

Service Description for Server Implementation

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1 Service Overview

As specified in the service product portfolio, the server implementation service covers a series of server equipments (E6000、X6000、RH2285、RH5485、RH2285 V2、RH2288 V2、RH2485 V2、RH2488 V2、RH5885 V2、ES2000 SSD Card) .

1.1 Service Architecture

Huawei has a solid track record in delivering high-quality server implementation service to customers. The following figure shows the architecture of the server implementation service.

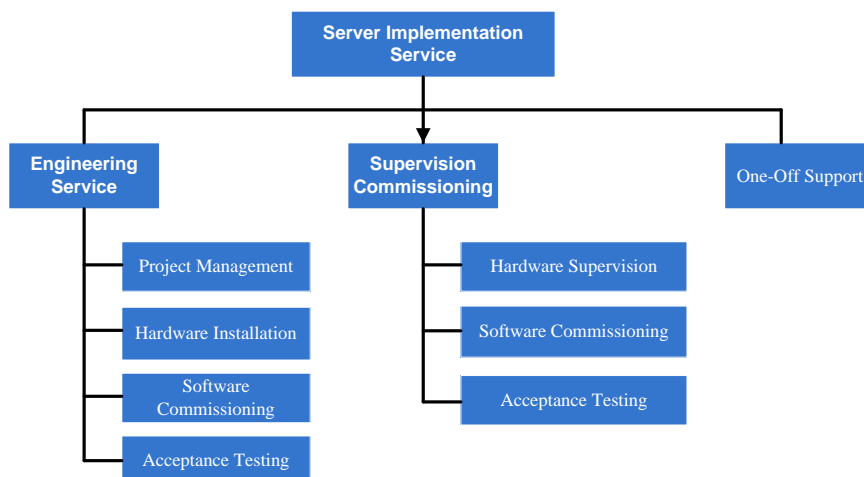


Figure 1-1: Architecture of the Implementation Service

2 Service Description

The network implementation service primarily consists of three parts: engineering service, supervision commissioning service, and one-off support service.

2.1 Engineering Service

Engineering service covers hardware installation, software commissioning, and project management. The engineering service is delivered quickly and securely by Huawei based on Huawei's corporate platforms and rich experience in engineering.

Specifically, the engineering service consists of four parts: project management, hardware installation, software commissioning, and acceptance testing.

2.2 Supervision Commissioning Service

Supervision commissioning service provides technical guidance for hardware installation and facilitates software commissioning. It consists of three parts: hardware supervision, software commissioning and acceptance testing. Huawei gives answers to product technology issues that may be raised during hardware installation, guides the installation personnel through hardware installation, verifies the installation, and helps the installation personnel correctly and quickly complete installation and commissioning tasks.

2.3 One-Off Support Service

When the customer encounters a problem and urgently needs to resolve it, Huawei can appoint experienced engineers to the customer's site, helping the customer quickly resolve the problem. This service is called one-off support service.

2.4 Service Details

2.4.1 Project Management

Definition

Project management is to monitor and manage all engineering implementation activities by following PMP and EPC processes and complying with general standards in order to ensure

that projects are completed as planned and required by the customer, without compromising project quality.

Content

Service Product	Service Module	Description	
Project management	Quality management	Project engineering quality management	
	Progress management	Project timetable management	
	Communication management	Supplier management	
		Subcontractor management	
		Customer communication	
	Cost management	Purchase cost	
		Labor cost	
	Scope management	Scope management	
	Technology management	Technology management	
	Risk management	Risk management	
Customer satisfaction management	Project service satisfaction management		

- **Quality management:** Manages the project implementation quality to ensure that the project is controllable and is implemented efficiently.
- **Progress management:** Estimates the project period, prioritizes activities, produces a progress plan and updates it, and controls the implementation of the plan.
- **Communication management:** Manages suppliers and subcontractors, communicates with the customer about project implementation, and summarizes experience.
- **Cost management:** Properly estimates the purchase and labor costs and monitors the project cost accounting to ensure that the implementation service cost remains at an appropriate level.
- **Scope management:** Manages the project scope based on Huawei's rich experience in engineering.
- **Technology management:** Manages technologies used in projects based on Huawei's technology platform and through Huawei experts who provide remote support.
- **Risk management:** Manages risks in projects, for example, giving early warnings.
- **Customer satisfaction management:** Regularly communicates with the customer about various affairs during the project implementation process to improve customer satisfaction.

