

# **Customer Questionnaire for Virtual and Cloud Deployment**

**Ericsson Dynamic Activation 1**

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# 1 General

This document contains questions about site and customer specific parameters needed to configure the Ericsson™ Dynamic Activation (EDA) system and its components on virtual deployments. This document also contains questions regarding the site status which will be the foundation for a decision when the actual implementation will begin.

**The parameter values must be filled in by customer.**

This document may be used by installation personnel or customers that want a complete description of the Dynamic Activation parameters and its components that are site and customer specific.

## 1.1 Introduction

This document lists the parameters which have no proposed default value at the installation or will have a different value than the proposed default value.

The parameters in this document can be of three types:

1. P - Predefined, not possible to change.
2. C - Customer configured after discussions with Ericsson.
3. S - Site specific parameters.

## 1.2 Survey

In order to improve the product quality, you are welcome to participate in the Dynamic Activation upgrade survey program. After upgrading, please take the link below to the survey page:

<https://ericoll.internal.ericsson.com/sites/SDPsurvey/Lists/EDA%20InstallationUpgrade%20Survey/>

If you encounter any problem, please contact Tier 2 support for assistance.

## 2 Field Related

In this chapter site related questions will be asked which are necessary for the installer to perform the actual installation.

### 2.1 Site Unique Number

The IPB Number uniquely represents an installation at the site. The IPB Number is only known by the customer if an upgrade is to be performed.

If it is a new system an IPB Number will be appointed to the site.

**Table 1: Site Unique Number**

Parameter	Description	Value	Type
<IPB Number>	The IPB number will be of format IPB 12345678.		S
<Dynamic Activation version>	If an upgrade is to be performed.		S

### 2.2 Ericsson Contact Information

In this chapter an Ericsson contact person if applicable must be stated. Please state Name of person, which Role will have during implementation, E-mail address and Phone Number.

Each contact person must be notified about the implementation of Dynamic Activation and be available during the weeks of implementation activity.

**Table 2: Ericsson Contact**

Name	Role	E-Mail	Phone

**Note :** At least one of the persons stated in *Table 2* must be the person who will sign of the Acceptance Test report. Highlight this person in the above contact list.

**Table 3: Ericsson Office Address**

Street
City
Phone

## 2.3 Customer Information

### 2.3.1 General Information

**Table 4: General Information**

Operator Name	
Country	
Address	
Main Contact	
E-mail	
Phone Number	

### 2.3.2 Planning

**Table 5: Planning Information**

Target Launch Date	
Number of Subscribers	
Address	
Main Contact	
E-mail	
Phone Number	

### 2.3.3 Contact Information

The project manager at the operator must be stated (If applicable).

**Table 6: Project Manager Information**

Name	
Telephone	
Mobile	
E-mail	

### 2.3.4 Site Location

**Table 7: Location Information**

Location	
Address	
Site Access Information	

## 2.4 Check List

In this chapter questions will be asked related to site status. Please answer YES or NO. If NO, then state the expected date when it will be ready.

**Table 8: Check List**

Question	Answer <sup>1</sup>	Date
Is the hypervisor, Cloud Execution Environment (CEE) or OpenStack installed, depending on which is applicable?		
Are all available Network Elements (NEs) that are to be connected to Dynamic Activation configured to handle Dynamic Activation connection?		
Are all NEs reachable through IP network connection from where Dynamic Activation is to be placed?		
Are there test numbers available for each NE to be used in acceptance testing of Dynamic Activation?		
Are all personnel listed in the chapter "Customer Contacts" chapter notified and available during the period of integration of Dynamic Activation?		

<sup>1</sup> If any of the questions are answered with no, please make a note of the reason.

## 3 Installation of Dynamic Activation

This chapter covers information that needs to be answered for Dynamic Activation configuration. For information about the different parameters and their types, see [ref \[3\] in References](#)

**Table 9: Site Information**

Parameter	Description
Miscellaneous	Fill in the values in <a href="#">chapter 8.1.1 Miscellaneous</a> .

**Table 10: Integration Information**

Parameter	Description
IP Network Configuration	Fill in the values in chapter <a href="#">9.2.1 Virtual Network Interface Configuration</a>
Configuration Parameters for CEE	Fill in the values in chapter <a href="#">9.3 Integration Information for CEE</a>
Configuration Parameters for OpenStack	Fill in the values in chapter <a href="#">9.4 Integration Information for OpenStack</a>
Virtual Machine Topology	Fill in the values in chapter <a href="#">10. Virtual Machine Topology</a> .
Open Ports	Fill in the values in chapter <a href="#">8.2.3. Open Ports</a> .
IP Address Information	Fill in the values in chapter <a href="#">8.2.1 IP Address External Connections</a> .
Virtual Host Platform Information	Fill in the values in chapter <a href="#">8.1.2 Virtual Host Platform Information</a>
Licensing	Fill in the values in chapter <a href="#">8.1.3 Licensing</a> .
SNMP Parameters	Fill in the values in chapter <a href="#">8.2.2 SNMP Parameters</a> .

