

# LAN2LAN/X.25, Frame Relay and XCI Enhanced for CSL SAP/RIP Considerations

Document ID: 15015

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## Introduction

When you run Novell NetWare v3.x or v4.x with LAN2LAN's X.25 and Frame Relay WAN protocols, and XCI Enhanced for CSL with a large number of SAPs and/or RIPs, you might experience the situation that this document describes.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

This document is not restricted to specific software and hardware versions.

## Symptoms

- Clients cannot connect or stay connected to their remote file servers.
- Novell NetWare v3.x or v4.x with LAN2LAN/X.25 and Frame Relay, and XCI Enhanced for CSL operates normally for about 15 minutes, then ABEND (ABnormally END).

## Reason

When operating in a large (10 or more servers) meshed (X.25 or Frame Relay) network or suddenly overloaded with several hundred SAPs/RIPs, Novell's NetWare has an insufficient number of ECBs to store the SAPs/RIPs. This ultimately results in SAPs/RIPs being dropped. When doing a DISPLAY SERVERS or DISPLAY NETWORKS, the server does not show servers or networks whose SAPs/RIPs were dropped. The result is that the user is not able to attach to the resources needed. There are also some cases when the SAP/RIP times out and does not get its update. This causes the same result and the client loses the connection to the server(s).

In order to verify the problem, check the NetWare MONITOR utility for LAN INFORMATION. Under the appropriate driver (LAN2X25.LAN, XCLLAN, and/or LAN2FR.LAN) section, look at the NO ECB counter. This value should be zero (0). If the value is not zero, the Novell NetWare host server does not have the initial

resources allocated for ECBs.

## Solution

Increasing Novell NetWare's MINIMUM and MAXIMUM PACKET RECEIVE BUFFERS to MIN = 100 and MAX = 400 corrects most network configurations. If the problem persists, increase the MAX value in increments of 100 up to MAX = 1000. Larger networks with over 1000 SAPs might need a higher value. This solution is affected by the amount of RAM available in the server. Additionally, increase the MINIMUM and MAXIMUM PACKET RECEIVE BUFFERS in increments of 100 for both values until the SAP/RIP problem is resolved. Contact Cisco's LAN<sup>2</sup>LAN Technical Support Department if problems persist.

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## Related Information

- **Technical Support & Documentation – Cisco Systems**
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Updated: Oct 06, 2005

Document ID: 15015

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