FUJITSU

shaping tomorrow with you

FUJITSU Cloud Service K5
SF Service Functional Overview

August 2017

Fujitsu Limited

Agenda

- SF Glossary
- About SF
- Features of SF
- SF Service Map
- SF Service Overview
- Function Overview
- Function Details
- Billing Model
- Restrictions and Notes

SF Glossary

FUJITSU

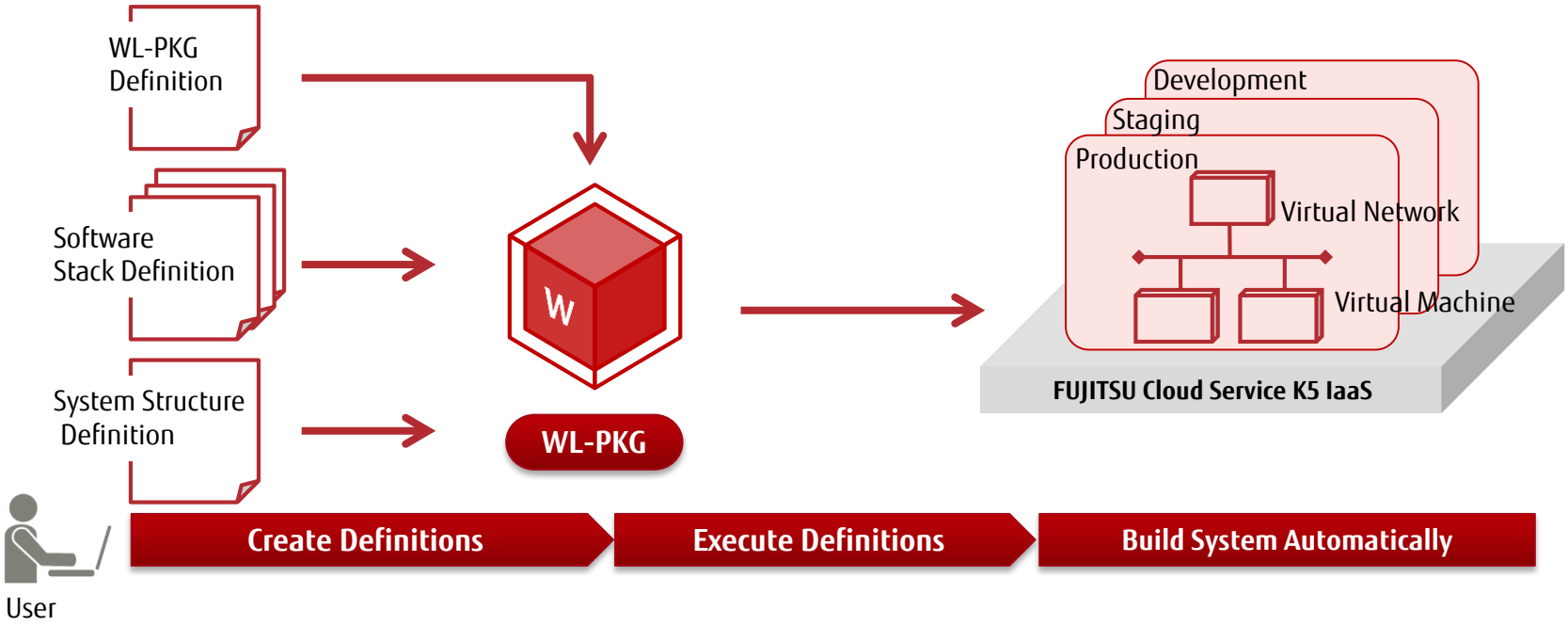
- This glossary offers a list of terms and definitions to provide a vocabulary for SF-related concepts

No.	Term	Description
1	Virtual Appliance (VA)	Virtual machine image with OS, middleware and apps installed (Master Image).
2	Software Stack Definition	Definition and configuration information for the OS, middleware, apps, etc. used to create a VA.
3	System Structure Definition	Definition of the specifications of a virtual machine (number of CPU cores, size of memory, etc.) and network topology (network segment, IP address, port, etc.) to build a system
4	WL-PKG (Workload Package)	A package combining the software stack definition and system structure definition of K5 IaaS. Automatic system building is possible by running WL-PKG.
5	Stack	A set of VMs and network created and managed by the Orchestration function in K5 IaaS according to a given system structure definition and software stack definition.
6	Migration Function	A function to create and edit the software stack definition. It can be used to automatically create the software stack definition, and then the VA by scanning of the existing machine.
7	Orchestration Function	An integrated function in K5 to orchestrate a set of virtual resources to automatically build the K5 IaaS system.
8	Template	A text file used to define the stack in K5 IaaS.
9	Software Stack Bundle Contents	Customer software components uploaded and added in the virtual appliance during software stack definition.
10	WL-PKG Editor	A support function to simplify the development of WL-PKGs. The GUI-based function can be used to create and specify the system configuration definition, and to create WL-PKG definitions automatically.

About SF

Automatic creation of a VA based on the software stack definition.
Automated building of a computer system consisting of multiple virtual machines and a virtual network based on the combination of software stack and system structure definitions. Also, by using the definitions identical systems can be created repeatedly.

- Automatic VA creation and enhancement to ensure rapid creation and a high quality VA
- Automated building of a computer system consisting of multiple VMs to ensure rapid environment development
- Easy to reproduce and delete the system repeatedly to reduce operation costs



Features of SF

FUJITSU

Automatic VA Creation Using the Software Stack Definition

Automatically create a VA consisting of an OS, middleware, applications, various agents, etc. based on the software stack definition.

VA Enhancement Through Editing of the Software Stack Definition

Enhance a VA by editing the software stack definition - there is no need for tasks such as uninstallation or reinstallation of software.

VA Creation by Scanning the Existing Server

Automatically create a VA and software stack definition based on the existing server using the scan function to make the existing server's assets reusable. (in future)

Automated System Building and Easy System Reproduction

Automatically build a system consisting of multiple VMs and a virtual network based on the combination of software stack and system structure definitions. The same system can be automatically built repeatedly in different environments. (in future)

Version Management of Entire Systems

Easily and effectively perform version control for an entire system consisting of various types and different versions of software stacks using the version management function of WL-PKG.

Automatic VA Creation Using the Software Stack Definition

FUJITSU

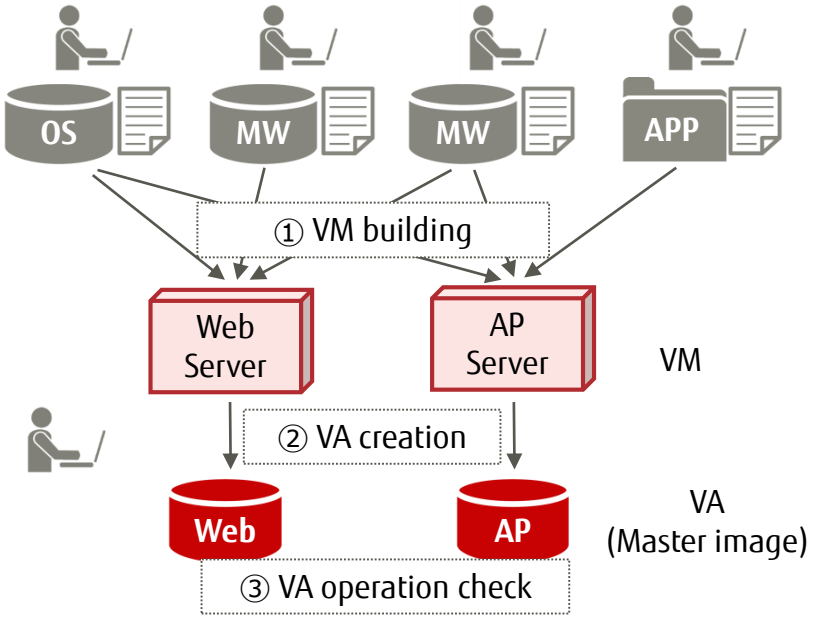
Automatically create a VA consisting of an OS, middleware, applications, various agents, etc. based on the software stack definition.

