

# FUJITSU Cloud Service K5 "GitHub Enterprise" Introduction

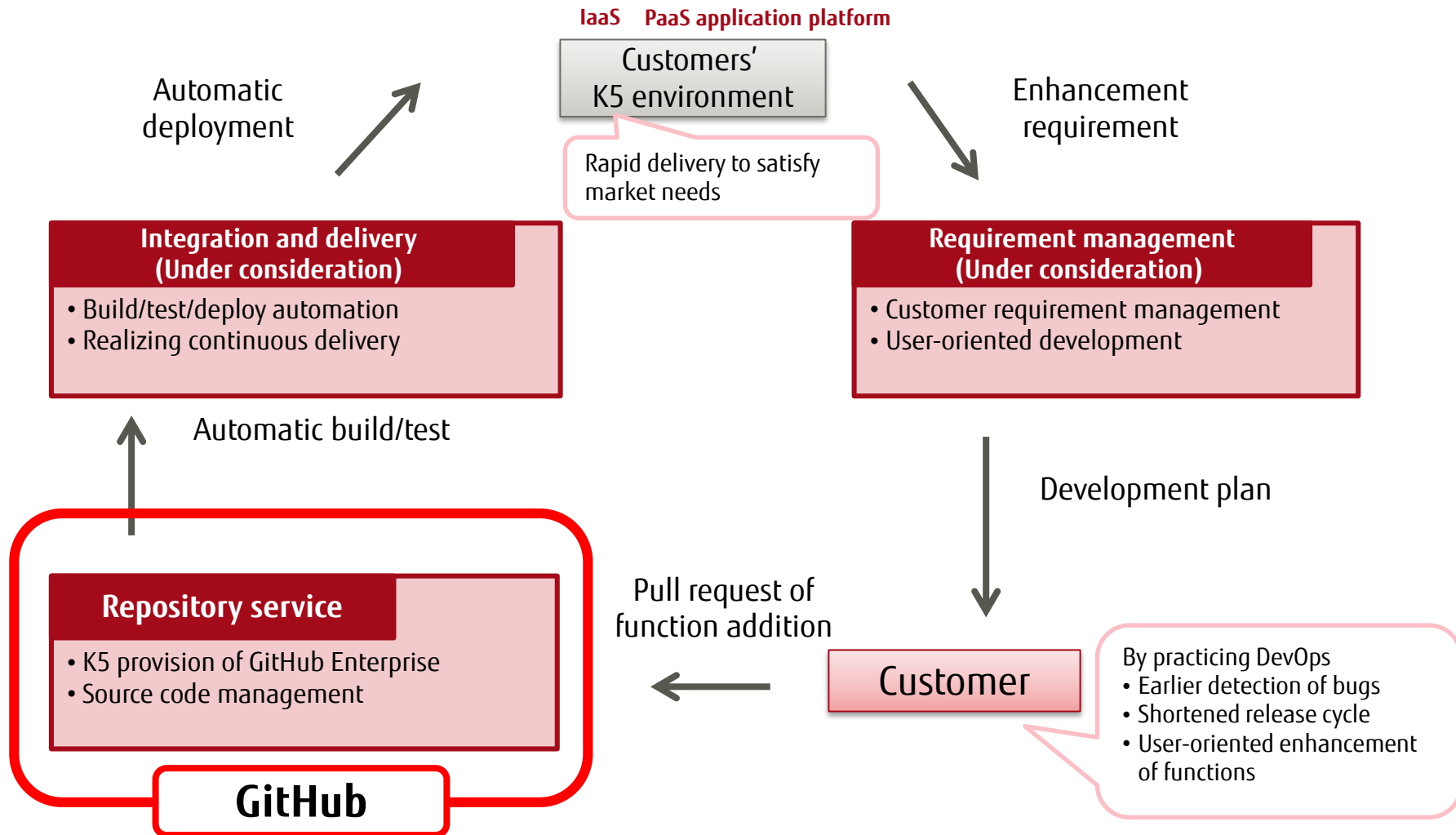
March, 2018  
FUJITSU Ltd.

