

MTAS Upgrade Information from 1.0 to 1.2 MTAS

UPGRADE INFORMATION

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1 Introduction

This document describes procedures for how to upgrade virtualized MTAS from 1.0 to 1.2.

This document is to be used when planning upgrades on customer sites.

Scope

This document covers the following topics:

- Upgrade Prerequisites
- Upgrade Preparation
- Upgrade Procedure
- Configuration
- Post Upgrade Procedure
- Rollback Procedure

Target Groups

This software upgrade procedure is normally carried out by (or overseen by) Ericsson maintenance personnel.

Line Breaks in the Document

Long commands and paths are broken into separate lines to make reading easier. Where "\n" is used at the end of a line, copy the lines together.

In Ericsson Command-Line Interface (ECLI), "\n" cannot be used as a line connector; instead, line breaks are indicated with the "⇒" (arrow) symbol. This is not part of the command or path — do not copy multiple lines at once, and do not put space at the end of the lines when copying, just continue with the next line.

1.1 Prerequisites

This section describes the prerequisites which must be fulfilled before performing the MTAS upgrade.



1.1.1 Licenses

Make sure that needed licenses are installed before the installation of the MTAS upgrade packages.

1.1.2 DRBD Resynchronization

Due to DRBD synchronization issue with MTASv RB_5.3 R3B01: CXP9025660/9 R3B01 image redeployment and force DRBD resynchronization is needed before performing upgrade.

The following steps must be performed after successful redeployment:

1. Check which SC has DRBD secondary role by logging in to SC-1:

```
drbd-overview
```

Example:

```
SC-1:~ # drbd-overview
0:drbd0/0 Connected Primary/Secondary UpToDate/UpToDate
C r----- lvm-pv: lde-cluster-vg 181.87g 91.00g
```

The above example means that SC-1 has primary role and SC-2 has secondary role.

Note: SC-2 does not necessarily hold the secondary role.

2. Log in to the SC having the DRBD secondary role and force DRBD resynchronization:

```
drbdadm invalidate all
```

3. Monitor the progress of DRBD synchronization:

```
drbd-overview
```

4. Wait until the synchronization is finished.

Example

The following example shows when synchronization is finished:

```
SC-1:~ # drbd-overview
0:drbd0/0 Connected Primary/Secondary UpToDate/UpToDate
C r----- lvm-pv: lde-cluster-vg 181.87g 91.00g
```

1.1.3 Update of Charging System

Update the charging system, if applicable, with the new charging XML files to prepare for the new charging AVPs and enumeration values.



Note: Use the described charging system instead of Multi-Mediation (MM) as the MTAS can interact with other types of charging systems.

To perform the charging system update, refer to the following document:

- *MTAS Charging Management Guide*, Reference [5]

For more details of the XML specifications, refer to the following files:

- *MTAS, Communication Details, 3GPP R7 XML*, Reference [4]
- *MTAS, Offline Charging, 3GPP R7 MM XML*, Reference [9]
- *MTAS, Offline Charging, 3GPP R9 MM XML*, Reference [10]
- *MTAS, Offline Charging, 3GPP R12 MM XML*, Reference [11]
- *MTAS, Online Charging, 3GPP R7 MM XML*, Reference [12]
- *MTAS, Online Charging, 3GPP R9 MM XML*, Reference [13]
- *MTAS, Online Charging, 3GPP R12 MM XML*, Reference [14]

1.1.4 Hardware and Software Required

This section describes the required hardware and software.

Network Element Version

This instruction applies to the following Network Elements (NEs):

- MTAS 1.0: CXP9025660/9 R3C01

Hardware Configurations

The supported Hardware (HW) configurations are as follows:

- Virtualized MTAS can run on any hardware supported by the hypervisor.