Traditional VA Creation

① Install an OS, MW and apps based on the procedure manual to build a VM (manual task)
② Remove the unique configuration from the VM to create a VA (manual task)
③ Check VA operation (manual task)

Error-prone manual tasks -> low quality

Manual tasks based on installation guide and procedures

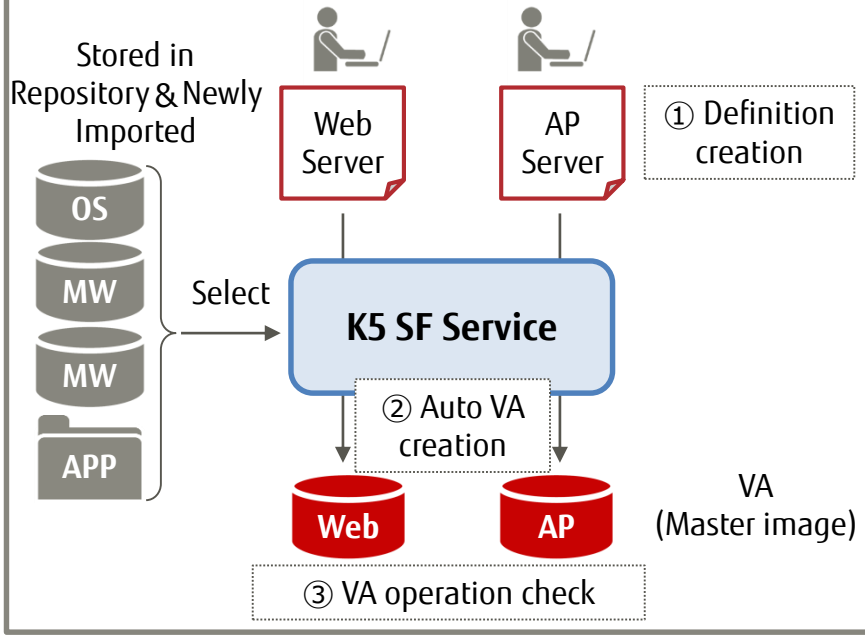


VA Creation Using SF

① Define and configure an OS, MW, apps through a GUI (Software stack definition)
② Automatically create a VA based on the definitions
③ Check VA operation (manual task)

Minimize human error and rework using automation -> ensured quality

Auto VA creation and software stack definition via a GUI



VA Enhancement Through Editing of the Software Stack Definition

FUJITSU

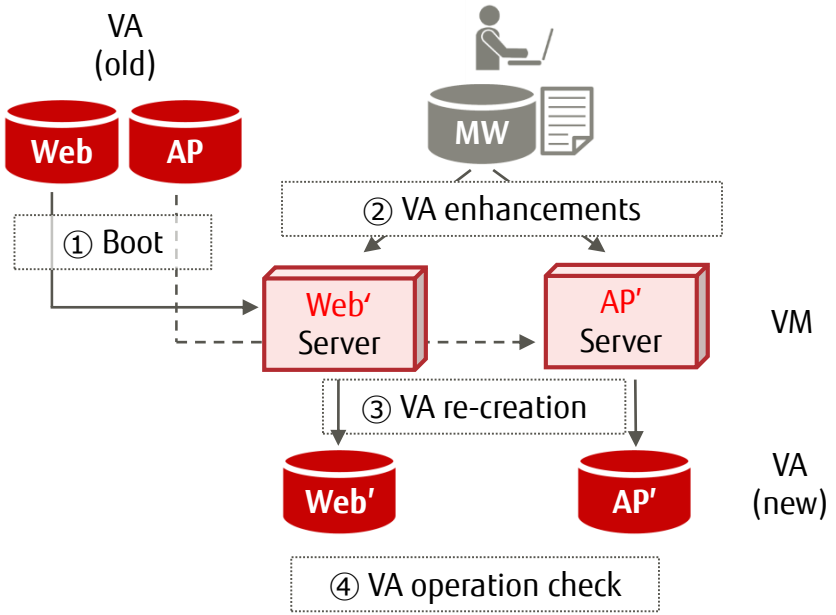
Enhance a VA (version upgrade of MW, apps and patch application) by editing the software stack definition

Traditional VA Enhancement

① Boot a VM based on the target VA (manual task)
② Enhance the VM (manual task)
③ Re-create a new VA based on the enhanced VM (manual task)
④ Check operation of the new VA (manual task)

Troublesome operation -> high cost, low quality

Manual operation based on installation guide and procedures

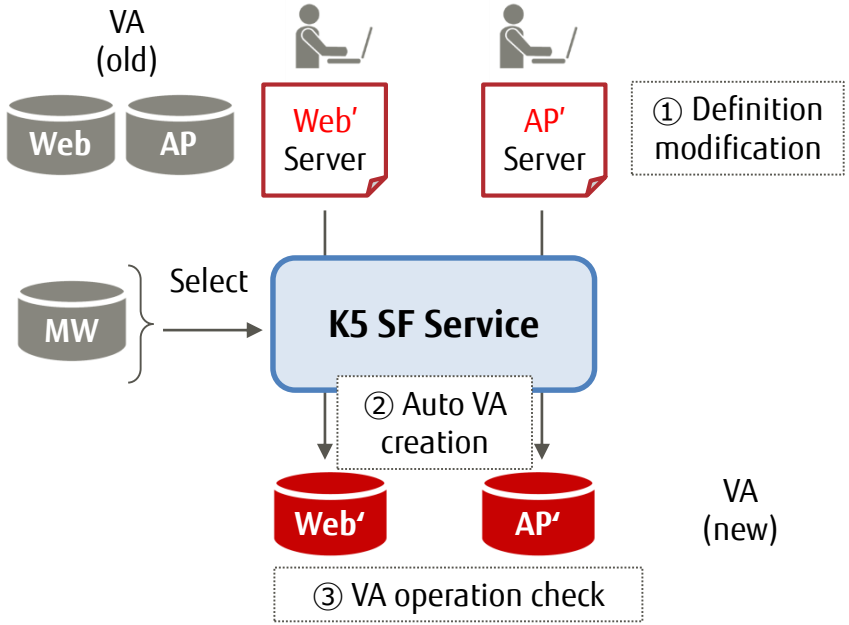


VA Enhancement Using SF

① Edit the definition of the target VM (GUI)
② Re-create a new VA based on enhanced definition
③ Check operation of the new VA (manual task)

Simple editing of software stack definition -> low cost, ensured quality

Auto VA creation and software stack definition via a GUI



VA Creation by Scanning the Existing Server

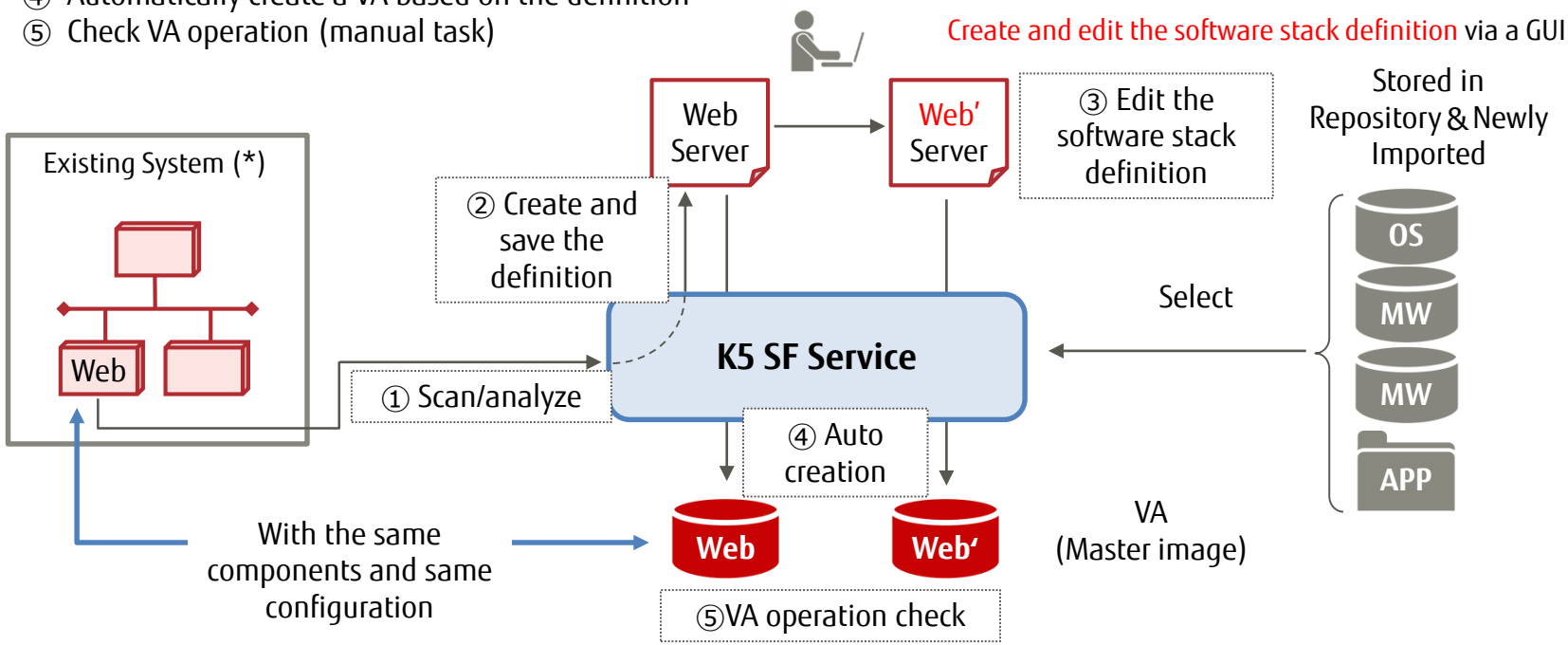
FUJITSU

Automatically create a VA and software stack definition based on the existing server using the scan function to make the existing server's assets reusable.