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# Development support service

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



# What is GitHub.com/GitHub Enterprise?

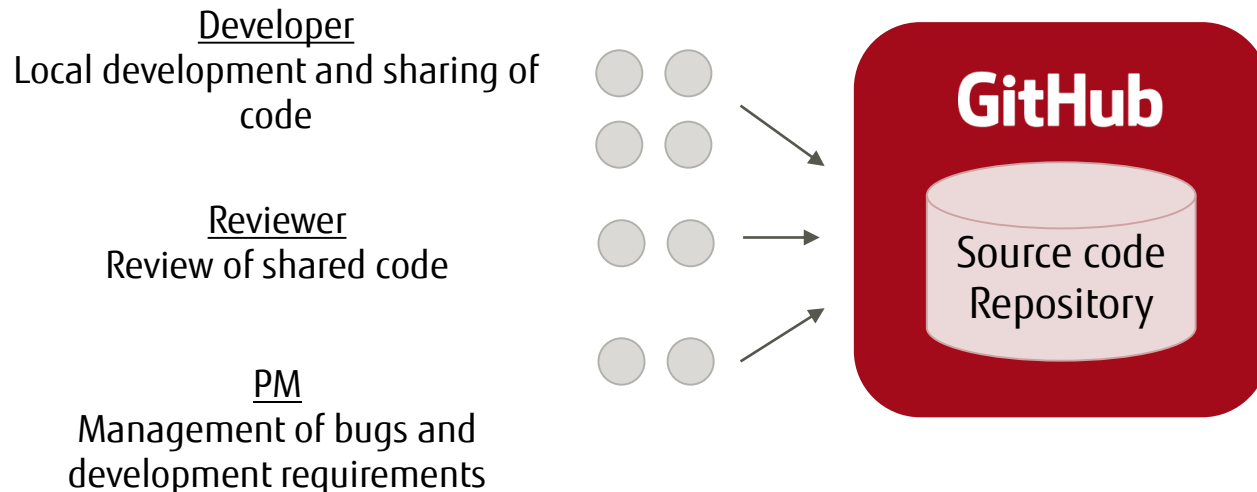
- "GitHub.com" is a service for the development of software corresponding to the Git version control system.
- Git has approximately 27 million users worldwide.
- "GitHub Enterprise" offers functionality equivalent to "GitHub.com", with on-premise availability as enterprise software.

## ■ GitHub.com Usage (\*)

Number of registered users	Number of repositories
27 million	76 million

\* As of January, 2018  
<https://github.com/home>

## ■ Software development that uses GitHub.com

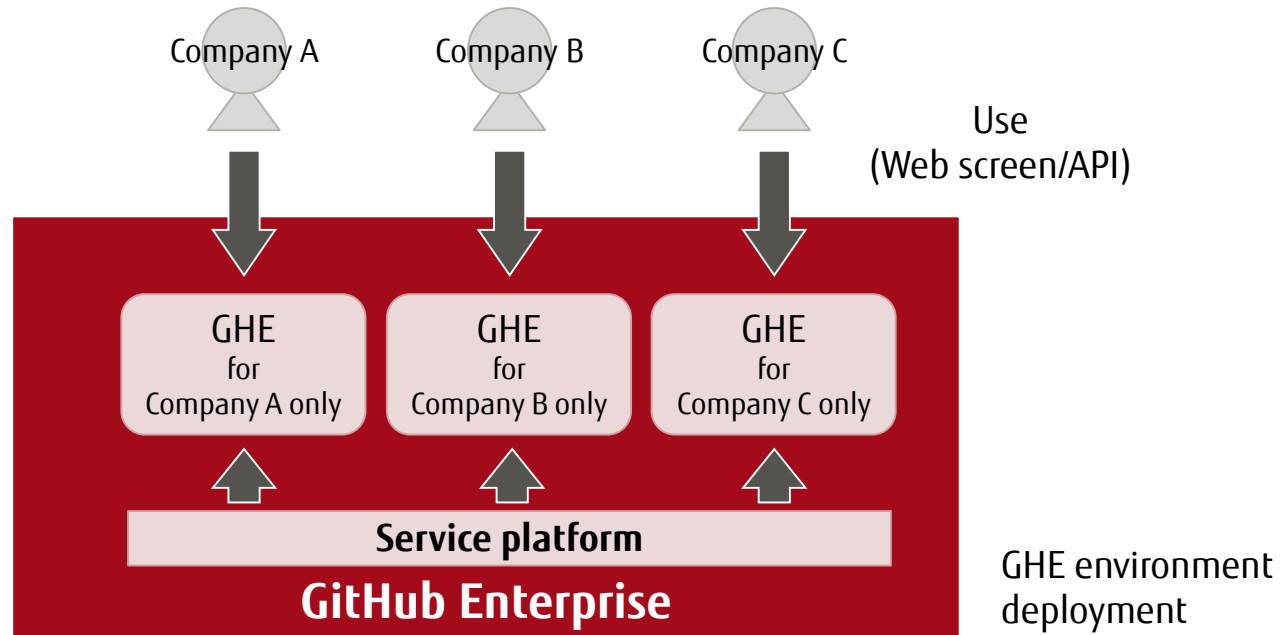


# What is K5 GitHub Enterprise?

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 (1/2)