## 4 Core Network

In this chapter you need to make a network plan of which NEs are to be connected to Dynamic Activation. Specify what NE type the network plan represents, which protocol is to be used and also if there are some customer adaptations.

See Function Specification Subscriber Activation [ref \[1\] in References](#) for information about supported NEs and protocols available in Dynamic Activation.

Also see [APPENDIX A: Common Parameters](#) for information about the information needed for each NE.



**Customer Network Plan of Dynamic Activation -> Core Network Configuration**

## 5 Network Element Table

Fill in function type and version of the network element in table below. For information of supported network elements, see Function Specification Subscriber Activation, [ref \[1\] in References](#).

Table 11: Network Element Table

NE	Name	Version	Protocol	User/Password	Other



## **7 Other Important Information**

Make a note of other information that can be valuable during installation/configuration of Dynamic Activation.

## 8 APPENDIX A: Common Parameters

This chapter is only applicable to Dynamic Activation and contains common parameters applicable for Linux Virtual Server (LVS) solution.

### 8.1 Site Information

This section covers common information relating to the connectivity and configuration of Dynamic Activation.

#### 8.1.1 Miscellaneous

**Table 13: Time Zone Information**

Time Zone	
What time zone should be configured?	<TIMEZONE>
NTP Primary Address	
NTP Secondary Address (Optional)	

**Table 14: Virtual Router for VRRP**

Virtual Router ID for VRRP implementation	
Virtual Router ID	

**Table 15: Domain Name System**

Domain Name System	
DNS Primary Address (Mandatory)	
DNS Secondary Address (Optional)	

## 8.1.2 Virtual Host Platform Information

**Table 16: Virtual Host Platform Information**

Virtual Host Platform Information	
Host hardware specification	
Host Operation System (not applicable for ESXi Hypervisor, CEE or OpenStack)	
Linux kernel version (not applicable for ESXi Hypervisor, CEE or OpenStack)	
QEMU/KVM, VMware ESXi, CEE, OpenStack version	

## 8.1.3 Licensing

**Table 17: Licensing**

Licensing	
Is a license key ordered for the Dynamic Activation feature? (Yes/No)	
Notification E-mail From Address	
Notification E-mail To Address (several may be specified)	
SMTP Server Host Address	
SMTP Server Port Number	
Use SMTP Authentication (Yes/No)	
SMTP User Name	
SMTP Password	

## 8.2 Integration Information

### 8.2.1 IP Address External Connections

**Table 18: Primary CUDB over LDAP Connection**

CUDB Server Address	
CUDB Server Port	
User Name	
User Password	
RootDN	

**Table 19: Secondary CUDB over LDAP Connection**

CUDB Server Address	
CUDB Server Port	
User Name	
User Password	
RootDN	

**Table 20: Tertiary CUDB over LDAP Connection**

CUDB Server Address	
CUDB Server Port	
User Name	
User Password	
RootDN	

**Table 21: HLR-FE #1 over TELNET Connection**

HLR-FE Address	
HLR-FE Port	
User Name	
User Password	

**Table 22: HLR-FE #2 over TELNET Connection**

HLR-FE Address	
HLR-FE Port	
User Name	
User Password	

**Note:** There might be more HLR-FEs. Address, Port, User Name and Password must be entered for all HLR-FEs.

**Table 23: AUC-FE #1 over TELNET Connection**

AUC-FE Address	
AUC-FE Port	
User Name	
User Password	

**Table 24: AUC-FE #2 over TELNET Connection**

AUC-FE Address	
AUC-FE Port	
User Name	
User Password	

**Note:** There might be more AUC-FEs. Address, Port, User Name and Password must be entered for all AUC-FEs.



**Table 25: HSS-FE #1 over SOAP Connection**

HSS-FE Address	
HSS-FE Port	
User Name	
User Password	

**Table 26: HSS-FE #2 over SOAP Connection**

HSS-FE Address	
HSS-FE Port	
User Name	
User Password	

**Note:** There might be more HSS-FEs. Address, Port, User Name and Password must be entered for all HSS-FEs.

### 8.2.2 SNMP Parameters

This table should be completed if an SNMP Network Manager is available and should be connected to the Dynamic Activation system.

**Table 27: SNMP Parameters**

Community	
Write Community	
Trap Destination Host IP	
Trap Port	
Trap Version	

**Note:** The SNMP IP address is used by SNMP utilities like snmpwalk to examine the system.  
The Trap Destination Host IP is the IP address of the server that receives SNMP traps from the Dynamic Activation system.