Create a VA of the Existing Server

① Scan and analyze the existing server
② Create and save the software stack definition based on the results of scanning and analysis
③ Edit the software stack definition
④ Automatically create a VA based on the definition
⑤ Check VA operation (manual task)

Auto creation of an editable software stack definition based on the existing server -> reuse of existing server assets



(*) Only supports CentOS in SF V1.0; will eventually support other OS in future versions

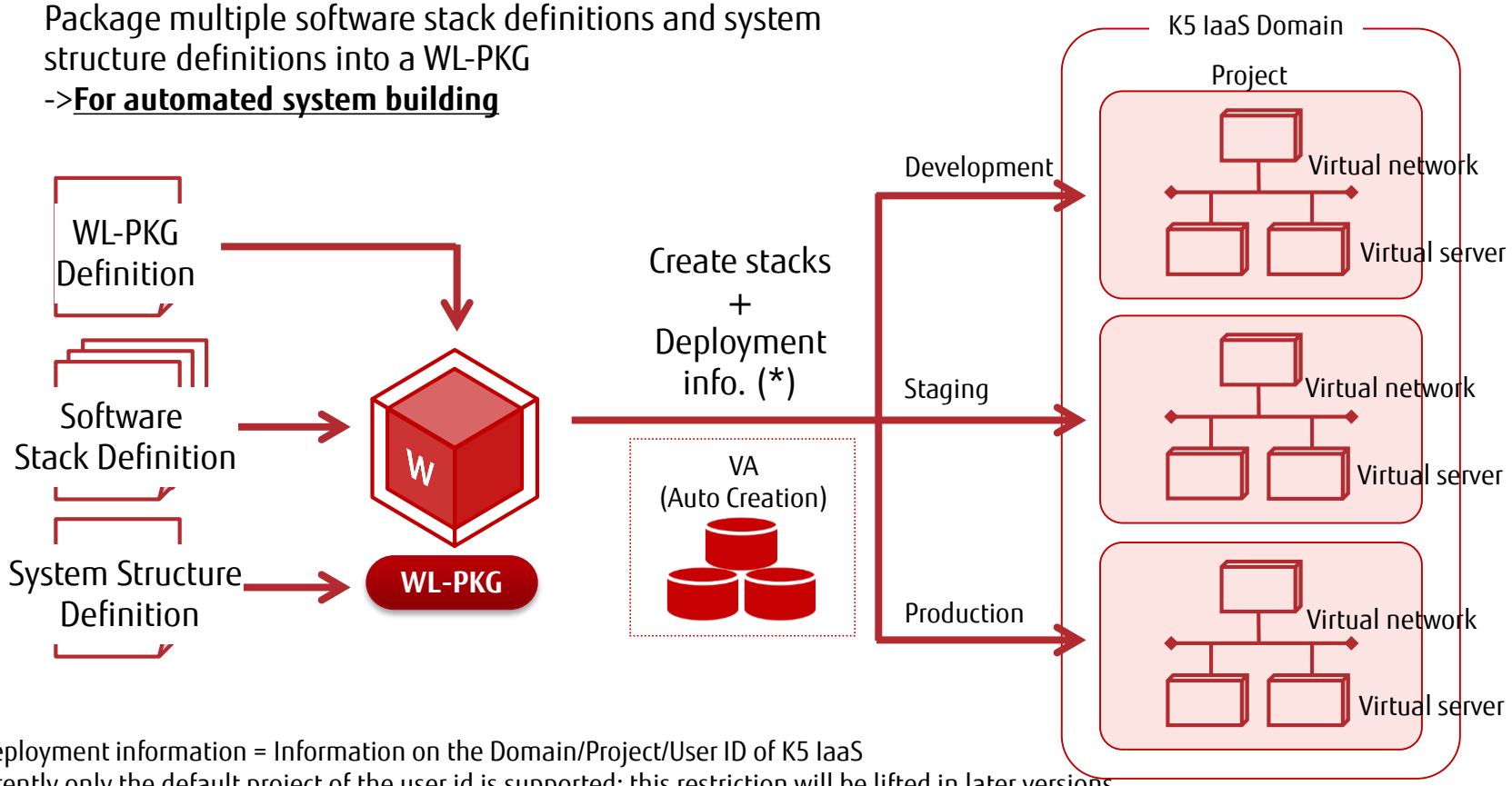
Automated System Building & Easy System Reproduction

FUJITSU

Automatically build a system consisting of multiple VMs and a virtual network based on the combination of software stack and system structure definitions. The same system can be automatically built repeatedly in different environments by just specifying the deployment destination.

Build the same system repeatedly

Package multiple software stack definitions and system structure definitions into a WL-PKG
->**For automated system building**



(*) Deployment information = Information on the Domain/Project/User ID of K5 IaaS
Currently only the default project of the user id is supported; this restriction will be lifted in later versions.

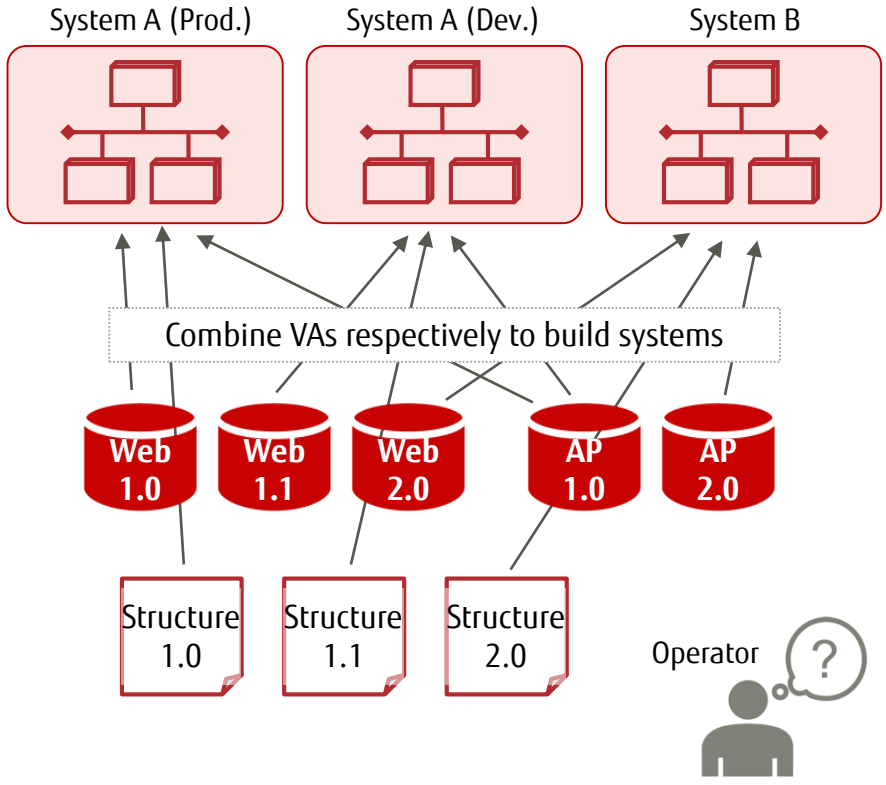
Version Management of Entire Systems

FUJITSU

Easily and effectively perform version control for an entire system consisting of various types and different versions of software stacks using the version management function of WL-PKG

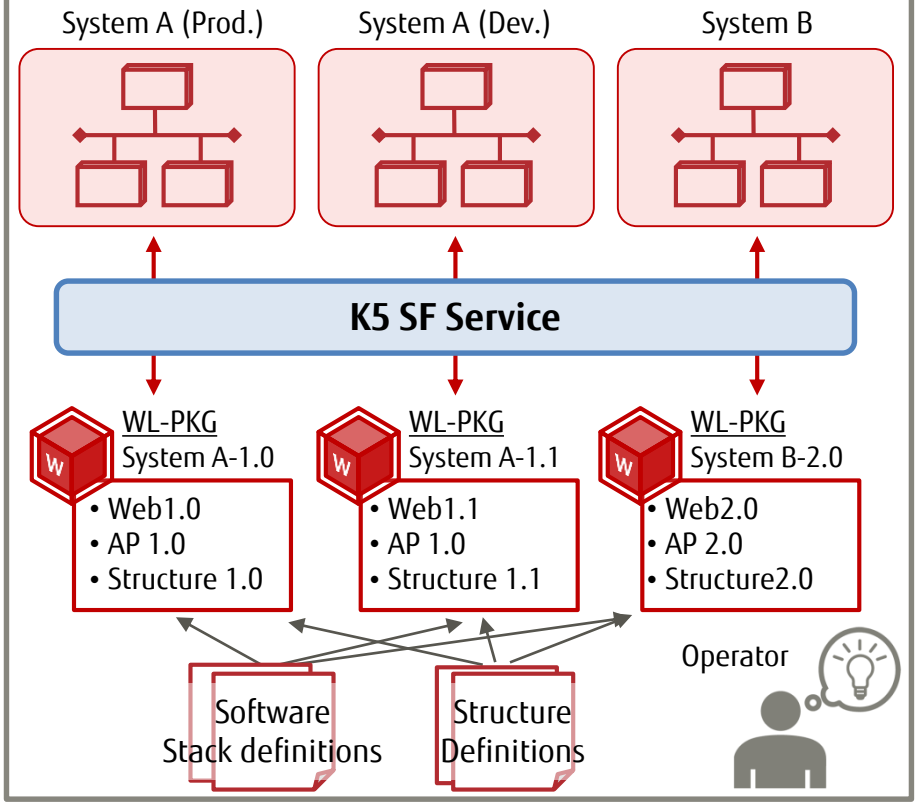
Traditional Management

Difficult to comprehensively manage an entire system due to the increased number of VAs