## 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.

## Capacity of Data Disk Extension Option

An option is available for increasing the standard data disk capacity beyond 100GB.  
Customers can easily re-select data disk capacity to meet the requirements of their growing business.

## Carry-in FQDN & Certification Settings

Customers can use the FQDN/ Certificate under their management.  
Customers can run the operation from their own domain.

- Each Customer is required to register their FQDN with their DNS server.
- Each Customer is required to arrange for the Server Certificate used on GitHub Enterprise.

## Source IP Restriction Settings

Access to this service can be restricted.  
Accessing IP addresses can be limited to only the global IP addresses specified by the Customer.

- 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
  
- 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.

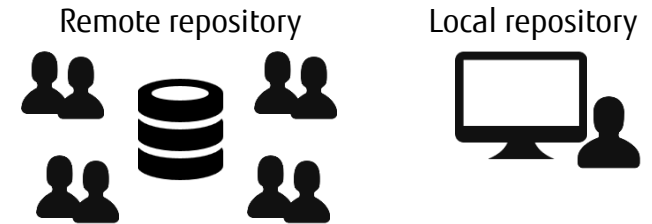
\*2) Please contact the help desk if you need to restore from backup data.



■ GitHub adopts Git as a code repository. Source code and related documents are managed.

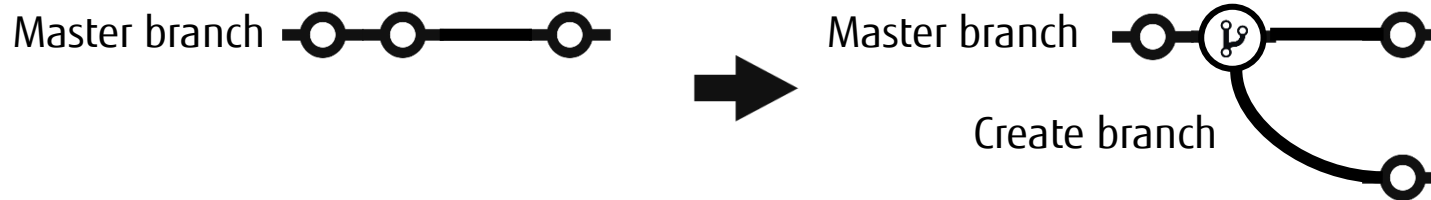
■ Git is a distributed version control system. The repository is divided into two areas.

- 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

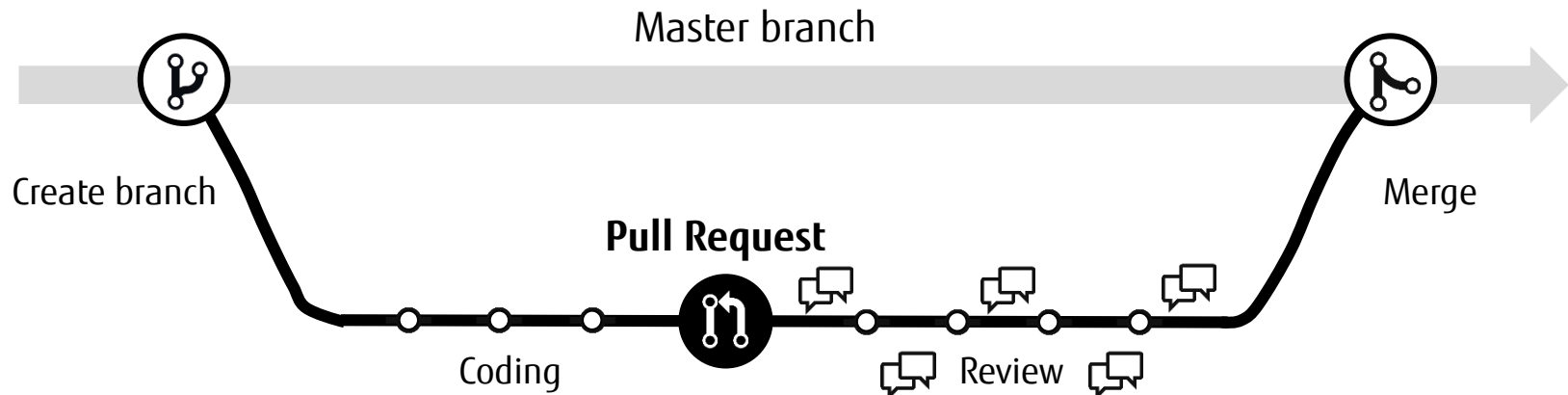
In the repository, a divergence (branch) can be made freely for each developer. Using a branch, software development can be conducted in the repository while multiple work areas are created for each developer.



