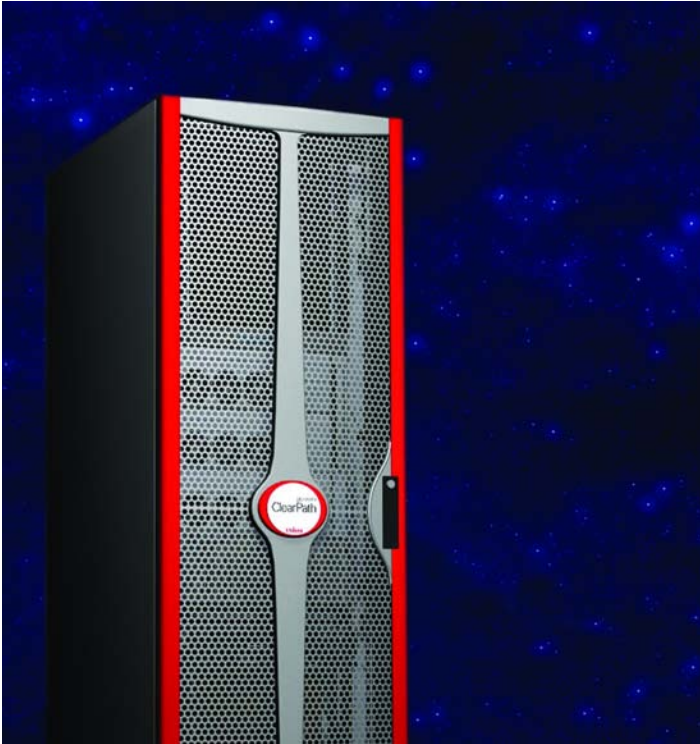


ClearPath Plus Dorado 300 Series Model 320 Server

Specification Sheet

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Introduction

The ClearPath Plus Dorado Model 320 server is the low- to mid-range model in the Dorado 300 Series of OS 2200 systems. These servers provide all of the traditional mainframe attributes and many new business capabilities for evolving to a Real-Time Enterprise.

A secure Real-Time Infrastructure – centered on Unisys ClearPath systems – offers a robust combination of both mainframe and mainstream capabilities that are unique to these platforms. Diverse computing workloads. Flexible buying models. Popular software standards. Secure Java environments. Industry-standard tools, applications and skill sets. Automated processes and operations. Policy-based resource management. SOA-based business connectivity. And 3D-VE-based business responsiveness.

Simply put, superior business agility and secure business operations.

The Dorado Model 320 server still delivers the rich and robust functionality and true mainframe attributes such as the utmost security, availability and reliability that our OS 2200 users expect. At the same time, the system provides mainstream attributes such as agility and openness to ClearPath OS 2200 environments. The Dorado 320 system delivers high performance not only for your business-critical core systems, but also for your Windows, Linux and Java mission-critical applications! While helping you to build a secure Real Time Infrastructure.

Low- to Mid-range OS 2200 Servers

The ClearPath Plus Dorado Model 320 mainframe, successor to the Dorado 140-SP system, continues a strategy of offering faster instruction processors and enhanced memory and IO that result in increased single-thread performance and improved multi-processor efficiency – all leading up to a system with considerably improved maximum performance. As well as this vertical growth, you can couple together as many as four Dorado 320 systems using the XPC-L record lock processor for horizontal growth and system resilience – all accessing the same shared database!

In addition to the OS 2200 modules that use our custom-designed, high-performance CMOS processors, you can optionally co-locate one to four high-performance Intel modules in the same Dorado 320 system.

Product Highlights

- Module-based architecture
- High-performance, Unisys designed CMOS processors
- Four times the processor performance of a Dorado 140-SP system
- More than double the single-image performance of a Dorado 140-SP system
- Up to 8 Unisys CMOS processors, in 4-processor increments
- Expanded memory capacity
- Performance Redistribution
- Secure Java Workloads
- Capacity on Demand options
- Cryptographic PCI-based blade appliance
- Enhanced IO performance
- Horizontal and vertical growth options

The World's Most Versatile Servers

Unisys ClearPath Plus systems offer you more versatility and reliability features than any other system on the market today.