### 8.2.3 Open Ports

For a list of external ports that need to be open in the firewall, see System Administrators Guide for Native Deployment, [ref \[2\] in References](#).

## 9 APPENDIX B: Specific Parameters - with VIP

This chapter contains specific parameters applicable for a Dynamic Activation system with VIP solution.

### 9.1 Site Information

For information see chapter [8.1 Site Information](#).

### 9.2 Integration Information for KVM

#### 9.2.1 Virtual Network Interface Configuration

Provisioning and O&M traffic can be run:

- separately over two network interfaces.
- together over one network interface.

If they are run separately, three bridge network interfaces need to be configured on host level.

If run together on the same network interface, two bridge network interfaces need to be configured on host level.

If VLAN tagging is used, tagging must be performed in the server that is hosting the Virtual Machines (VMs).

**Table 28: Bridge Interfaces\*\***

Description	Bridge Interface Name
Internal network	
Traffic Bridge *	
O&M Bridge	

\* Only applicable when provisioning traffic and O&M traffic is to be kept separately. Otherwise, leave this empty.

**NOTE!** If IPv6 is used for one of the applicable parameters in the table below, all IPv6 parameters throughout this document become mandatory.

**Table 29: Load Balancer Configuration**

Type	Parameter	IP Address
Internal	Internal VIPv4	
	Private VIPv6 (Optional)	
External	O&M VIPv4	
	Traffic VIPv4*	
	O&M VIPv6 (Optional)	
	Traffic VIPv6* (Optional)	

\* Only applicable for deployments when provisioning traffic and O&M traffic is to be kept separately. Otherwise, leave this empty.

The number of IP addresses on provisioning and operation & maintenance networks, is dependent on number of VMs.

**NOTE!** O&M VIP must reside in the O&M network, and Traffic VIP must reside in the provisioning traffic network.

**NOTE!** The Internal VIP must reside in the Internal network.

**NOTE!** If IPv6 is used for one of the applicable parameters in the table below, all IPv6 parameters throughout this document become mandatory.

**Table 30: Subnets**

Type	Subnet Name	Subnet	Netmask	Prefix
Internal	PRIVATE-IPv4-NW *	____.____.____.____	/	N/A
	PRIVATE-IPv6-NW * (Optional)	N/A	N/A	/
External	PROVISIONING-TRF-IPv4-NW	____.____.____.____	/	N/A
	PROVISIONING-TRF-IPv6-NW (Optional)	N/A	N/A	/
	O&M-IPv4-NW	____.____.____.____	/	/
	O&M-IPv6-NW (Optional)	N/A	N/A	/
	Management network gateway-IPv4	____.____.____.____	N/A	N/A
	O&M-IPv4-dhcp-pool-start address	____.____.____.____	N/A	N/A
	O&M-IPv4-dhcp-pool-end address	____.____.____.____	N/A	N/A
	VLAN ID (for the management network)	____.____.____.____	N/A	N/A

\* The address on the private network do not need to be routable outside the virtual cluster. IPv6 is optional.

**Table 31: Domain Name**

Type	IP Address
Domain	

Domain is the name of the domain that the nodes in the virtual cluster will belong to. For example *epk.ericsson.se*

## 9.3 Integration Information for CEE

### 9.3.1 Configuration Parameters for CEE Infrastructure

Parameter	Value	Description	Mandatory/optional
Stack Name		Name of the infra stack to be created	Mandatory
Management/provisioning network address		The address for the network in which Multi Activation must expose its public addresses. Must be at least a size /28 network.	Mandatory
Management network gateway		The address to the gateway of the management network. This is often the first address in the network.	Mandatory
Public Management DHCP net pool start		<p>Start of management network IP address allocation pool for dynamic allocation of Multi Activation external interfaces.</p> <p>Normally the first IP address is allocated to the vrrp gateway in the CMXes and the following two are the CMX-26 and CMX-28 IP addresses.</p>	Mandatory
Public Management DHCP net pool end		<p>End of management network IP address allocation pool for dynamic allocation of Multi Activation external interfaces.</p> <p>The last IP address is used for broadcast.</p>	Mandatory
VLAN ID (Customer Edge Router)		The <b>VLAN ID</b> configured in the customer edge router for the management network.	Mandatory
Internal Network Address		The address for the internal network in which Multi Activation internal interfaces will reside. Must be at least a size /24 network.	Mandatory

