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FUJITSU Cloud Service K5 "GitHub Enterprise" Introduction

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FUJITSU Ltd.

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Contents

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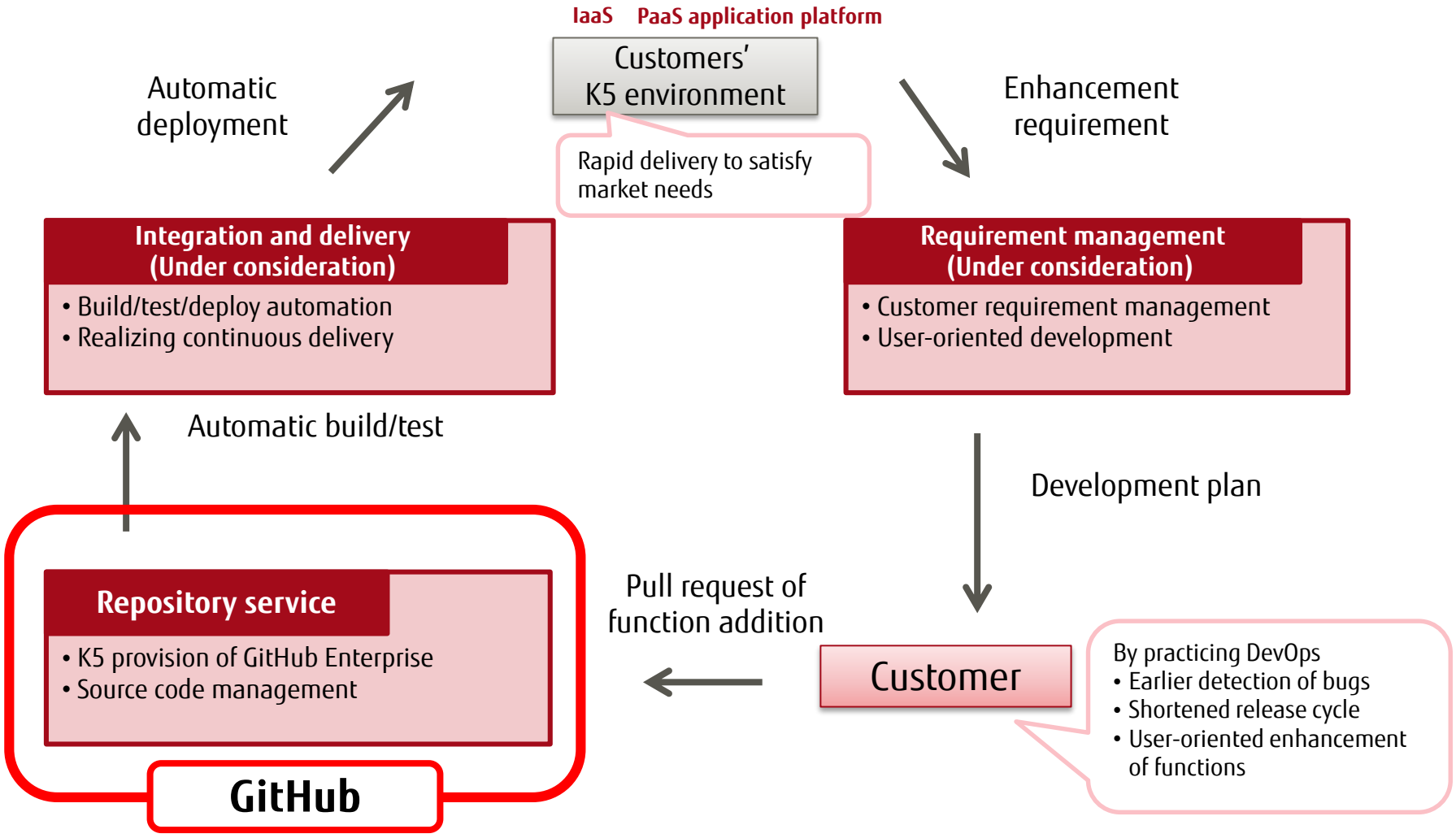
- Development support service
- What is GitHub.com/GitHub Enterprise?
- What is K5 GitHub Enterprise?
- Features of GitHub Enterprise
- Safe and Secure Systems Management by Fujitsu (Detail)
- Functional overview
  - Source code repository
  - Source code review
  - Problem management
- Service use case
- Billing proposal
- Limitations and notes

Development support service

- The development support service achieves continuous integration and continuous delivery.