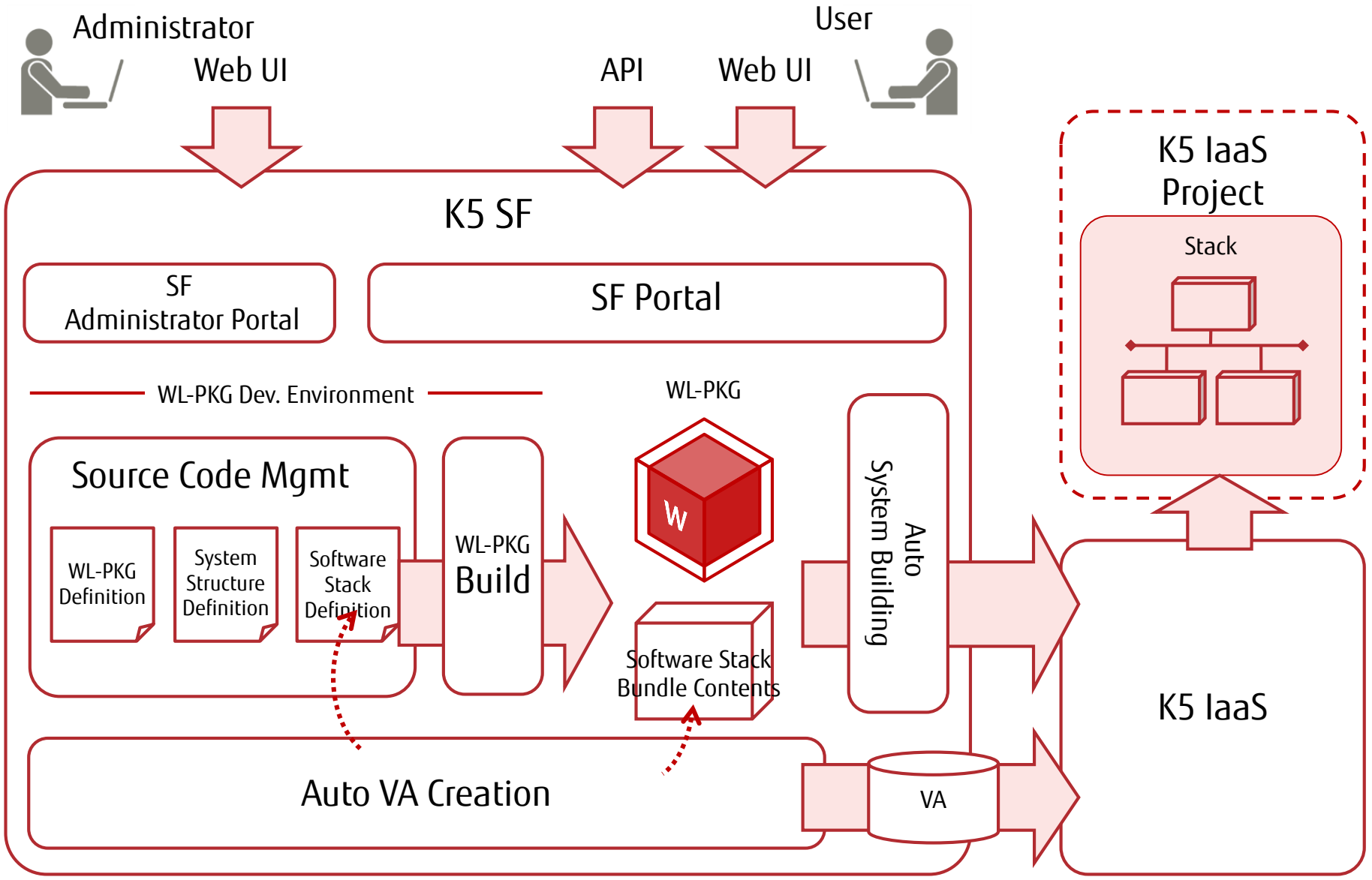


Management Using SF

Easily and effectively manage the entire structure and version of a system using the WL-PKG



SF Service Overview



Function Overview

FUJITSU

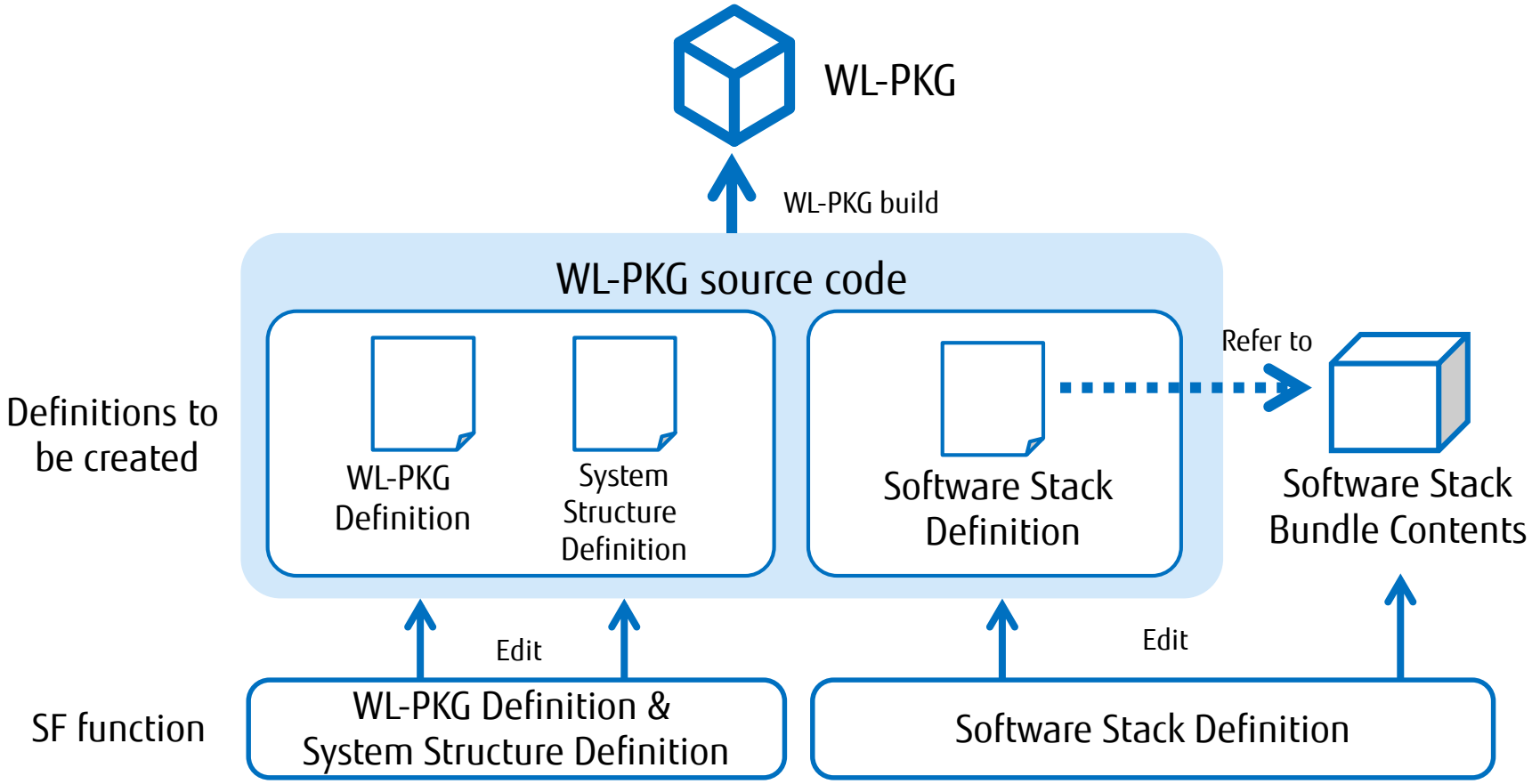
Function	Overview
Software Stack Definition	The Software Stack Definition defines the software combinations and settings required for generating Virtual Appliances. SF can be used to create, edit, store, list, and obtain software stack definitions. Software Stack Definition can also be generated automatically from an existing virtual server by using Migration function. (in future)
System Structure Definition	The System Structure Definition automatically builds multiple virtual networks, virtual servers, and storage using the IaaS Orchestration function. The user can import into SF and edit a template created in K5 IaaS and use that template as the system structure definition.
WL-PKG Definition	The WL-PKG Definition automatically runs a series of software stack definitions and system structure definitions. SF can be used to store or obtain WL-PKG definitions that users have created or edited.
WL-PKG List	Users can store WL-PKGs in SF, and run commands such as List, Stack Creation, Download, or Delete.
Stack	Users can obtain a list of stacks generated using the Stack creation function. The Stack function displays the status of stack creation or deletion. Stack deletion can be run to delete all multiple virtual servers and virtual networks managed as a stack.