Deliverables

Service Activities	Deliverables
Project management	Project quality assessment report

Service Activities	Deliverables
	Project experience summary

Responsibility Matrix

R: Responsibility

I: Information

S: Support

Service Activities	Engineering Service		Supervision Commissioning Service	
	Huawei	Customer	Huawei	Customer
Project management				
Quality management	R	S	-	R
Progress management	R	S	-	R
Communication management	R	S	-	R
Cost management	R	S	-	R
Scope management	R	S	-	R
Technology management	R	S	-	R
Risk management	R	S	-	R
Customer satisfaction management	R	S	-	R

2.4.2 Hardware Installation

Definition

Hardware installation is to install the equipment and auxiliary materials and power on them. The equipment includes the main equipment and other equipment delivered with the main equipment.

Content

The following table lists details of the hardware installation service.

Service Product	Service Module	Description
Hardware	Equipment	Subrack installation

Service Product	Service Module	Description
installation	installation	Board installation or adjustment
		Installation of modules
	Cable installation	Cable installation
		Cable adjustment
	Hardware self-check and power-on	Hardware self-check and power-on

- **Sub-rack installation:** Installs the subrack based on Huawei's engineering installation regulations and the customer's requirements. The subrack installation service may be required in scenarios such as capacity expansion and network reconstruction.
- **Board installation or adjustment:** Installs or adjusts the board according to the planned board layout (prepared by the network design phase). The board installation or adjustment service may be required in scenarios such as network construction, capacity expansion, network reconstruction, and network migration.
- **Installation of optional modules:** Installs optional modules such as SFP and XFP modules.
- **Cable installation:** Installs interconnection cables (only include the power cable, ground cable, not include the business cables).
- **Cable adjustment:** Adjusts cables that connect to the main equipment and auxiliary equipment. The cable adjustment service may be required in scenarios such as capacity expansion, network reconstruction, and network migration.
- **Hardware self-check and power-on:** Completes the quality check on the equipment against the quality checklist and modifies those unqualified items. After hardware installation is verified, powers on equipment and checks whether the indicators are functional.

Deliverables

Service Activities	Deliverables
Hardware installation	Packing list with the customer's signature
	Engineering quality inspection report
	Engineering MOU
	Hardware installation completion report

Responsibility Matrix

Service Activities	Engineering Service		Supervision Commissioning Service	
	Huawei	Customer	Huawei	Customer

Service Activities	Engineering Service		Supervision Commissioning Service	
	Huawei	Customer	Huawei	Customer
Hardware installation				
Equipment supply	R	S	S	R
Supply cables	R	S	S	R
Unpacking inspection	R	R	R	R
Confirmation on the packing list with signature	R	R	R	R
Hardware installation	R	-	S	R
Cable installation	R	-	S	R
Hardware self-check	R	-	S	R
Output of hardware-related documents	R	-	S	R

2.4.3 Software Commissioning

Definition

Software commissioning is to perform software adaptation, configuration, and commissioning on the equipment to ensure that the equipment is operational. The software commissioning service primarily covers the following:

- Prepares the network planning and design documents.
- Prepares commissioning data, tools, and instruments.
- Applies for and installs the software version and license.
- Loads configuration data.
- Performs software self-check.
- Interconnects logical links.

Content

Service Product	Service Module	Description
Software commissioning	Local commissioning	Software installation
		OS installation and basic configuration
		Data loading

Service Product	Service Module	Description
		License loading
		Software self-check
		IOT

- **Local commissioning:** Commissions a single network element (NE), mainly including the following activities:
 - Prepares the network planning and design documents.
 - Prepares equipment commissioning data, system commissioning data, and commissioning tools and instruments.
 - Applies for software version and license.
 - Adapts to software version.
 - Loads data (including license).
 - Performs software self-check.
 - **Basic software configuration: BIOS, BMC, Raid configuration.**
 - **OS installation and basic configuration: OS installation, Storage partition, IP address configuration and driver installation.**
- Note: This is a optional item which quotation should be assessed according to project environment. And the OS and license should be purchased by Huawei or customer.**
- **Software installation:** Loads or upgrades software version by following related documents.
 - **Data loading:** Loads and activates the NE configuration file by following related documents.
 - **License loading:** Loads and activates the license file by following related documents.
 - **Software self-check:** Performs software self-check by following related software quality check documents (you can download these documents from Huawei's Support website) to ensure that software commissioning is complete and correct. After self-check, provides a completion report if required.
 - **IOT:** IOT is to test the connectivity between interfaces of different pieces of equipment..