What is GitHub.com/GitHub Enterprise?

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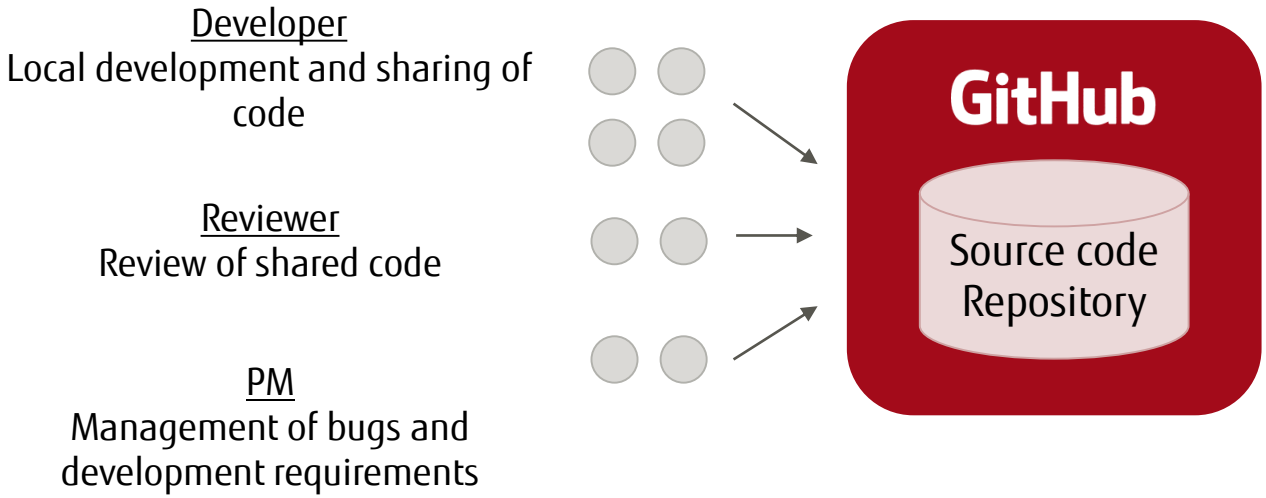
- "GitHub.com" is a service for the development of software corresponding to the Git version control system.
- Git has approximately 19 million users worldwide.
- "GitHub Enterprise" offers functionality equivalent to "GitHub.com", with on-premise availability as enterprise software.

GitHub.com Usage (*)