- **More opportunities for growth.** The Dorado 320 can be upgraded to the larger Dorado 340 and even further to the Dorado 380, which offers scalability up to 32 instruction processors in a single image. You get major improvements for the single-system-image: twice the performance, greater IO bandwidth and twice the amount of memory capacity that was previously available. Together with the XPC-L record lock processor, the bottom line result is a much-improved growth path through both horizontal and vertical scalability.
- **Multiple-operating-system choices.** The Dorado Model 320 platform supports up to six independent partitions concurrently running multiple operating environments: Unisys OS 2200, Microsoft® Windows® Server 2003, Enterprise Edition and Windows® Server 2003, Datacenter Edition and Novell SUSE Linux Enterprise Server 9 (SLES 9) operating systems. This makes it possible to choose the application environments that best meet both your specific business needs and processing requirements. You can dedicate Dorado partitions to production, development, testing, disaster recovery, Business Information Server, Java and the Enterprise Application Environment.
- **More consolidation options.** The wide choice of concurrently running operating systems enables you to consolidate multiple servers on a single platform: IX Series, 2200 Series, Windows and Linux environments. Consolidation gives you centralized control of multiple servers with potential savings in both your system and operational costs.
- **Capacity on Demand choices.** Capacity on Demand options help you better manage your changing capacity requirements. Designed to revolutionize the way you buy ClearPath processing power, Capacity on Demand delivers new agility for managing your dynamically changing workloads, including unpredictable spikes in demand and emergency/disaster recovery situations. Different buying options, licensed on an annual basis, help you achieve the most flexibility in your server operations. The ability to enable reserve capacity is key to supporting dedicated or shared disaster recovery systems with remote secondary systems typically used for development. Three Capacity on Demand options are available:
 - For Disaster Recovery, you pay only for incremental capacity for a period of 30 days, an option that enables you to handle major unplanned operational disruptions.
 - The 12-day Emergency Recovery option helps you address less serious outages.
 - The Temporary Workload option allows you to scale processing capacity up and down. The capacity is provided in daily increments of 5 to 365 days to meet any unplanned or planned peak load demands.
- **Distribute processing performance.** The Dorado 320 server supports Performance Redistribution. A single performance key lets you distribute processing performance within a 4-processor partition at any time. Performance Redistribution also lets you easily distribute performance over any or all processors within a partition, accommodating applications written for single- and multi-processor configurations. In the unlikely event of a processor failure, the system automatically adjusts the remaining processors to deliver the licensed performance. Performance continuity is maintained in a dual-module environment, where you can use the maximum contracted system performance in one module when the other module is unavailable for processing.

- **Secure Java Workloads.** The Dorado Model 320 server makes available the ClearPath Secure Java Technology, which provides an environment with unmatched security and availability – designed especially for Java applications. This rich, robust and secure environment is ideal for new Java applications, composite applications and migration from other vendors’ systems. Also available is the JBoss Application Server, the industry’s leading Open Source J2EE application server. You can optionally configure Secure Java Workloads with a ClearPath Secure Workload for the Java Platform and enjoy an exceptionally secure Java environment. These options enable you to add new Java applications to your IT infrastructure with minimal impact on your existing workloads.
- **Economically priced workloads.** Many ClearPath clients use general-purpose production systems and independent development systems. One attraction of the Dorado Model 320 system is the ability to consolidate production and development systems onto one platform and take advantage of special value-priced development workloads. This not only reduces the cost of your overall system, but also enables you to operate your environment more efficiently.
- **Modular design.** The modular design of the Dorado 320 lends itself to easy expansion by adding cells, though the reserve capacity that will be available with most shipped systems will seldom make this necessary except for when adding new workload types.