FUJITSU

Function Details

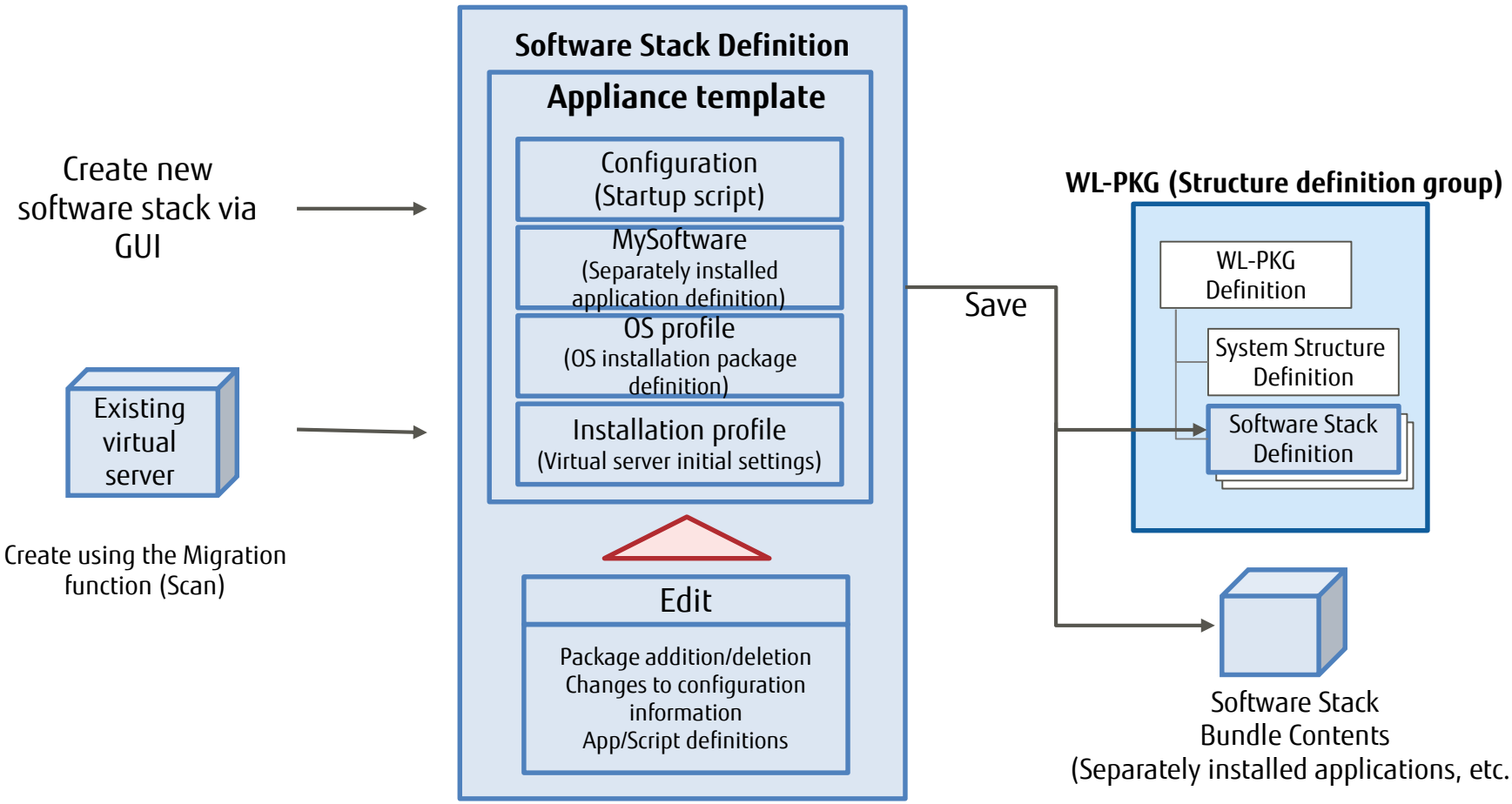
WL-PKG Structure

- WL-PKG is a package consisting of the WL-PKG Definition which defines the structure of WL-PKG, System Structure Definition which defines the structure (Stack) of the automated build system, and Software Stack Definition which defines the software stack for each virtual server in the system.
- WL-PKG is developed into a package by using SF and K5 IaaS functions to create each definition file.



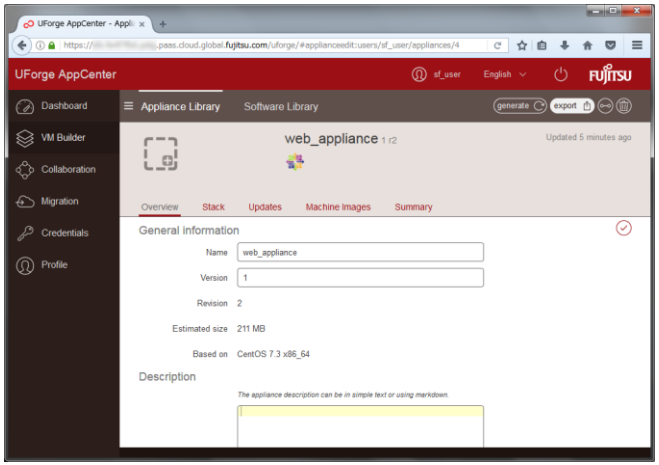
Software Stack Definition

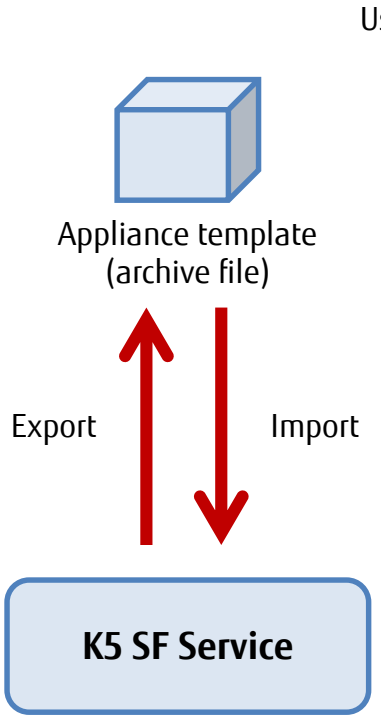
- Creates a definition that automatically generates a Virtual Appliance with an OS, middleware, and applications installed.
- Using the Migration function also allows you to import the state of an existing virtual server to create the software stack definition.

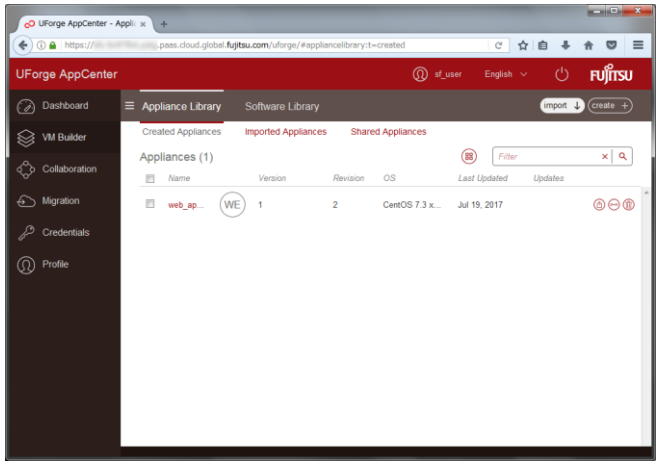


Reference: Import and Export of Appliance Templates

- Created appliance templates can be exported as archive files. Exported appliance templates can also be imported and used.
- By exporting and importing appliance templates, it is possible to re-use them in order to migrate to or create other SF environments.

