# ClearPath® OS 2200 multi-host clustering with the XPC-L release 5.0

Product Information Sheet

## Maximum data integrity for OS 2200 multi-host environments

Unisys eXtended Processing Complex Locking (XPC-L) is a database record-locking innovation for multi-host, clustered ClearPath Forward® Dorado systems. The XPC-L server is designed to protect the integrity of data being updated by various system managers across a multi-host ClearPath OS 2200 environment, thus making a significant contribution to your most essential business operations.

The latest implementation of the XPC-L platform with release 5.0 has been designated as the XPC-L-5 and is available for use with the ClearPath Forward Dorado 4480/4490, Dorado 6480/6490, and Dorado 8480/8490 systems.

## What is OS 2200 multi-host clustering?

ClearPath Forward Dorado systems are well known for their inherent strengths, especially when it comes to transaction processing, scalability and availability. The Unisys clustering technology for Unisys OS 2200 systems eXtended Transaction Capacity (XTC) software along with XPC-L-5 platform can be configured for the following functions:

- Very high scale-out capacity enabling six hosts to access a shared database
- Superior business continuance for OS 2200-based applications

This solution protects the integrity of data being updated in a multi-host environment. Through XTC technology, up to six Dorado systems can all operate against one shared database, even accessing the same record. What's more, each host can also operate against its private database. This architecture provides for capacity, growth, and horizontal scalability.

From a business continuity perspective, Unisys XTC technology provides virtually nonstop OS 2200 application support. If one of the Dorado host systems experiences a hardware or software failure, the other hosts in the XTC cluster will continue to operate. This configuration provides very high availability, greatly enhanced disaster recovery methods and superior business continuity characteristics.

## How does it work?

The immense processing capabilities of OS 2200 multi-host clustering are achieved by using a combination of software and dedicated Record Lock Processors, also known as lock engines. A Record Lock Processor provides both concurrency and consistency control for all database accesses from these multiple clustered hosts.
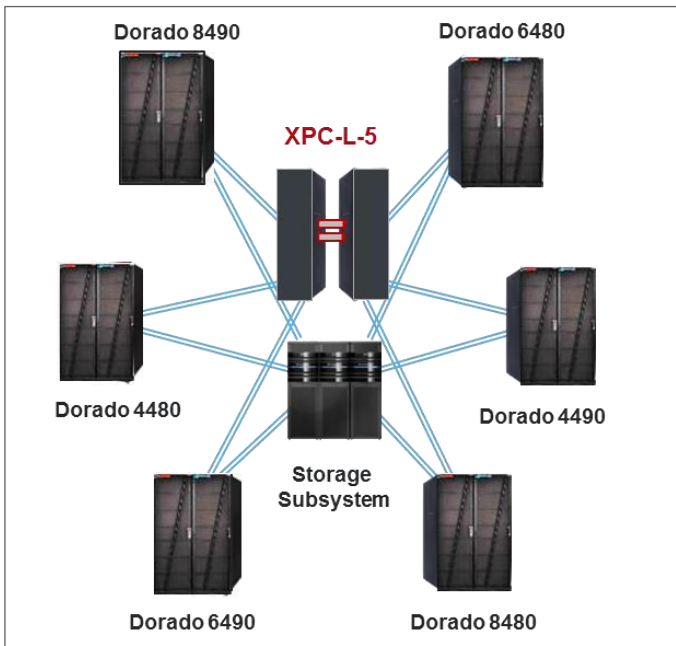
In an OS 2200 multi-host cluster, all Dorado hosts must connect to each of two XPC-L-5 servers for total redundancy.

The XPC-L-5 server is an external lock engine that:

- Provides essential access synchronization, which allows data access and updates to be performed on a priority and sequenced basis.
- Arbitrates updates to shared data from two to six host systems. The data locks allow a host-based process to "own" the data for the duration of an update cycle, thereby preventing spurious updates.  This provides that updates are made in a consistent and complete manner.
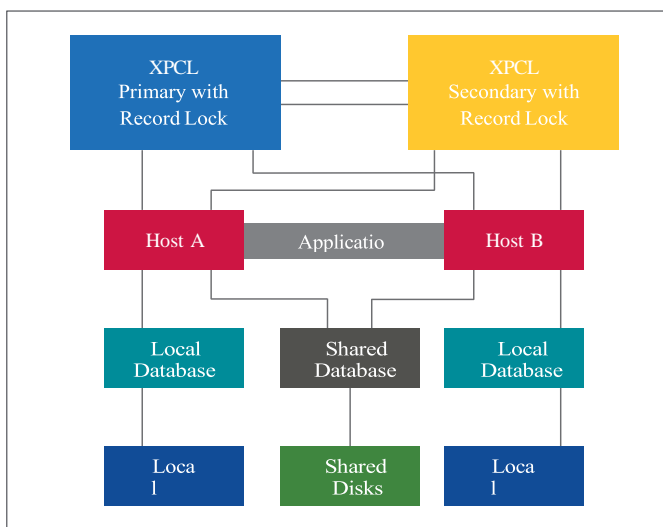


The XPC-L server is the Record Lock Processor. The associated software architecture that enables the operation of the XPC-L server is known as XTC.