Deliverables

Service Activities	Deliverables
Software commissioning	Software version and license file
	Self-check report

Responsibility Matrix

Service Activities	Engineering Service		Supervision Commissioning Service	
	Huawei	Customer	Huawei	Customer
Software commissioning				
Preparations for equipment commissioning and system commissioning data	-	R	-	R
Preparation for commission tools and instruments	R	S	R	S
Request for and verification of software version and license	R	-	R	-
Software version adaptation	R	S	R	S
Data loading (including license)	R	S	R	S
Software self-check	R	S	R	S
IOT	R	S	R	S

2.4.4 Acceptance Testing

Definition

Acceptance testing is to perform a function test and an acceptance test of equipment hardware and software to ensure that the equipment:

- Meets the customer's most basic requirements for equipment running and maintenance
Is able to carry the customer's services.
- Runs stably for a long time at the customer's live network.

The acceptance testing service covers:

- Basic acceptance of hardware functions
- Basic acceptance of software functions
- Basic acceptance of services

Description

Service Product	Service Module	Description
Acceptance testing	Basic acceptance of hardware functions	Acceptance of basic hardware functions and redundancy design
	Basic acceptance of software functions	Acceptance of software test cases
	Basic acceptance of services	Acceptance of basic services through test cases
	Output of acceptance documents	Acceptance document archiving

- **Basic acceptance of hardware functions:** Performs an acceptance test of the basic hardware functions based on the test cases agreed with the customer or the customer's designated third party to ensure the following:
 - The quantity and type of the equipment hardware are the same as those stipulated in the contract.
 - The equipment hardware is functional.
 - The protection and redundancy functions of the equipment hardware are functional, and the equipment can operate stably for a long time at the customer's live network.
- **Basic acceptance of software functions:** Performs an acceptance test of the basic software functions based on the test cases agreed with the customer or the customer's designated third party to ensure the following:
 - The equipment software, license, and system processes are functional.
 - Basic functions necessary for equipment running and maintenance, such as maintainability, performance statistics, and redundancy protection, are provided normally.
- **Basic acceptance of services:** Performs an acceptance test of the basic services based on the test cases agreed with the customer or the customer's designated third party.
- **Output of acceptance documents:** Produces professional acceptance documents based on test cases so that the customer can easily archive them and further know about the equipment through them. These documents contain details of test cases (such as test purpose, prerequisites, procedures, expected test result, and governing protocols and standards) and signature table.

Deliverables

Service Activities	Deliverables
Acceptance test	Acceptance test guide
	Acceptance test report and acceptance signature table

Responsibility Matrix

Service Activities	Engineering Service		Supervision Commissioning Service	
	Huawei	Customer	Huawei	Customer
Acceptance testing				
Preparation for tools	R	S	R	S
PAC application	R	-	R	-
Defining of acceptance criteria, test items, and fault classification	R	R	R	R
Acceptance test based on the acceptance criteria agreed on by both parties	S	R	S	R
Confirmation on the acceptance result with signature	R	R	R	R
Output of acceptance documents	R	-	R	R

2.4.5 Hardware Supervision

Definition

Hardware supervision is to provide technical guidance during equipment installation. Huawei gives answers to product technology issues that may be raised during hardware installation, guides the installation personnel through hardware installation, and helps them correctly and quickly complete installation tasks.

Description

Service Product	Service Module	Description
Hardware supervision	Unpacking inspection	Providing guidance on unpacking the goods
		Confirming with the unpacking inspection result
	Technical guidance on hardware installation	Delivering necessary hardware installation skills training, and specifying and transferring knowledge of installation modes in various scenarios

Service Product	Service Module	Description
		Constructing exemplary sites
	Guidance on resolving hardware installation issues	Providing necessary technical support to the hardware personnel and responding to their technical inquiries
		Reporting and resolving shipment and goods issues
		Helping resolve goods damage issues during installation
	Guidance on verifying the quality of hardware installation	Helping resolve other technical issues related to hardware installation
		Providing guidance on verifying the quality of hardware installation and offering quality criteria

- **Unpacking inspection:** Provides guidance to the hardware installation personnel to unpack and inspect the goods, confirms with the customer about the unpacking inspection result, and resolves goods issues.
- **Technical guidance on hardware installation:** Gives answers to technology issues that may be raised during hardware installation through telephone or onsite support. The mode to be used, telephone or onsite support, is determined based on project conditions and the customer's requirements.
- **Guidance on resolving hardware installation issues:** Provides guidance on resolving goods issues, for example, poor quality, during hardware installation and gives answers accordingly.
- **Guidance on verifying the quality of hardware installation:** Provides guidance on verifying the quality of hardware installation to ensure that the quality meets the customer's requirements.

**NOTE**

1. The hardware supervision service only provides technical support and does not cover detailed hardware installation operations and activities.
2. The hardware supervision service and the hardware installation service must not be provided simultaneously.
3. The engineering service does not contain any supervision service. The Supervision commissioning service only provides the hardware supervision service.