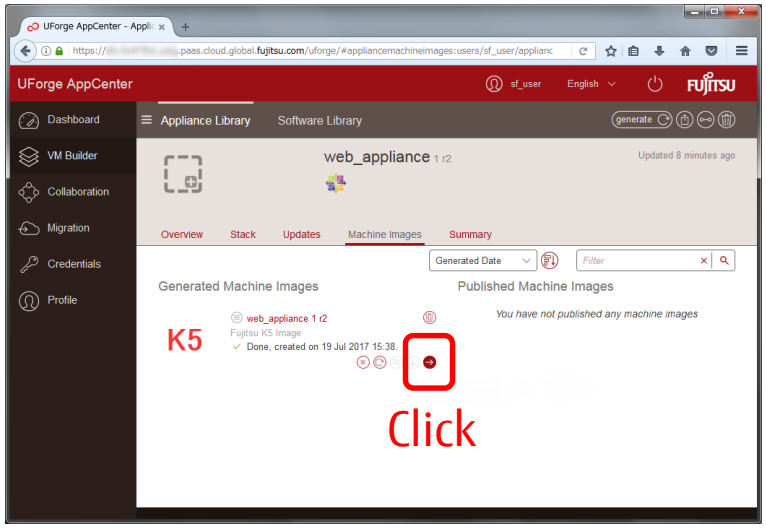


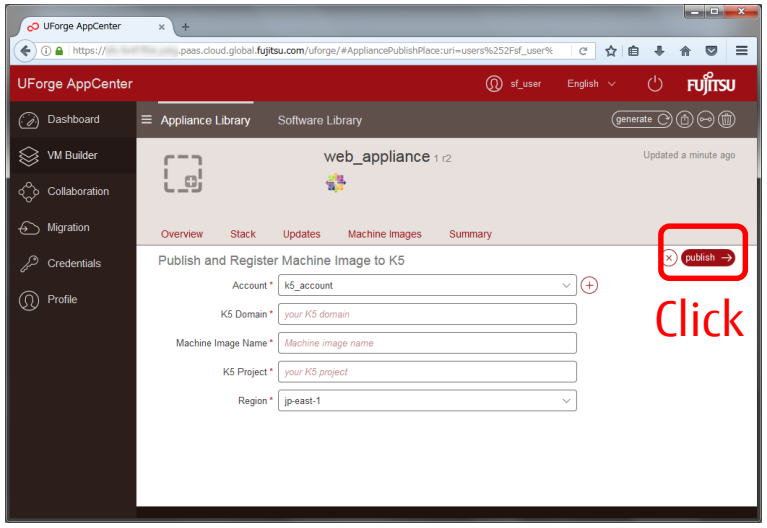


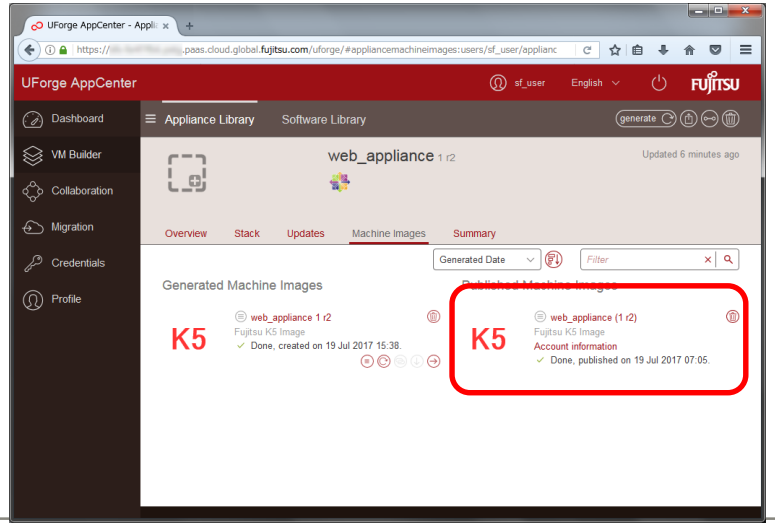


Reference: Publishing Virtual Appliances to K5

- After generating a Virtual Appliance, there is no need to use complex APIs because intuitive GUI operations enable the publishing of K5 IaaS images.

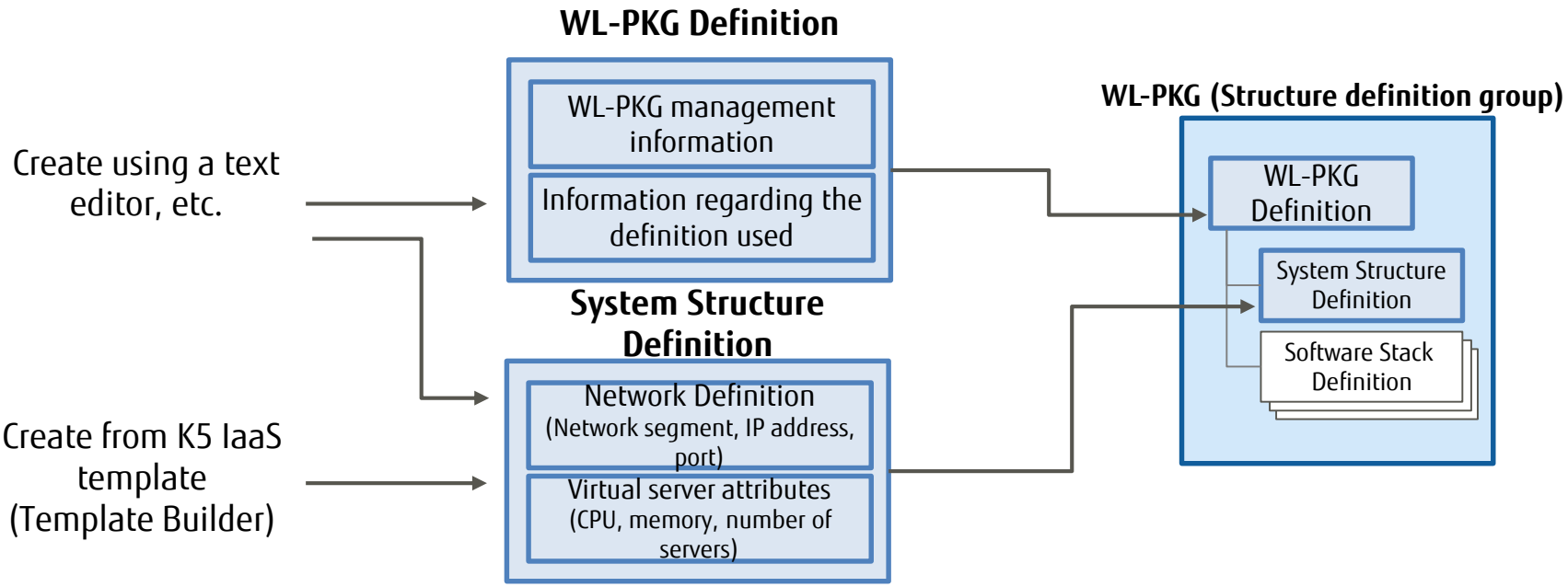






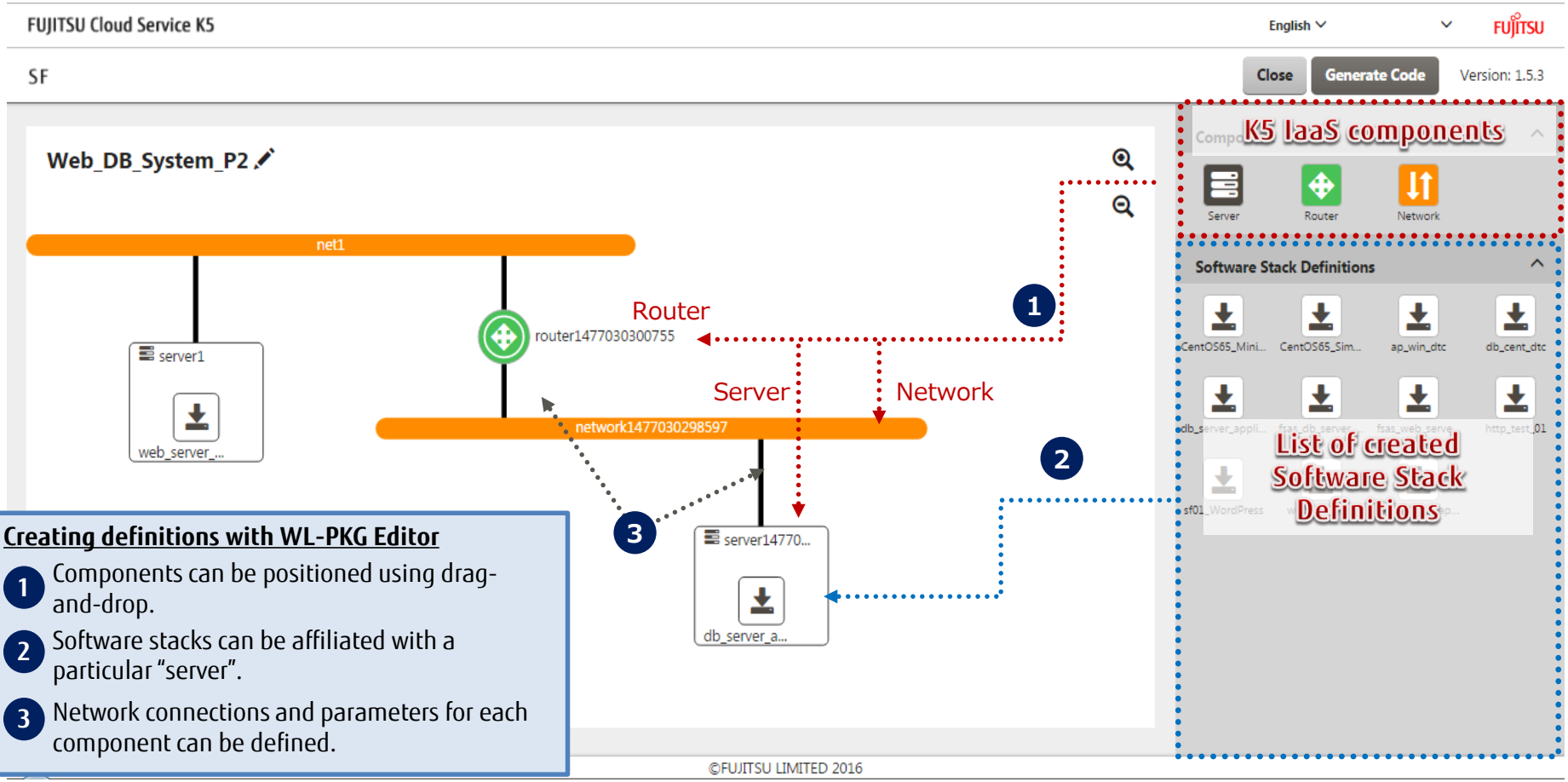
WL-PKG Definition & System Structure Definition

- The WL-PKG Definition shows the relationship between the software stack definition and the system structure definition used.
- The System Structure Definition uses the K5 IaaS Orchestration function to create a definition for automatically managing the development of the entire system structure (network definition, virtual server deployment, etc.).
  The template created using the K5 IaaS System can be imported, edited, and used as the system structure definition.