A Complete Operating Environment

The ClearPath OS 2200 operating environment for ClearPath Dorado 320 servers is tailored for OS 2200 clients in the low- to mid-range performance range. The OS 2200 for the Dorado 320 system has been restructured to provide the basic operating system components and additional, optional software that enables you to better select just what you need. The “heart” of the operating environment is the OS 2200 operating system itself, a "kernel" that handles input and output, processes runs, allocates system resources, manages files and data and provides a library of useful subroutines. Applications developed on any OS 2200 system are object code compatible with all other systems in the OS 2200 family thus securing your investment in current and future applications.

- OS 2200 handles a mix of batch, real-time and on-line transaction processing with OS 2200 dynamically adjusting to changing mixes.
- On-line transaction processing management is fully integrated with the operating system.
- Virtual file management reduces the burden of mass storage administration.
- Features such as Integrated Recovery permit the development of high-integrity applications.
- Three database models are available: the network model, a relational data management system and a shared file or flat file model. These are also tightly integrated into the OS 2200 operating system, ensuring reliability and integrity.
- A full range of middleware solutions ensures that the OS 2200 is as open regarding data access and interchange as any system in its class.
- Security is designed into the operating system itself.
- Application development tools let you respond rapidly to changing business requirements.
- A full range of system tools and utilities facilitate the loading, administration and running of the operating system.

- A complete range of performance monitoring software is available from Unisys and third-party providers.
- Database, query and reporting tools, such as Database Inquiry (formerly QLP), can select, retrieve, update and display or print stored information.
- Communications and networking software connect OS 2200 application programs to end users and peer applications through TCP/IP networks, including the global Internet.

Align Your IT Infrastructure With Your Business Requirements

- Unisys Business Information Server (BIS) is a powerful, user-driven computing environment with ad hoc processing and reporting capabilities.
- The Unisys Enterprise Application Environment (EAE) is a suite of products for designing, developing, generating and maintaining large, integrated, core business systems. All in much less time and with fewer resources than required by other, more traditional methods

Horizontal Growth: Four Times the Power of One

ClearPath Plus OS 2200-based systems are well known for their inherent strengths, especially when it comes to transaction processing, scalability and availability. These robust strengths of a single ClearPath system can be further enhanced when you implement OS 2200 multi-host clustering.

You can cluster OS 2200 systems in configurations of two, three or four hosts, intermixing Dorado 300 systems with prior systems, specifically Dorado 100 and Dorado 200 models. And with all these systems operating against one, shared database. What's more, each host can also operate against its own, private database. And it's all made possible by the XPC-L.

The Unisys eXtended Processing Complex – Locking (XPC-L) is a database record locking innovation for multi-host clustered mainframe environments. The XPC-L server protects the integrity of data being updated by various system managers across a multi-host ClearPath environment, thus making a significant contribution to your secure business operations.

This new product replaces the existing eXtended Processing Complex (XPC) for the Unisys ClearPath Dorado line of servers. High-performance data caching previously handled by XPC is now provided by a multi-path command queuing architecture and modern, high-performance storage subsystems.

System Attributes Summary

The ClearPath Plus Dorado Model 320 server offers exceptional business value based on these enhanced mainframe hardware and software attributes:

- High-volume, business-critical transaction processing
- The ability to run hundreds of business-critical workloads and databases under one instance of the OS 2200 operating system
- Unparalleled scalability in both symmetric multiprocessing (SMP) mode and multi-host clustering
- High-performance interoperability
- Multiple operating system environments
- Capacity on Demand options
- Performance Redistribution
- Secure Java Workloads
- Open Source J2EE Application Server from JBoss, Inc.
- Powerful middleware for application, Internet, message and data integration
- The ability to integrate ClearPath OS 2200 applications and data with external heterogeneous servers, databases and applications using virtually any of the industry's most popular technologies
- Application access via Web, PDA, mobile, etc.
- Extensive OS 2200 software portfolio with true mainframe attributes
- Automated integration of OS 2200 applications with industry-standard connectors such as Web, WML, XML, etc.
- A suite of mainframe and industry-standard application development tools
- Low-cost development environments
- Unisys Server Sentinel for simplified systems management