## ■ 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.



- 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.

```
src/main/com/fujitsu/test/HelloWorld.java
```

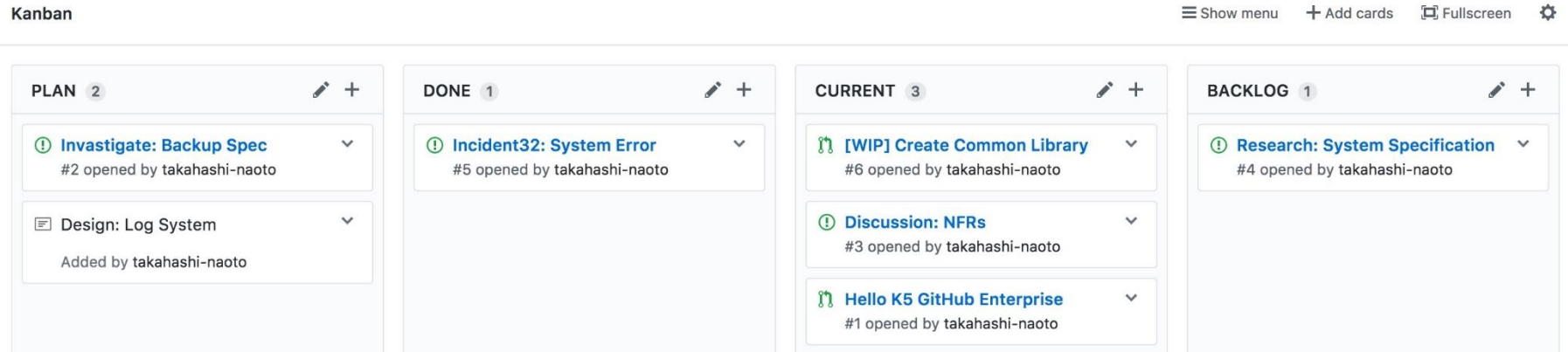
...	...	@@ -3,7 +3,7 @@
3	3	public class HelloWorld {
4	4	
5	5	public static void main(String[] args) {
6	-	System.out.println("Hello World!");
	6	+ System.out.println("Hello K5 GitHub Enterprise!");

 **takahashi-naoto** 2 minutes ago Owner  
LGTM!

 Reply...