From Software Configuration States

- MTAS 1.0: CXP9025660/9 R3C01

Platform Level

- BRF-C, CXP9018859_2, R1A008
- COM, CXP9028493/1, R1A06
- COREMW COMMON, CXP9017566/2, R1B01



- DBS, CXC1738069/5, R1B07
- EVIP, CXP9017652/3, R1A15
- LEM, CXP9050134/4, R1B07
- SS7 CAF, ANA90137/4, R4A115
- vDicos, CXC1737628/4, R1B07

To Software Configuration States

- MTAS 1.2: CXP9025660/9 R4E01

Platform Level

- BRF-C, CXP9018859_2, R1C
- COM, CXP9028493/1, R1C01
- COREMW, CXP9020355/2, R1D01
- DBS, CXC1738069/5, R
- EVIP, CXP9020395/3, R1C03
- LEM, CXP9025257/4, R1C02
- SS7 CAF, ANA90137/4, R4B
- vDicos, CXP9025265/4, R1D03

1.1.5

Documents

Before starting this procedure, ensure that the following information or documents are available:

- Information (facts) as, node name, software version, platform, operating system, and hardware.
- Information about IP addresses, usernames and passwords, how to collect data and log files, refer to the following document:
 - *Data Collection Guideline for MTAS*, Reference [3]
- Information about how to make backup and restore procedures, refer to the following document:
 - *System Backup and Restore* , Reference [16]
 - *Restore Backup* , Reference [15]
 - *Create Backup*, Reference [1]



- Some of the recovery steps require physical access to the nodes for pressing buttons, replacing hardware, and so on. For information on physical access and handling, refer to the following documents:

- *MTAS Health Check*, Reference [7]

1.1.6 Tools

The following tools must be available before performing any procedure in this document:

- A workstation (laptop) with SSH and SCP or FTP client, and a web browser.

1.1.7 Conditions

The upgrade is supported with a 30% average CPU load traffic limit on the Pay Load Blades.

1.1.8 Prerequisites for Upgrading MTAS with Network Redundancy

1. The IMS network must be configured for AS failover. That is the AS FQDN has to have at least two DNS entries, one per used MTAS. For information on how to configure MTAS for Dynamic Allocation, refer to sections *Configuration for Dynamic Allocation* and *DNS Based Redundancy and Load Sharing of External Server Nodes* in the following document.
 - *MTAS External Network Configuration*, Reference [6]
2. Verify that the intended secondary MTAS node(s) is/are operational by following the MTAS Health Check procedure, refer to the following document:
 - *MTAS Health Check*, Reference [7]

1.2 Limitations and Workarounds

Provisioning is not allowed during the upgrade as configuration changes during upgrade can cause problems.

It is not supported to use AppTrace during software upgrade.

The diameter link may restart and so there may be traffic loss and new alarms may be generated.



1.3 Related Information

MTAS Trademark information, typographic conventions, definitions, and explanation of acronyms and terminology can be found in the following documents:

- *Glossary of Terms and Acronyms*, Reference [2]
- *Trademark Information*, Reference [17]
- *Typographic Conventions*, Reference [18]

Impact of upgrade, rollback, and parameter changes can be found in the following documents:

- *Virtualized MTAS Network Impact Report from 1.0 R1A to 1.2 R2A*, Reference [8]

1.4 Revision Information

This is the first release of this document.



2 Upgrade Overview

This section describes the upgrade, and a possible rollback, from an impact point of view.

Down Time

No down time is expected during the upgrade.

Traffic Loss

During the upgrade the following traffic loss is expected:

- Rejected traffic: None
Three Party (3PTY) sessions and conferences are lost.
- Disconnected traffic: None

Service Disturbances

Stable calls stay connected during the upgrade.

2.1 Impact of Upgrade

This section describes the impact of the upgrade.

Operation and Maintenance

The upgrade has the following impact on the operation and maintenance of the system:

- Alarms
The following alarms can appear, but are automatically resolved:
 - VipOspf Unavailable
- Notifications or Events
The following notifications appear during or after the upgrade procedure:
 - Capsule Abortion

These notifications require no actions.



- Counters

The error counters are expected to increase during the upgrade.

Provisioning

Provisioning is not supported during the upgrade.

Charging

No impact.