A redundant XPC-L system consists of:

- A primary XPC-L server platform
- A secondary XPC-L server platform
- A main and backup control workstation
- Redundant connections between the various entities

This conceptual diagram represents the OS 2200 multi-host clustering concept; however, it does not show in detail all the data paths of the highly redundant and resilient XPC-L server.

Fully redundant XPC-L lock engines are configured to provide continuous operation in the event of the loss of one lock engine. Each XPC-L lock engine, whether primary or secondary, can operate alone.

The XPC-L lock engines are used in a primary and secondary mode of operation. The primary XPC-L server actively provides the database locking and inter-host messaging functions.

The secondary XPC-L server provides backup in case the primary XPC-L server encounters an error condition.

Host platforms in the cluster are Unisys ClearPath Forward Dorado systems. Each host has paths to both the primary and secondary XPC-L, and all paths can be used to send commands to the XPC-L server.

The XPC-L server performing as the primary executes all XPC-L commands. Therefore, commands received by the secondary server are sent to the primary server for execution. Paths known as crossover paths move command requests from the secondary to the primary and, after command execution, return the status to the requester back through the secondary server.

While the primary server processes the commands, the secondary XPC-L server monitors the operations of the primary server. Synchronization paths between the lock servers are used to maintain data structure coherency between the primary and secondary servers.

2
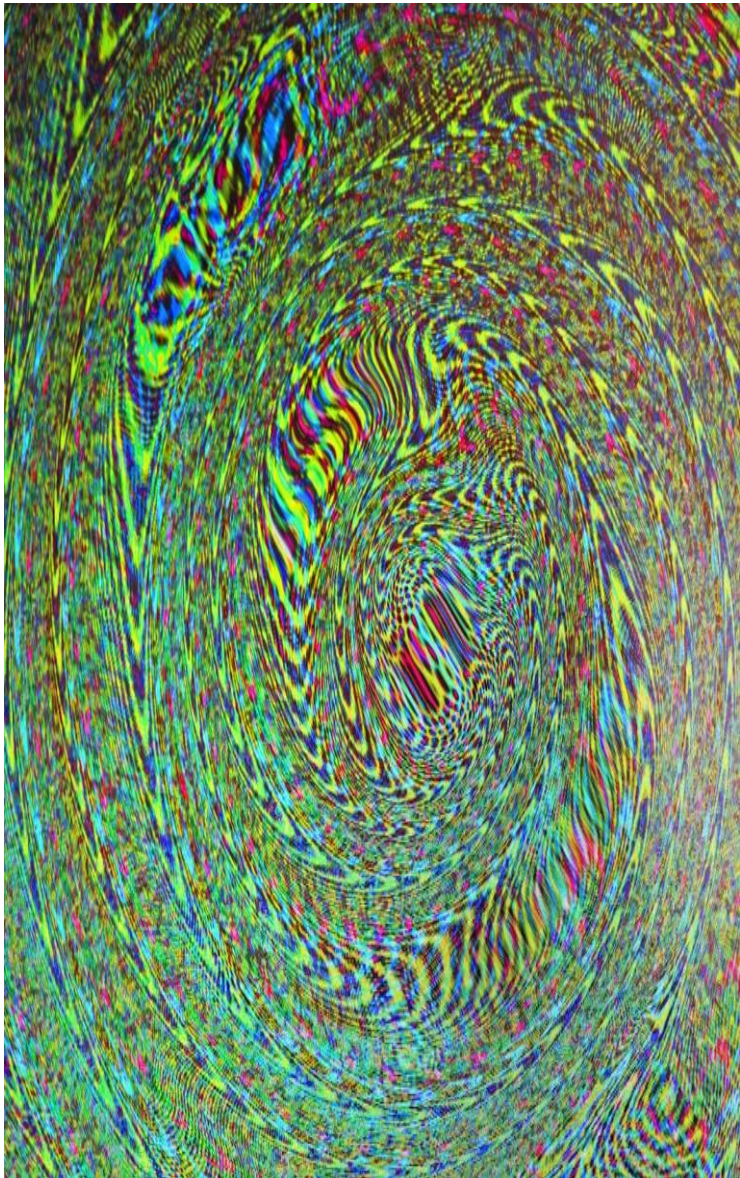
## Technical facts

High-performance Ethernet interfaces provide low-latency connections between OS 2200 hosts and XPC-L servers, significantly improving locking times.

In addition to increased capacity, software updates, if required, can be installed on each of the XPC-L systems independently, without operation interruption — a common problem in high-performance transaction environments.

The XPC-L-5 platform is built upon the latest generation of Unisys Intel-based server components coupled with the most current OS 2200 XPC firmware. This combination results in an up to 40% improvement in transactional work capacity[1] over the previous XPC-L design.

XPC-L-5 is currently available for the following Unisys ClearPath Dorado platforms.

- Dorado 4480 and Dorado 4490 Systems

- Dorado 6480 and Dorado 6490 Systems

- Dorado 8480 and Dorado 8490 Systems

## Take the next step

Find out for yourself just how much power the Unisys XPC-L-5 can give your business. If you want to know the full story, get in touch with your Unisys representative today.

**For more information, visit www.unisys.com.**



unisys.com

[1] Based on Unisys benchmarks under standard conditions. Performance improvements are application dependent.