# 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.



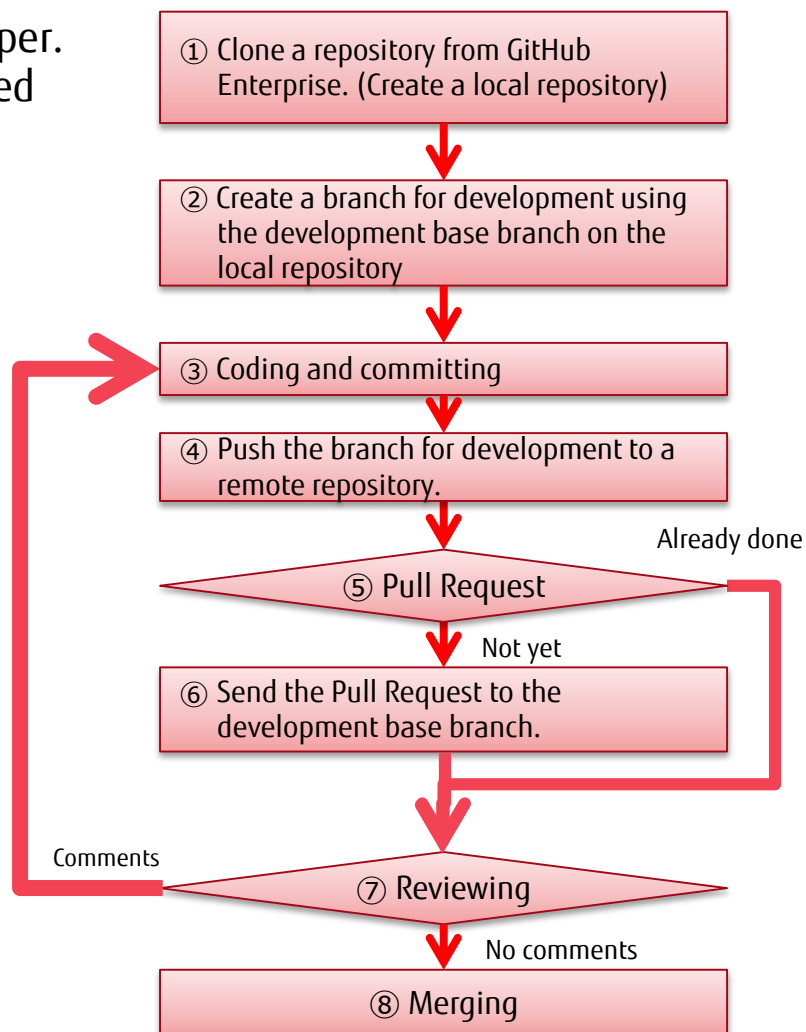
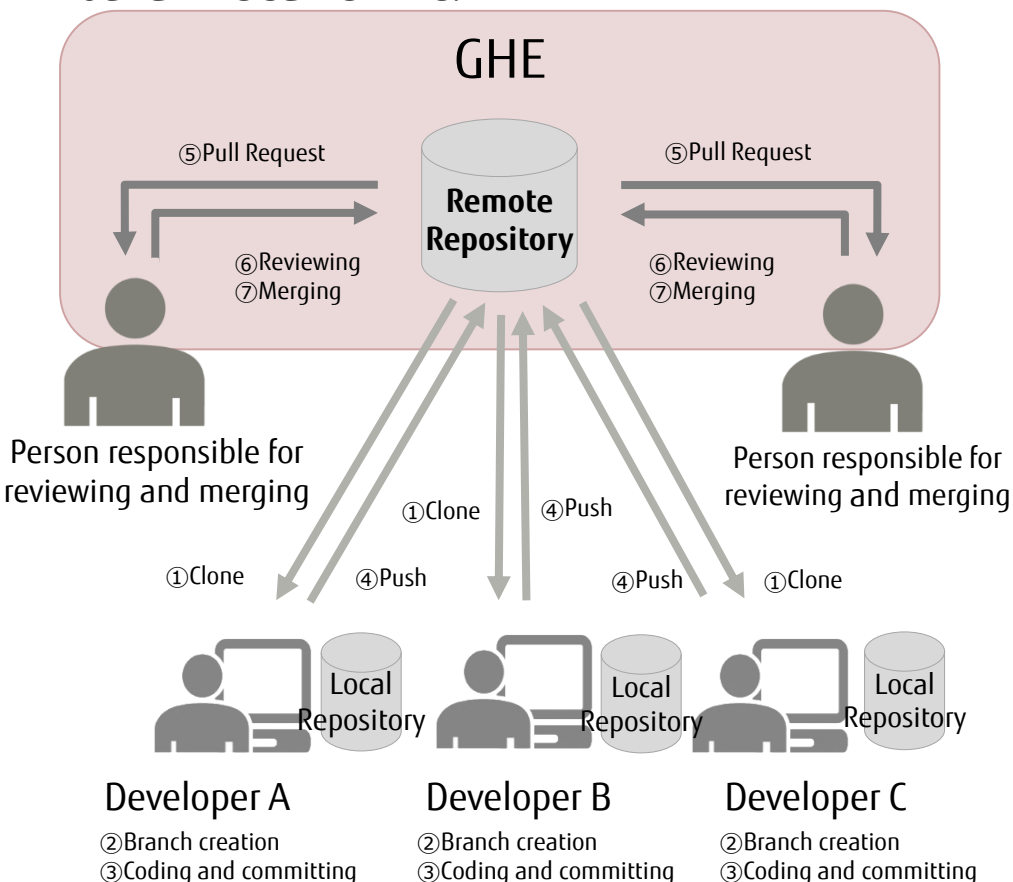
\* 1) Issue management: Functionality to manage problems (issues) associated with a project and/or source code.

\* 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.

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.