Number of registered users	Number of repositories
24 million	68 million

* As of October, 2017
https://github.com/home

Software development that uses GitHub.com

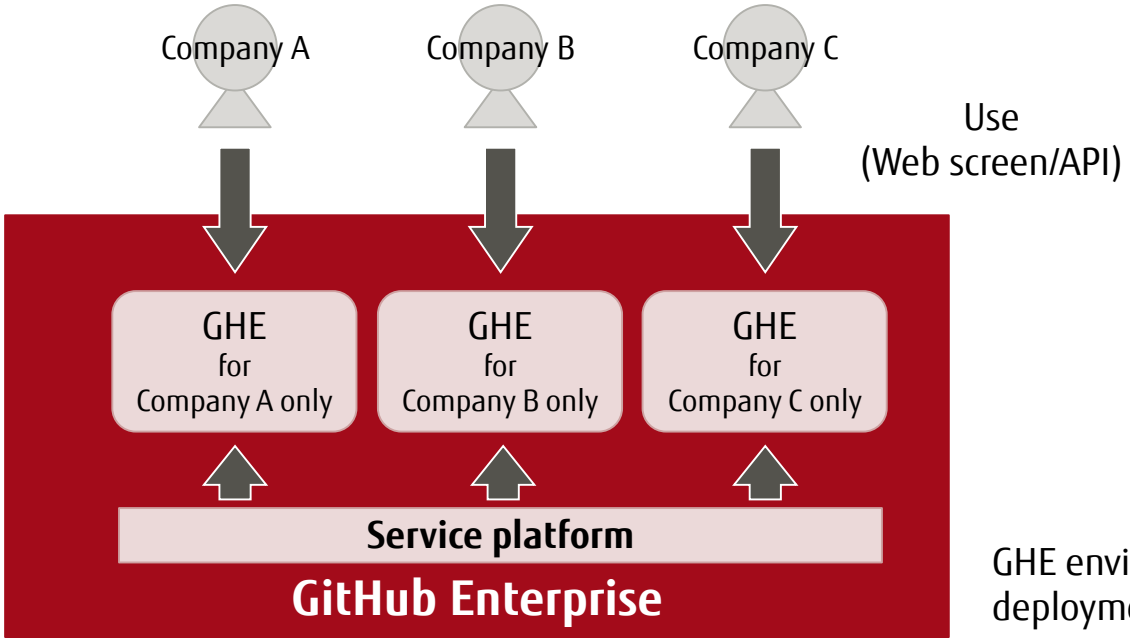


What is K5 GitHub Enterprise?

In partnership with GitHub, Fujitsu is licensed to provide GitHub Enterprise as one of the services of FUJITSU Cloud Service K5.

A GitHub Enterprise (GHE) environment is provided for each customer.

- The same features of usual GitHub Enterprise can be used.
  - Full features of GitHub Enterprise (Web screen and API)
  - User management with a range of setting changes (with Site Admin authority)



Features of GitHub Enterprise

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Repository-oriented efficiency for improved project management

In addition to the version management of assets, features such as source code review, requirement management functionality, and a Wiki are also provided. As a result, the efficiency of project management is improved.

Cost efficiency

The service may be used for a reasonable cost - even if there are a small number of users.
This is because the service is charged based on the number of users.

Increased speed of team development

Development with GitHub Flow (*4) that merges and deploys using Git (*1), Branch (*2) and Pull Request (*3).
Collaboration within the team and with others is accelerated.

Safe asset management within a dedicated customer environment

K5 GitHub Enterprise is deployed with a dedicated environment for each customer.
The customer's assets are securely managed because they exist in a dedicated environment at the VM level.

Safe and secure systems management by Fujitsu

Fujitsu conducts all GitHub Enterprise infrastructure management on K5.
Customers can therefore concentrate on the use of GitHub Enterprise.

*1) Git: A decentralized version control system that manages the change tracking of program source, etc.
*2) Branch: A function that separates and records the history flow.
*3) Pull Request: A function that notifies other developers when a change has occurred within a developer's local repository.
*4) GitHub Flow: A coordinating function to manage operations on a GitHub Enterprise repository when development is undertaken by multiple developers.

Safe and secure systems management by Fujitsu (Detail)

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- Fujitsu conducts all the GitHub Enterprise infrastructure management on K5. Customers can therefore concentrate on the use of GitHub Enterprise.
  - Redundancy (Failover architecture using multi-AZ (*1))
  - Automatic backup (A daily backup is maintained for 14 days (*2)).
  - Patching and upgrading
  - Addition of disk space

- The Fujitsu help desk may be contacted in the event of issues.
  - Issues and questions concerning the general service will be responded to by Fujitsu.
  - Questions regarding the specification of the service, and issues with GitHub Enterprise itself, will be handled by GitHub Inc. and Fujitsu.

*1) AZ refers to an environment that has a completely separate power supply system within the same data center. Even if one AZ is down, this does not impact the availability of others.
*2) Please contact the help desk if you need to restore from backup data.