### 9.3.2 Configuration Parameters for CEE Cluster

Parameter	Value	Description	Mandatory/optional
Stack Name		Name of the cluster stack to be created	Mandatory
Instance hostname prefix		The prefix that will be used in the beginning of the host names of all EDA VM instances. A node number postfix will also be added to complete hostnames, -1, -2, -3, -4, etc.	Mandatory
Virtual Router ID		Virtual router ID, must be unique when deploying several vEMA cluster in the same subnet. Value 0-255	Mandatory
Ephemeral size		Size of the ephemeral disk that will be attached to each Multi Activation VM running Cassandra (node-1, node-2, node-3)	Mandatory
Number of EDA instances in addition to the minimum 3 mandatory instances		Additional EDA instances to be deployed. 1 will create 4 in total, 2 will create 5 in total etc.	Mandatory
EDA VM flavor		EDA flavor to be used for all instances in the cluster	Mandatory
Availability Zone		Choose in which Zone the EDA cluster will be deployed in	Mandatory
VM TimeZone		Time zone where the Multi Activation system will be located.	Mandatory
NTP Server IP		Ip address for the external NTP server	Mandatory
DNS Primary IP		Ip address for the external DNS server	Mandatory
Redundant NTP server IP		Ip address for the redundant external NTP server, if not used leave the default value	Optional
Redundant DNS Server IP		Ip address for the redundant external DNS server, if not used leave the default value	Optional

## 9.4 Integration Information for OpenStack

### 9.4.1 Configuration Parameters for OpenStack Infrastructure

Parameter	Value	Description	Mandatory/optional
Stack Name		Name of the infra stack to be created	Mandatory
Name of provider Network		Name of the external/provider network	Mandatory
Management/provisioning network address		Internal network handling provisioning and O&M operations	Mandatory
Internal network address		Internal network handling all internal communication between the instances	Mandatory

## 9.4.2 Configuration Parameters for OpenStack Cluster

Parameter	Value	Description	Mandatory/optional
Stack Name		Name of the cluster stack to be created	Mandatory
VM hostname prefix		The prefix that will be used in the beginning of the host names of all EDA VM instances. A node number postfix will also be added to complete hostnames, -1, -2, -3, -4, etc.	Mandatory
Name of provider Network		Name of the external/provider network	Mandatory
EDA cluster VRID		Virtual router ID, must be unique when deploying several vEMA cluster in the same subnet. Value 0-255	Mandatory
Name of the vEDA image		Image name for deploying EDA compute instance	Mandatory
EDA VM flavor		EDA flavor to be used for all instances in the cluster	Mandatory
Availability Zone		Choose in which Zone the EDA cluster will be deployed in	Mandatory
Volume Size		Size of the blockstorage that will be created and attached to node-1, node-2 and node-3. Used by cassandra	Mandatory
Number of EDA instances in addition to the minimum 3 mandatory instances		Additional EDA instances to be deployed. 1 will create 4 in total, 2 will create 5 in total etc.	Mandatory
VM TimeZone		The timezone to be set on VM's	Mandatory
NTP server IP		Ip address for the external NTP server	Mandatory
DNS server IP		Ip address for the external DNS server	Mandatory
Redundant NTP server IP		Ip address for the redundant external NTP server, if not used leave the default value	Optional
Redundant DNS server IP		Ip address for the redundant external DNS server, if not used leave the default value	Optional



## 10 Virtual Machine Topology

For CEE/OpenStack deployments this section can be ignored since these things are managed automatically.

Different parameters need to be provided to setup the right Virtual Machine Topology. Both single node setup and cluster setup is supported. Fill in Virtual Machine configurations in Table 32:

**NOTE!** A cluster setup must consist of at least 3 VMs.

**NOTE!** If IPv6 is used for one of the applicable parameters in the table below, all IPv6 parameters throughout this document become mandatory.

**Table 32: Virtual Machine Configuration\*\*\***

VM-name	Node Id *	Hostname	Ram (GB)	vCPU (cores)	Private IPv4/ IPv6 Address	Public O&M IPv4/ IPv6 Address	Public Traffic IPv4/ IPv6 **

\* Numeric Id

\*\* Only used for the nodes with Node Id 1 and 2. If Provisioning Traffic and O&M Traffic are run together, on the same network interface, leave this empty both for node 1 and node 2.

\*\*\* Not applicable for CEE/OpenStack deployments since this is managed automatically.

## 11 High Availability Characteristics

In order to achieve high availability characteristics, the VMs with node id 1, 2, and 3 must be located on different physical hosts.

## 12 References

- [1] Function Specification Subscriber Activation  
3/155 17-CSH 109 628
- [2] System Administrators Guide for Virtual Deployment  
3/1543-CSH 109 628
- [3] Parameter List for Virtual Deployment  
3/1057-CSH 109 628
- [4] Parameter List for CEE Deployment  
6/1057-CSH 109 628