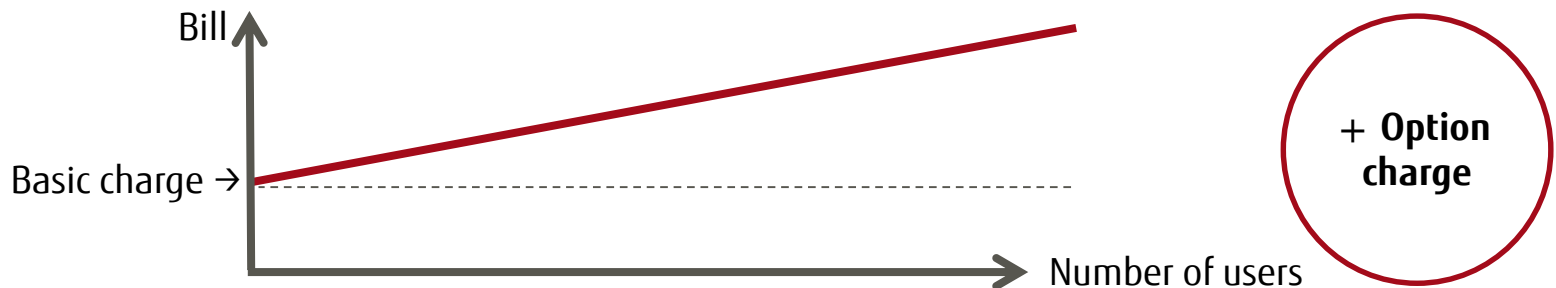
## ■ Service menu

Menu	Unit	Note								
Basic Charge	Month	Expected no. of users	Memory (GB)	Data disk capacity (GB)	Availability of settings					
					Source IP Restriction Settings	Carry-in FQDN & Certification Settings				
					Basic	1~500 Users	16	100	No	No
					Standard	1~500 Users	16	100	Yes	Yes
Advanced	Month	501~3000 Users	32	100	Yes	Yes				
User License	Number of Users/ Month									
Data Disk Extension Option										
100GB	Month	<ul style="list-style-type: none"> <li>When the disk usage is expected to exceed the data disk capacity of 100GB included in the Basic Charge, select one of these options. The Data Disk Extension Options may be added to any Basic Charge plan.</li> <li>Changing to a plan with a capacity smaller than that agreed in the contract is not permitted. Terminating the contract (the service) is not permitted when only a option, without a basic charge plan, is selected.</li> <li>When a basic charge plan is terminated, the service will be terminated automatically.</li> </ul>								
200GB	Month									
500GB	Month									
1TB	Month									

## ■ Billing overview

- Basic charge (fixed fee) + user license (based on the number of users) + option charge
  - Basic charge: Fixed fee per month
  - \* Charges will be applied based on the plan selected. When a plan is changed, the fee for the new plan will be applied to the basic charge from the following month. Only one plan change is permitted in a billing month.
  - User licenses: Charge based on the number of registered users for the service (the number of active users)
  - \* 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.
  - When the option menu is used, a fee applicable to the selected menu will be charged.

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




- How to change plans/ activate the option
  - To change the Basic Charge Plan or to activate a data disk addition option, submit the application form via the K5 portal.
- Notes
  - Basic charge: Changing between the Basic or Standard and the Advanced Plan
    - After the application form is received, the settings will be changed for the GitHub Enterprise environment currently in use. The environment cannot be accessed for several minutes while this change takes place.
  - Basic charge: Changing from the Standard or Advanced to the Basic Plan
    - The “access-source IP control setting” and “FQDN/ Certificate porting setting” will be turned off automatically if they were previously turned on.
    - After the application form is received, the settings will be changed for the GitHub Enterprise environment currently in use if the Customer had previously switched on the “FQDN/ Certificate porting setting”. The environment cannot be accessed for several minutes while this change takes place.
  - Activating the Data Disk Addition option
    - After the application form is received, the settings will be changed for the GitHub Enterprise environment currently in use. The environment cannot be accessed for several minutes while this change takes place.



# Applying the Settings

- How to activate, change, or turn off the settings
  - Contact the Help Desk for information on how to activate, change, or turn off the following settings.
    - Source IP Restriction Settings
    - Carry-in FQDN & Certification Settings
  - Customers who have contacted the Help Desk will receive an application form.
  - The Customer may specify the start date of the settings to be three or more business days after the date an application is lodged.

- 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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