

Infrastructure Adaptation

DESCRIPTION

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1 Understanding Infrastructure Adaptation

1.1 Key Infrastructure Adaptation Concepts

This description covers changes of fundamental parameters related to the Transport managed area, and how these changes can affect the service availability of the Managed Element (ME). These parameters only need to be modified after system deployment in exceptional cases, for example, because of an upgrade of infrastructure HW, or rearrangement of the Network Time Protocol (NTP) structure.

The Infrastructure Adaptation Management here concerns the following operations:

- Change of NTP server address.
- Change of Maximum Transmission Unit (MTU) size.

Admonition texts in the specific Operating Instructions indicate the risks and disturbance impact in each case, for example, whether a cluster reboot is needed.

1.2 Change of NTP Server Address

Network Time Protocol (NTP) is a commonly used network protocol for time synchronization in computer networks. Each NTP server has its own IP address. These IP addresses are not Virtual IP addresses.

On the Network Element (NE) side the NTP Server associations which are configured in the Managed Element (ME) are used to identify which NTP servers to retrieve network time from. In the ME, an NTP association can be locked as part of a maintenance activity so that the ME no longer synchronizes its time with its corresponding time server. The NTP associations in the ME can be removed, added, or modified as part of network rearrangement activities.

1.3 Change of MTU Size

The ME setting of this parameter only concerns a NE which is deployed with the embedded Virtual IP (VIP) addressing framework. The upper limit for this MTU parameter depends on the internal infrastructure upon which the NE is deployed. In addition, headroom is required for internal functions, which consume an extra 48 bytes for internal packet encapsulation.

For example, in case the default value of this parameter, which is 1452 bytes, is changed to 1500 bytes, the internal switching infrastructure must be able to accommodate a payload of at least 1548 bytes in its Ethernet frames.



2 Basic Infrastructure Adaptation Procedures

Virtual IP Addressing supports the following operations described in OPIs:

- *Change NTP Address*

This instruction describes how to change the Network Time Protocol (NTP) server address.

The procedure consists of the following main steps:

- 1 Performing backups of the current system configuration
- 2 Changing an NTP server address
- 3 Performing backups of the new system configuration

- *Change Maximum Transmission Unit Size*

This instruction describes how to change the Maximum Transmission Unit (MTU) size.

Default is 1452 bytes, as the system internal IPv6 tunnels add an overhead of 48 bytes.

The default value works for the widest variety of available Ethernet switching infrastructure hardware and there is in general no need to deviate from the default value.

Note: Changing the value in-service requires a cluster reboot, causing an interruption of service.