New Levels of Agility

The Dorado Model 320 server gives you an operating environment that's versatile, powerful and compatible with your existing OS 2200 based solutions. Unisys keeps taking its mainframes further into the mainstream with many revolutionary advances. Access to Java applications and developers. Application development tools to rapidly accommodate marketplace changes. Flexible buying models that let you pay for only what you use. Bottom line? Results you can measure in terms of real economic impact!

ClearPath Plus Dorado 320 Server System specifications

The entry to mid-range ClearPath Plus Dorado 320 server consists of one 4-processor/memory cell and an IO module (cell) rack mounted in a 40U cabinet. Each cell includes redundant power and cooling. Service processors and operations servers may also be installed in the cabinet. One more cell pair (a 4-processor/memory cell and IO module) can be added as an expansion option. Therefore, up to two OS 2200 partitions can be defined in a Dorado Model 320 server, with each cell pair using its own copy of the OS 2200 operating system.

When greater performance and capacity are needed, the Dorado 320 can be upgraded to a Dorado 340 system.

Technical Specifications

Dorado Model 320 Server	2200 processors	Intel® processors (optional)
Operating systems	OS 2200	<ul style="list-style-type: none"> – Microsoft Windows Server 2003, Enterprise Edition – Microsoft Windows Server 2003, Datacenter Edition – Novell SUSE Linux Enterprise Server

Platform Specifications	2200 Partitions	Intel® Partitions	Comments
Processors (minimum active)	1	0	
Processor (maximum)	Two (2) partitions, each with four (4) instruction processors for a total of eight (8) IPs	Four (4) partitions, each with four CPUs for a total of 16 CPUs	OS 2200 processors in up to two (2) partitions of four (4) processors each. Total number of processors (including Intel CPUs) are fewer than or equal to 24
Processor types	0.13u CMOS ASIC	Intel® Xeon® processor MP: 2.83GHz, 4M OR 3.33GHz, 8M	
Processor upgrade	4-CPU cell with IO module	4-CPU cell	
Partitions (maximum)	2	4	
Shared cache	8 Megawords	48 MB per cell	
Memory (included)	512 Megawords	0	
Memory (maximum)	4 Gigawords (GW) per cell	32 GB per cell	8 Gigawords, 64 GB capable
IO (included)	<ul style="list-style-type: none"> – One (1) standard IO processor with two (2) fibre channel interfaces – One (1) communication IO processor with 1 Gigabit Ethernet NIC – One (1) DVD for loading system software 	0	
IO options	<ul style="list-style-type: none"> – SBCON (tape) – Ultra SCSI – ANSI fibre channel – Gigabit Ethernet – XPC-L host interface 	<ul style="list-style-type: none"> – Five (5) 133 MHz PCI-X – Two (2) 10/100/1000 MHz Ethernet RJ-45 connections per cell 	

Common Specifications	
Cooling method	Axial fans: N + 1
Main cabinet dimensions	19" W x 42" D x 70" H
Access area	Cell: front and rear
Typical weight	162 lbs per cell pair
Power wattage per (2200) 4-processor/memory/IO cell pair power sector	1.075 KVA 1.04 KW Max 6A at 200 Volts AC
Heat load per (2200) 4-processor/memory/IO cell pair thermal per power sector	1,037 Watts 3,536 BTU/hour
Temperature	Operating: 13-35° C (55°F to 95°F) Recommended: 22°C (72°F)
Relative humidity	Operating: 10-80% non-condensing Recommended: 50% Non-operating: 95% maximum non-condensing
Maximum altitude	8,000 feet (2,436 meters)

Note: The specifications above do not provide a viable substitute for a detailed configuration, environmental and infrastructure planning study.

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00-1-585-487-2430, ext. 405 (Other countries)

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