Reference: WL-PKG Editor

- Creation
  The positioning and composition of virtual networks and virtual servers can be defined and system configuration definitions and WL-PKG definitions can be created. You can create 'WL-PKG Definition' intuitively by drag and drop operations on GUI.

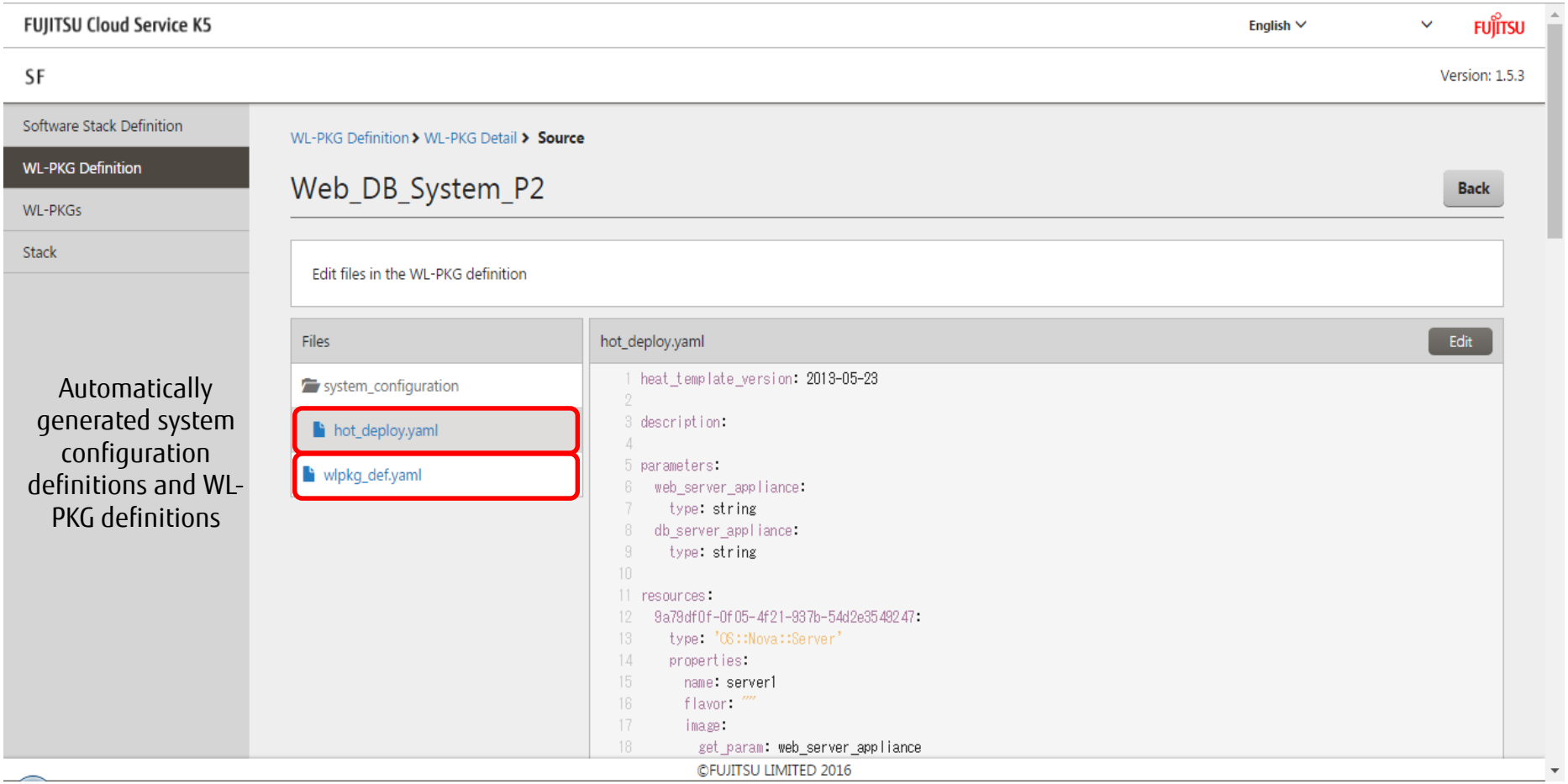


Creating definitions with WL-PKG Editor

1. Components can be positioned using drag-and-drop.
2. Software stacks can be affiliated with a particular "server".
3. Network connections and parameters for each component can be defined.

Reference: WL-PKG Editor

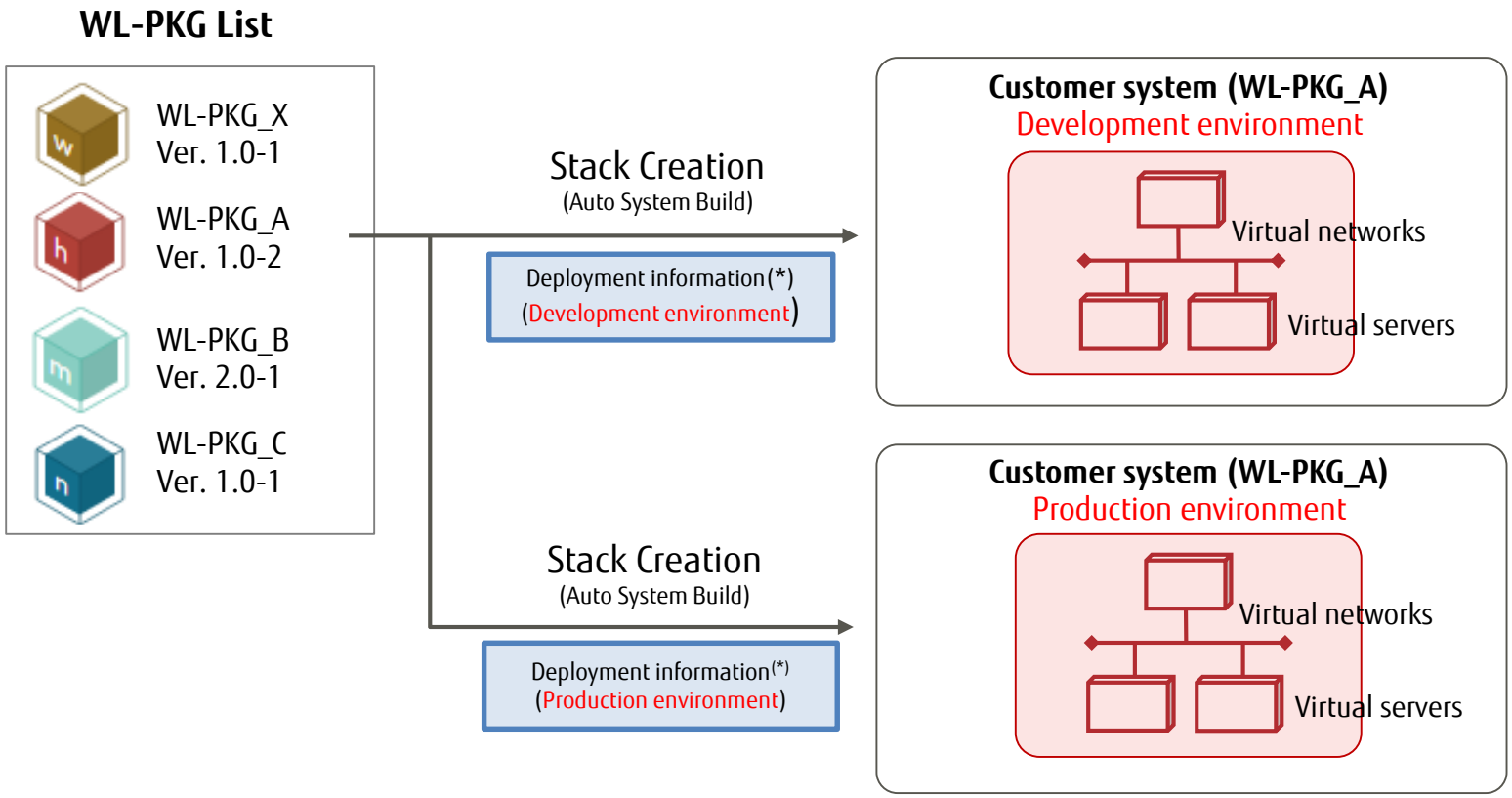
- Editing
  Detailed information relating to system configuration definitions and WL-PKG definitions can be specified and modified by editing on the embedded text editor.