Functional overview: Source code repository

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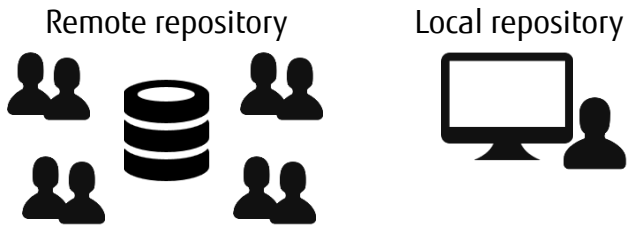
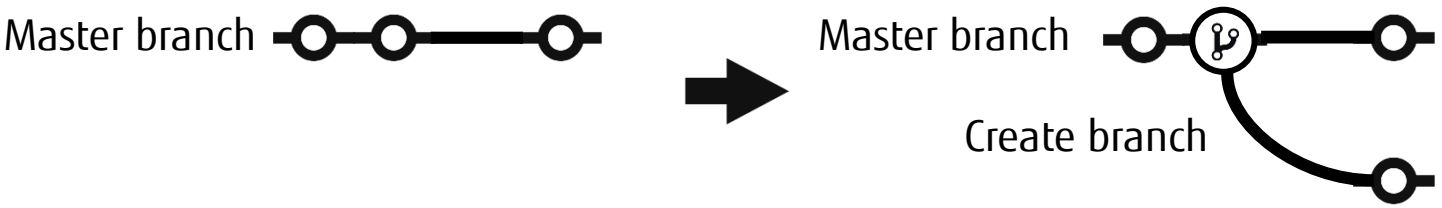
- GitHub adopts Git as a code repository. Source code and related documents are managed.
  - Git is a distributed version control system. The repository is divided into two areas.
    - Remote repository
      - Residing in the service environment.
      - A repository shared by multiple users.
    - Local repository
      - Residing in each user's local environment.
      - For individual use.



- Branch
  In the repository, a divergence (branch) can be made freely for each developer. Using a branch, software development can be conducted in the repository while multiple work areas are created for each developer.



Functional overview: Source code repository

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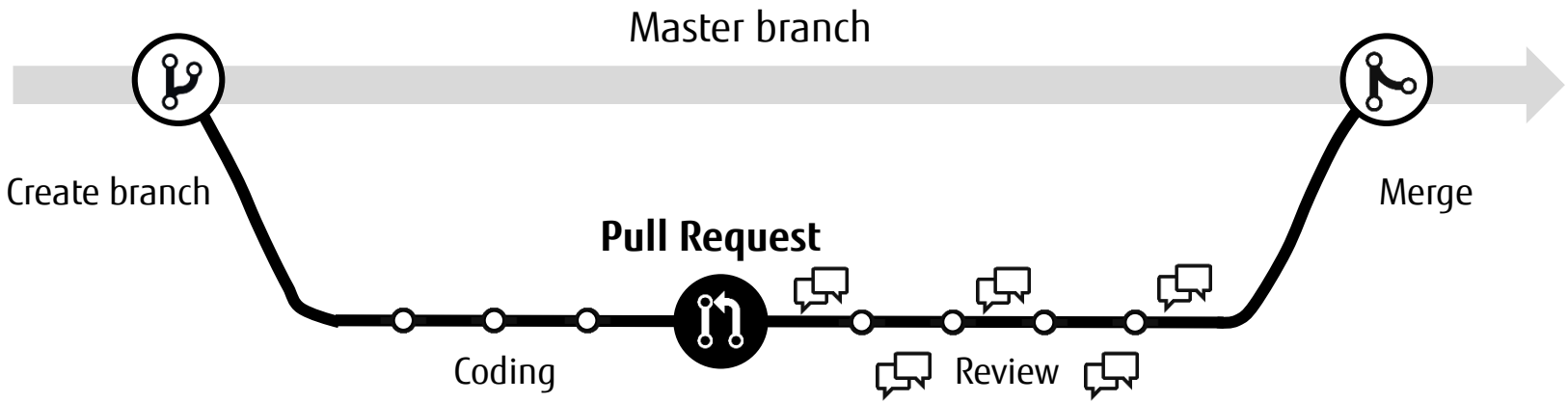
- Pull Request
  A function that clearly displays the changed part of the source code and notifies when a developer modifies development assets.

  The content of the work required for functional additions, fixes, etc. can be notified to those responsible for reviewing and merging, as well as to other concerned parties.



