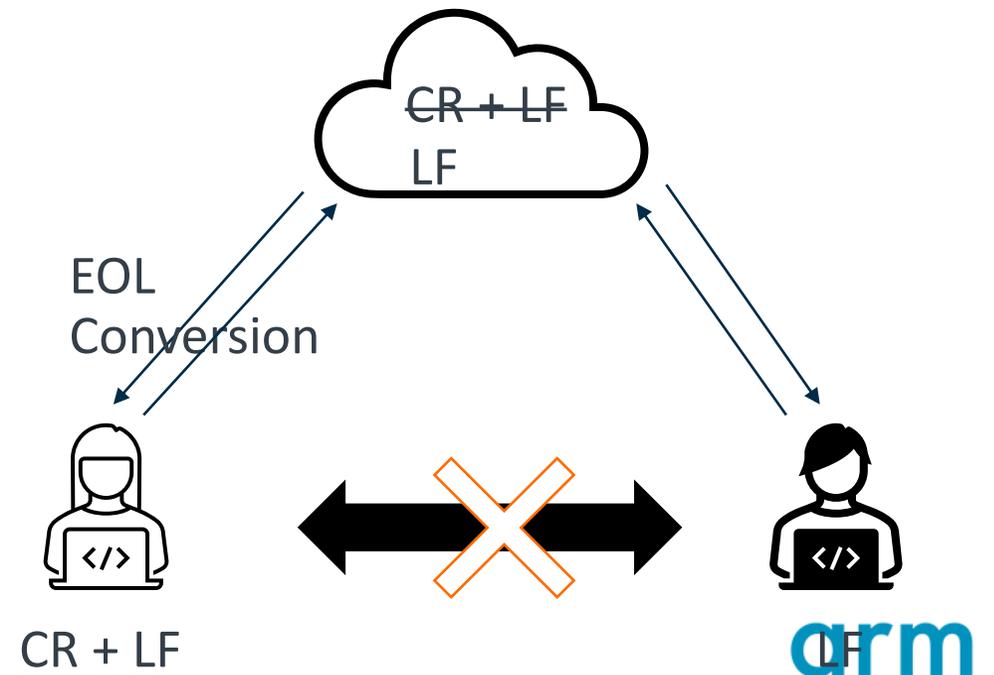


# What's the problem

- Annoying symbol for Linux users when running *git diff* 
- When EOL is changed (for whatever reason), git complains the whole file is changed
- Other problems?

# EOL Normalization of Git

- How it works:
  - EOL of text files are converted to LF when they are uploaded
  - EOL of text files are converted to developer's git configurations when they are downloaded
  - Binary files, e.g., \*.a and \*.lib can and should be prevented from normalization
- Benefits:
  - Different EOL on developer's local working tree does not interfere with each other
  - Git does not treat EOL differences as changes



# How to Enable

- Setting the **text** attribute in the `.gitattributes` of the project
- tf-m-tests repo, enabled when it was set up

```
kevinp01@sec-sh:~/workspace/tfm/tf-m-tests$ cat .gitattributes
* text=auto

# Text files that should be normalized
*.c text
*.h text
*.txt text
*.rst text

# Binary files that should not be normalized
*.a binary
*.lib binary
```

- A [patch](#) for tf-m repo to enable
  - Adds the `.gitattributes` file
  - Explicitly converts files of CRLF to LF
    - happened automatically by `git add -renormalize .`
    - the conversion only happens to the text files on the repo server

# Impacts on Existing Working Tree

- As the [patch](#) explicitly converts the EOL, there could be some potential issues on existing working trees when it gets merged.
  - If you don't have changes for the normalized files in the existing working tree, no issues should be expected. But CRLF might remain.
  - If you have changes for the normalized files, you will get conflicts - only a one-time-shot

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Thank You

Danke

Gracias

谢谢

ありがとう

Asante

Merci

감사합니다

धन्यवाद

Kiitos

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