Automatically generated system configuration definitions and WL-PKG definitions

WL-PKG List

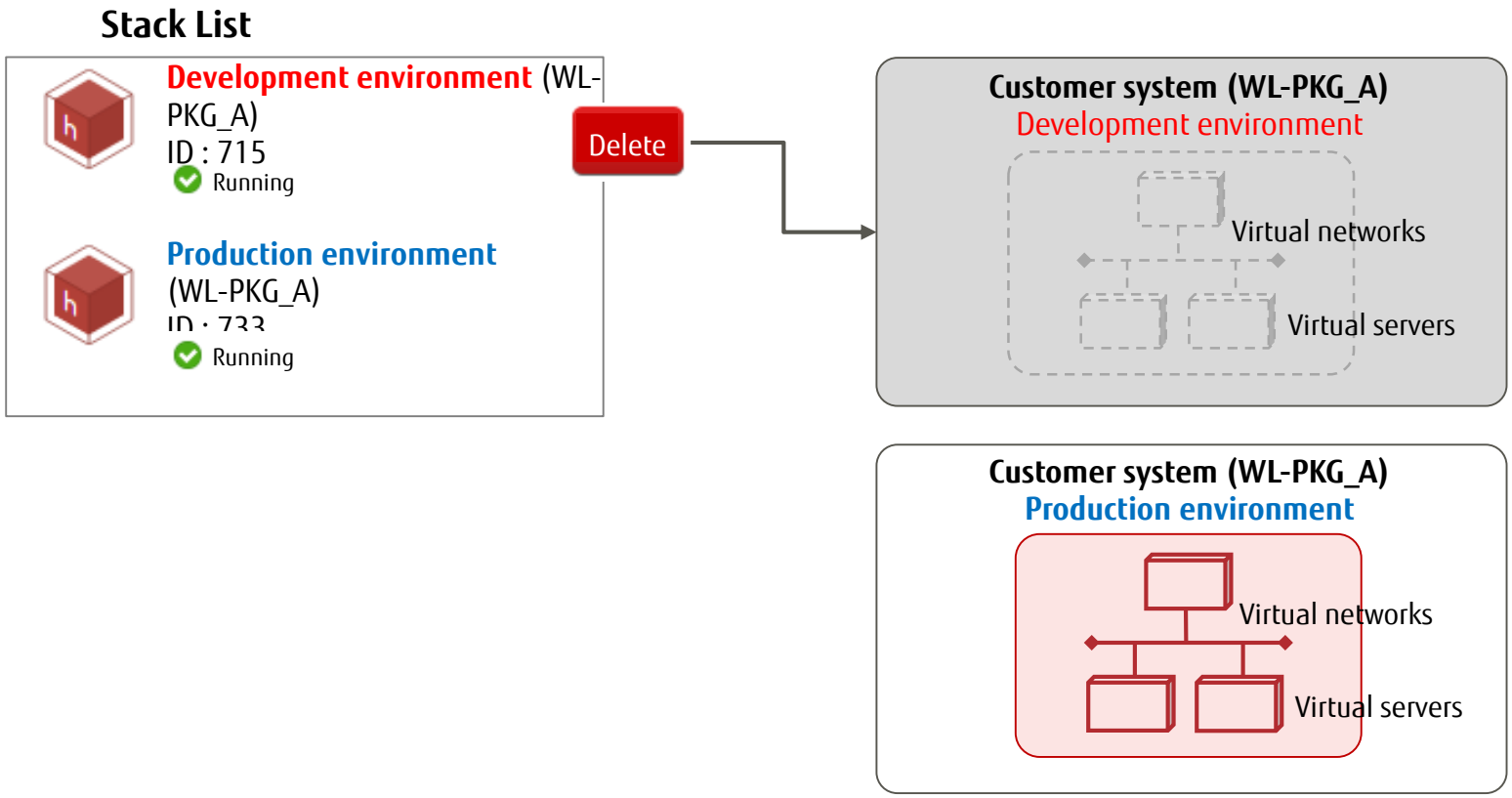
- This allows you to select a WL-PKG from the workload packages displayed in the WL-PKG list, then run stack creation on K5 IaaS (Auto System Build).
- By specifying deployment information at stack creation time, you can replicate the same system configuration for multiple K5 IaaS projects.



(*) Deployment information = Information on the Domain/Project/User ID of K5 IaaS
Currently only the default project of the user id is supported. (This restriction will be removed in later versions.)

Stack

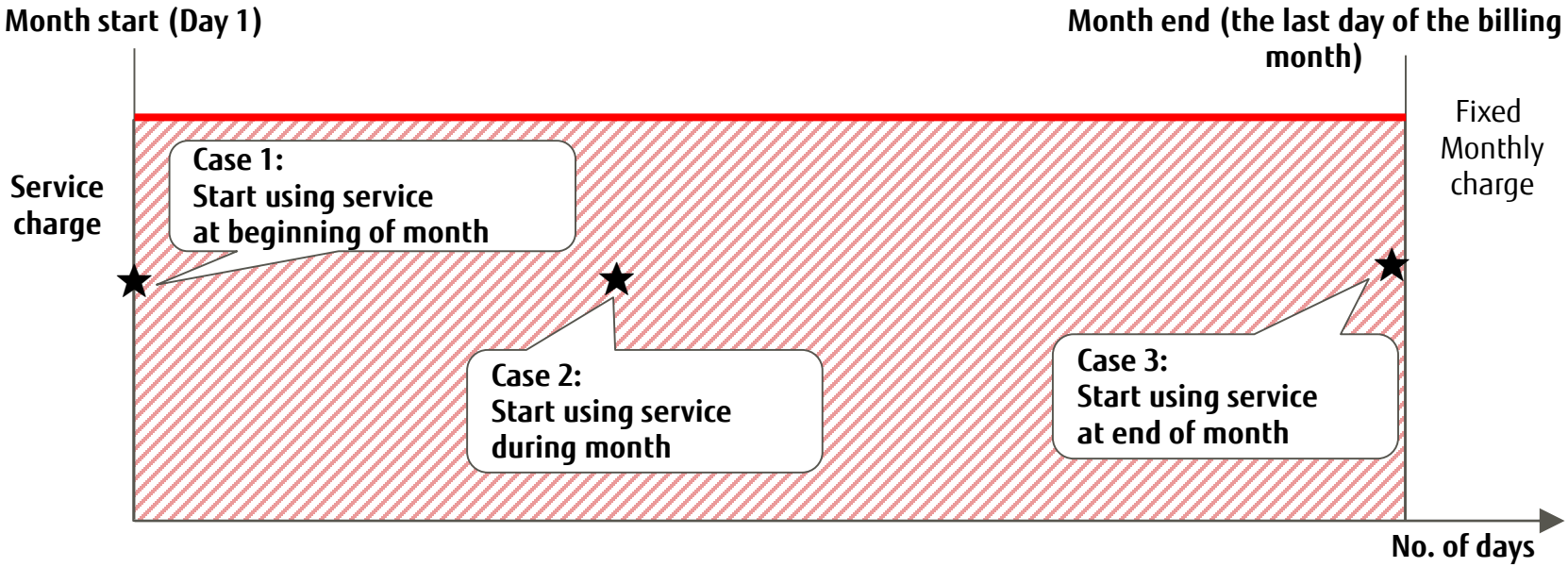
- This allows you to check the system environment (Stack) list deployed from the WL-PKG on K5 IaaS.
- You can delete multiple managed virtual servers, virtual networks, etc., in one step by deleting a stack.



Billing Model

FUJITSU

- The SF Service is billed using a fixed monthly charge.
  - Fixed charge billing starts when you start using the SF Service.
  - In any cases below, full monthly charge will be billed.



- The SF Service assumes use of the K5 IaaS service as well.
  - K5 IaaS service charge incurred for stack resources (multiple virtual servers, virtual networks, etc.) generated when using SF are charged separately from SF service charge.

Restrictions and Notes (1/2)

FUJITSU

- Refer to the Service Description on FUJITSU Cloud Service K5 Website to confirm the regions in which this service is offered.
- The time required from application to start of service is as follows:
  - Approximately seven business days from completing the application via the service settings application screen on the K5 PaaS Portal.
- This service provides 1 environment on the K5 SF under 1 contract of the K5.
- The VA generation function from scans of existing servers using Software Stack Definitions is only available for CentOS. (Other OS options will be released progressively.)
- In this service, the maximum memory capacity for storing VAs is approximately 500GB.
- Stacks can be created only in the same region as the region in which this service operates.

Restrictions and Notes (2/2)

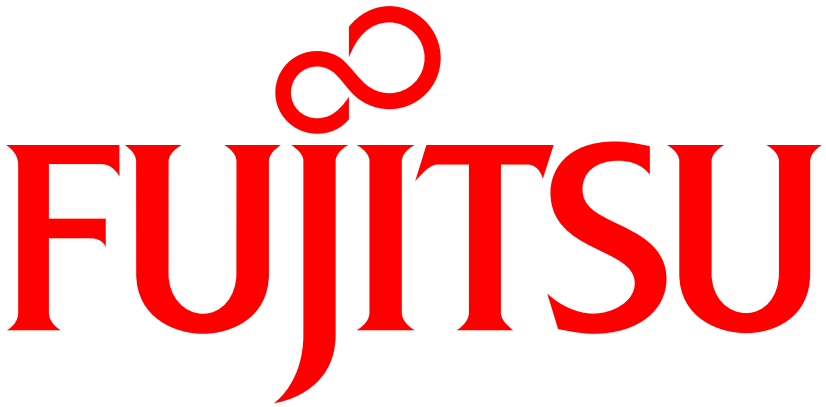
FUJITSU

- License requirements for virtual appliances created from software stack definitions.

  Some virtual appliances created from the software stack definitions may include software that will require licenses from a 3rd party.

  If you use this kind of software, please note the following:

  - Software licenses not provided as part of K5 service must be prepared by the user of the software.
  - In case of multiple virtual appliances being created from a single software stack definition, one license must be prepared for each individual appliance.
  - Please make sure to read the license condition of the software.



shaping tomorrow with you