Functional overview: Source code review

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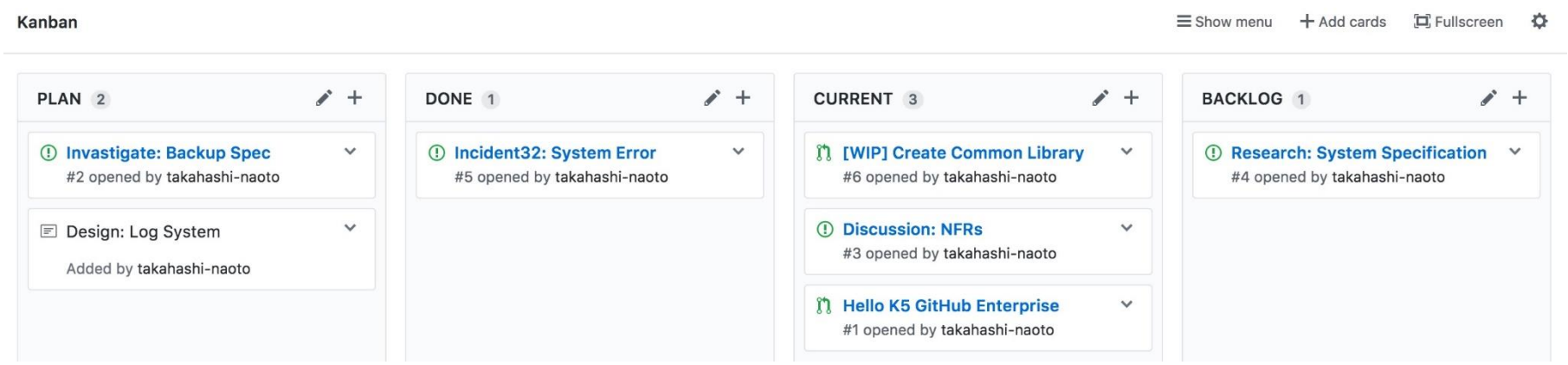
- Source code can be reviewed on the GitHub Enterprise Web screen. An intuitive and comprehensive review of source code can be achieved, with comments made directly to any line where differences have been identified, as a result of code comparison.

Functional overview: Problem management

- Issues can be managed using GitHub Enterprise (*1). The allocated resolver, arbitrary labels (*2) and milestones (*3), etc. can all be associated with an issue.
- Tasks associated with issues and Pull Requests can be managed using the project management function. Multiple projects can be created in one repository.

