

Avaya Aura® Communication Manager Software Duplication

Abstract

This document describes how software duplication works for Avaya Aura® Communication Manager.

About software duplication

Software duplication provides memory synchronization between the active and standby servers of Avaya Aura® Communication Manager. In software duplication, all contents of the RAM of the active server are transmitted over an Ethernet link to the standby server. If the active server fails, the standby immediately takes over, while preserving calls, signaling, and application information.

Configuring software duplication

This section outlines brief instructions to set up the duplication parameters. For detailed instructions, consult installation and configuration guides on the Avaya Support site.

The Software Duplication feature is administered on the System Management Interface web pages. To administer Software Duplication, open the *Server (Maintenance)* page and complete the following steps:

1. On *Network Configuration* page:
 - a. In the **Server** field, specify the unique server ID.
 - b. In the **IP Configuration** field, specify the duplication link IP address and subnet mask for eth1.
 - c. From the **Functional Assignment** field, select a duplication link from the drop-down menu.
2. On *Duplication Parameters* page:
 - a. Choose the duplication type.
 - b. Fill in the duplication parameters of the other server.
 - c. Fill in Processor Ethernet parameters.

Note: Encrypted duplication impacts CPU performance. Typically encryption is not necessary since the duplication link between servers requires a direct connection.

Software duplication issues and workarounds

Software duplication has the following issues:

- During normal operations, only changes in the memory are copied from the active server to the standby server. If the system is restarted or memory synchronization is lost, all of contents of the active server's memory are copied to the standby server, a process that is CPU-intensive. Because the active server's CPU handles the transmission of memory data to the standby server in addition to handling call processing, the busy hour call completion (BHCC) capacity of a software-duplicated system is lower than that of a system that does not use software duplication. The magnitude of the difference between the BHCC capacities associated with simplex servers and software-duplicated server complexes is a function of the Communication Manager Release (for example, Communication Manager 5.2.1, Communication Manager 6.0, Communication Manager 6.2), the

types of endpoints involved (for example, SIP, H.323), and the call mix (for example, general business, call center).

- The communication link between servers is critical for duplication functionality. If the link is compromised, the two servers cannot share status information and both servers become active, resulting in unpredictable and possibly catastrophic behavior, including dropped calls, split networks, and system resets. Therefore, duplicated servers must be connected over a direct connect Ethernet cable.

To prevent adverse performance effects on a system using software duplication:

- Disable duplication link encryption for busy-hour call rates that result in greater than 40% CPU occupancy (list measurements occupancy, Static + CP occupancy).
- When encryption is not enabled, maintain CPU occupancy on the active server (Static + CP) at less than 65%, to allow memory refresh from the active to standby server.

Additional References

- *Implementing Avaya Aura® Communicator Manager, 03-603558.*
- *Installing the Avaya S8800 Server for Avaya Aura® Communication Manager, Release 6.0, 03-603444.*