Security

Security is not treated in this document.

End Terminals

No impact.

Database Handling

No impact.

Dependencies to Other Nodes

This subsection describes the impact on the dependencies to other nodes during the upgrade.

The external interfaces are impacted as follows by the upgrade:

For more information about new, modified, obsolete, or temporary parameters during the upgrade, refer to the following documents:

- *Virtualized MTAS Network Impact Report from 1.0 R1A to 1.2 R2A*, Reference [8]

Other Impacts

No other impacts.

2.2 Impact of Rollback

This section describes the impact of a possible rollback, in case the upgrade is not concluded in a satisfactory manner.

**Traffic Loss**

See Section Traffic Loss on Page 7.

Service Disturbances

See Section Service Disturbances on Page 7.

Provisioning

See Section Provisioning on Page 8.

Charging

See Section Charging on Page 8.

Security

See Section Security on Page 8.

End Terminals

See Section End Terminals on Page 8.

Database Handling

No Impact.

Rollback Dependencies on Interaction with Other Nodes

See Section Dependencies to Other Nodes on Page 8.

Other Impacts

No impact.





3 Parameter Changes

This section describes the parameters which are new, modified, or made obsolete, during the upgrade.

For more information about new, modified, obsolete, or temporary parameters during the upgrade, refer to the following documents:

- *Virtualized MTAS Network Impact Report from 1.0 R1A to 1.2 R2A*, Reference [8]





Reference List

Ericsson Documents

- [1] *Create Backup*
OPERATING INSTRUCTIONS, 3/1543-APA 901 44/1
- [2] *Glossary of Terms and Acronyms*
TERMINOLOGY, 1/0033-AVA 901 29/9
- [3] *Data Collection Guideline for MTAS*
OPERATING INSTRUCTIONS, 70/1543-AVA 901 29/9
- [4] *MTAS, Communication Details, 3GPP R7 XML*
PROCESSING SPEC., 4/190 04-AVA 901 18
- [5] *MTAS Charging Management Guide*
OPERATING INSTRUCTIONS, 3/1553-AVA 901 29/9
- [6] *MTAS External Network Configuration*
USER GUIDE, 43/1553-AVA 901 29/9
- [7] *MTAS Health Check*
OPERATING INSTRUCTIONS, 53/1543-AVA 901 29/9
- [8] *Virtualized MTAS Network Impact Report from 1.0 R1A to 1.2 R2A*
NETWORK IMPACT REPORT, 17/109 48-AVA 901 29/9-2
- [9] *MTAS, Offline Charging, 3GPP R7 MM XML*
TECHNICAL DOCUMENT, 2/190 04-AVA 901 18
- [10] *MTAS, Offline Charging, 3GPP R9 MM XML*
TECHNICAL DOCUMENT, 5/190 04-AVA 901 18
- [11] *MTAS, Offline Charging, 3GPP R12 MM XML*
TECHNICAL DOCUMENT, 15/190 04-AVA 901 18
- [12] *MTAS, Online Charging, 3GPP R7 MM XML*
TECHNICAL DOCUMENT, 3/190 04-AVA 901 18
- [13] *MTAS, Online Charging, 3GPP R9 MM XML*
TECHNICAL DOCUMENT, 6/190 04-AVA 901 18
- [14] *MTAS, Online Charging, 3GPP R12 MM XML*
TECHNICAL DOCUMENT, 16/190 04-AVA 901 18
- [15] *Restore Backup*
OPERATING INSTRUCTIONS, 13/1543-APA 901 44/1



- [16] *System Backup and Restore*
DESCRIPTION, 5/1551-AVA 901 29/9
- [17] *Trademark Information*
LIST, 2/006 51-AVA 901 29/9
- [18] *Typographic Conventions*
DESCRIPTION, 1/1551-FCK 101 05

Other References

- [19] *SW Gateway*, <https://swgateway.ericsson.net/>
- [20] *IMS PLM Homepage*, https://ericoll.internal.ericsson.com/sites/MTAS_Portal/plm/default.aspx