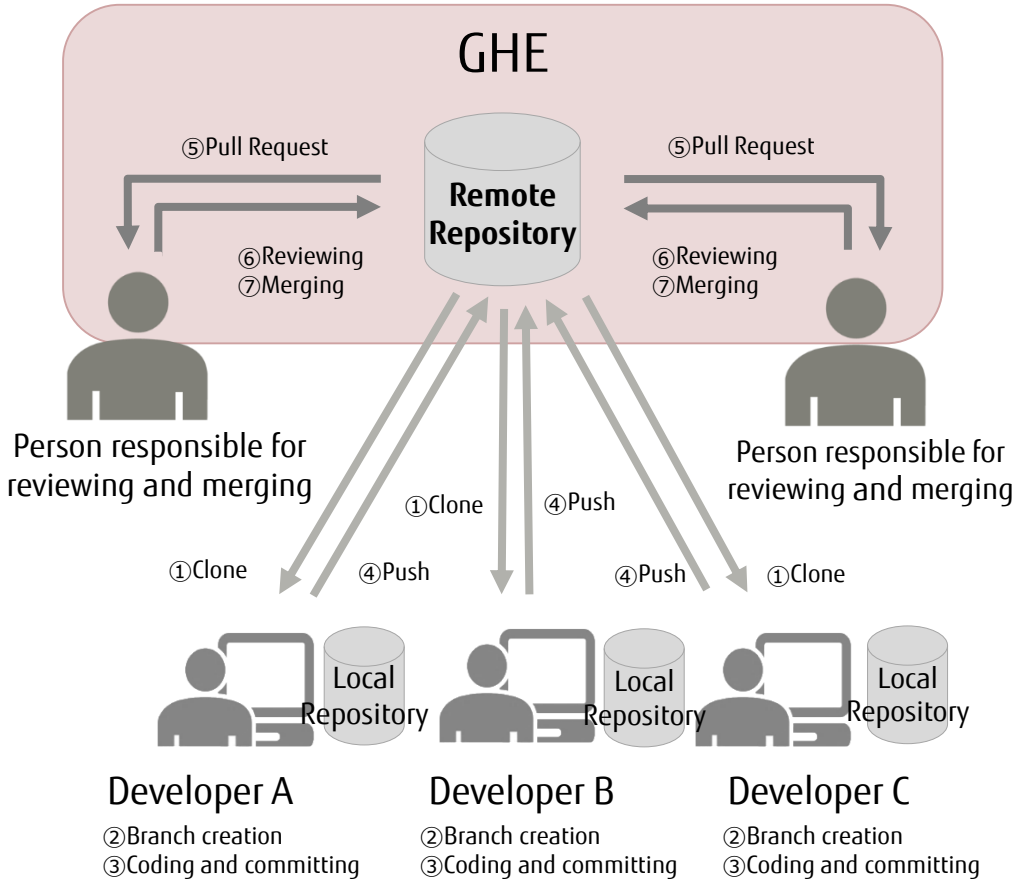


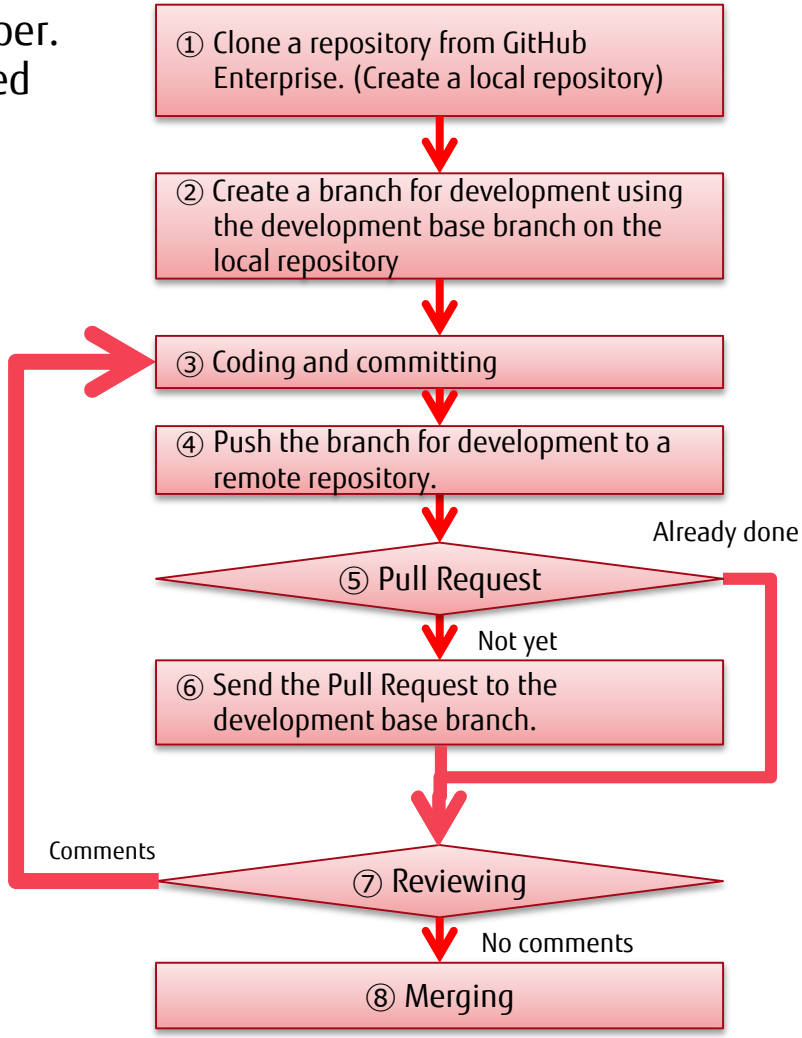
* 1) Issue management: Functionality to manage problems (issues) associated with a project and/or source code.
* 2) Label: Functionality for classifying issues by applying a label.
* 3) Milestone: Functionality to apply a deadline to an issue. In GitHub Enterprise, specific cut-off dates are not fixed for each issue but preceding milestones are set and the issue is linked to those.

Service use case

A developer can work efficiently by following the flows within a dedicated GHE environment.

- A development branch can be created for each developer. Multiple development activities can therefore be carried out at the same time.





Billing proposal (1/2)

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- Service menu

Menu	Unit of billing
Basic charge	Monthly basis
User license	Number of users per month

Billing proposal (2/2)

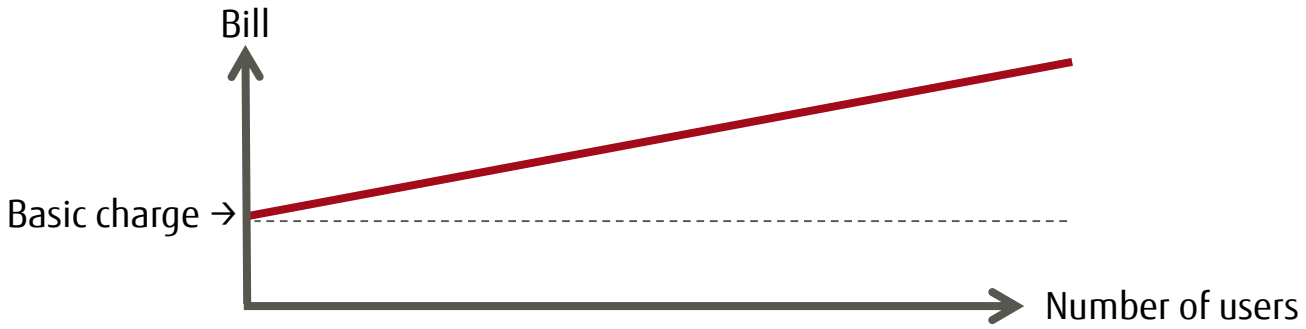
- Billing concept
  - Basic charge (fixed fee) + user license (based on the number of users)
    - Basic charge: Fixed fee per month
    - User license: Charge based on the number of registered users for the service (the number of active users)

Notes:

Administrator accounts for both Fujitsu and the customer are registered in the system. However the administrator account for Fujitsu is out of scope for billing.

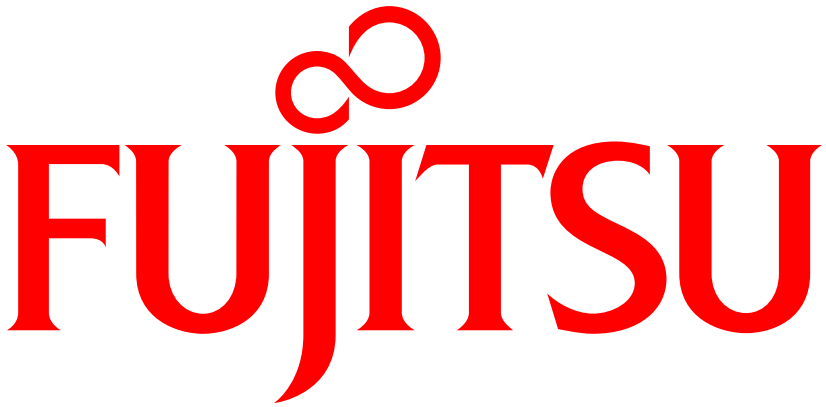
The number of active users for billing will be determined at 0:00 AM (UTC) on the first day of each month.

Example: When the service has 100 users
Basic charge +(100 users × user license charge)



Limitations and notes

- The data disk capacity for this service is 100GB. Please consult the help desk in advance if more than 100GB is required.
- The upper limit for the number of users of this service is 1,000. Please consult the help desk in advance if more than 1,000 users are to be registered.
- Please do not delete the user account registered when this service is provided.
- Please refer to the service specifications and the PaaS limitations and notes on the K5 landing page for the regions in which this service is available.
- The time period from applying to use the service until service commencement is as follows:
  - Approximately six business days after applying on the K5 Portal to use the service.



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