

ClearPath Plus Dorado 300 Series Model 390 Metered Server

Specification Sheet



Introduction

The ClearPath Plus Dorado Model 390 server is the high-end, metered 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 – in particular, the ability to establish an in-house, private utility.

The operational benefits of its metering and Pay-for-Use functionality are compelling. Improved flexibility. Improved service levels. The potential elimination of workload shifts. And easier capacity planning. The financial benefits are just as appealing. Lower upfront capital investment. Paying only for what you actually use. And revenues better matched to expenses.

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.

Simply put, superior business agility and secure business operations.

The Dorado Model 390 server's state-of-the-art metering technology measures the processing power delivered by the system. The benefits of metering are realized by teaming it with a Pay-for-Use business model, which means that you pay only for the exact amount of processing power you use, as you use it. Together, the dynamic combination of metering and Pay-for-Use provides the cornerstone for establishing an in-house "private utility." And positions you to continue evolving to a Secure Real-Time Infrastructure that lets you realize the rewards of utility computing – without the risk.

Metering and Pay-for-Use functionality leverage the extraordinary power and capacity of this server's high-performance Unisys CMOS processor technology and its highly advanced IO subsystem, just to mention a few of the many hardware and software technology advances offered by the Dorado Model 390 system.

The Dorado Model 390 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 390 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.

High-end OS 2200 Server

The ClearPath Plus Dorado Model 390 mainframe, 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 390 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 390 system.

Product Highlights

- Metering technology embedded in OS 2200
- Pay-for-Use business models
- Module-based architecture
- High-performance, Unisys designed CMOS processors
- Two times the single-thread processor performance of the Dorado 180 system
- More than double the 32 instruction processor single-image performance of a Dorado 180 system
- Up to 32 Unisys CMOS processors, in 4-processor increments
- Expanded memory capacity
- Secure Java Workloads
- Cryptographic PCI-based blade appliance
- Enhanced IO performance
- Horizontal and vertical growth options

On-demand Agility, On-demand Control

The Dorado Model 390 server equips you with technology and processing power that is business transforming. Extra resources are always on and available to you instantaneously. With metering, you can meet seasonal peaks, be prepared for growth and respond to the expected and the unexpected – seamlessly and cost efficiently. What’s more, Unisys brings another dimension to this versatile environment – control. With our “governor” feature, you can even dynamically control the amount of resources available to be metered. No other solution in the market today gives you this level of control over your operating and financial environment. Unisys revolutionized the mainframe by combining a business-critical environment with open system capabilities. Now we’re revolutionizing the on-demand market – and helping you to evolve to a Real-Time Infrastructure – by combining the versatility of metering technology with control functionality.

Metered System Performance

The Dorado Model 390 server with its Pay-for-Use business models gives you total control over your operational and financial environment.

- **On-demand processing power.** Unlike traditional servers, you license the Dorado Model 390 server at your average run-rate or utilization level instead of your peak. With the Base-plus-Usage licensing model, you license the base configuration, yet receive a system with the ceiling level of performance activated and available for use. Ceiling-level performance is up to 10 times the amount of base processing power available. Metering technology embedded in the ClearPath Plus OS 2200 operating environment measures your usage, which is reported back to Unisys via e-mail on a monthly basis. If you've used processing power higher than the base level you licensed up front, you're billed for it. If you haven't done so, no charges are incurred. Alternatively, you can choose the Pre-paid Performance licensing model. With this option, you license all of your processing power up front. Ceiling levels are set at the maximum processing power your server configuration can deliver.
- **Dynamically adjust performance.** Control of your metered system is optimized through the governor, which enables you to dynamically adjust the ceiling level of performance available. You can dial it down to the base level to ensure that no additional metering costs are incurred. You can raise it up to the ceiling to use the most processing power possible with your system. Or you can set it to values in between. The Dorado Model 390 introduces even more granularity to the governor's settings than was previously possible. You can adjust the governor at any time using a system command. And, using scripts, you can set a series of timed governor settings to match the available processing power with your unique usage pattern.
- **Dynamically add workload.** The high ceiling level of processing power available means that you can add and instantaneously accommodate more workload – without sacrificing service levels.
- **Enhanced business continuance capabilities.** You can license a metered business continuance workload that enables one metered system to serve as a backup for another. You can use this workload for any planned or unplanned interruption or outage on your primary metered production system.

The World's Most Versatile Servers

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

- **More opportunities for growth.** The Dorado 390 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 390 platform supports from one to eight independent partitions concurrently running multiple operating environments: Unisys OS 2200 in metered and non-metered partitions and the following operating systems in other non-metered partitions: Microsoft® Windows® Server 2003, Enterprise Edition and Windows® Server 2003, Datacenter Edition and Novell SUSE Linux Enterprise Server 9 (SLES9) 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.
- **Secure Java Workloads.** The Dorado Model 390 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. New to the Dorado Model 390 is the ability to meter a Secure Java Workload. You can optionally configure a metered Secure Java Workload 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 390 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.
- **Self-adjusting performance.** 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.
- **Modular design.** The modular design of the Dorado 390 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 390 servers is tailored for OS 2200 clients in the high-end performance range. OS 2200 for the Pay-for-Use Dorado 390 system includes, as standard, many software components that are optional in the traditional peak buying model. 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 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. With as many as 32 instruction processors per host, that means you can have as many as 128 OS 2200 instruction processors – all 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 Processor 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 390 server offers exceptional business value based on these enhanced mainframe hardware and software attributes:

- Metering technology embedded in OS 2200
- Pay-for-Use business models
- Many otherwise optional software products are included in the operating environment
- Self-adjusting processing power
- 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
- 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

New Levels of Agility

The Dorado Model 390 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 390 Server System Specifications.

The high-end ClearPath Plus Dorado 390 Pay-for-Use server consists of one (2200) 4-processor/memory module (cell) and an IO module (cell) (together a cell pair) rack mounted in a 40U cabinet. Each cell pair includes redundant power and cooling. Operations servers and service processors are installed in an additional 40U cabinet. Up to seven more cell pairs can be added as expansion options. Therefore, one to eight OS 2200 partitions can be defined in a Dorado Model 390 server, each using its own copy of the OS 2200 operating system. Alternatively, up to four Intel cells can be substituted for the OS 2200 cells. At least one cell in the configuration must be running OS 2200.

The Dorado 390 server offers tremendous processing flexibility for business-critical applications.

Metering Technology for Utility Computing

Unisys Utilization Sentinel is the measurement, management and reporting module of the ClearPath Plus Dorado 390 server that implements our industry-unique metering technology. Arming your IT infrastructure with more versatility than ever before, its metering management controls enable you to deploy metering capabilities when and how you want to — with a degree of precision unmatched in the industry today. With our two Pay-for-Use business models – Base-plus-Usage and Pre-paid Performance – you pay only for the exact amount of resources you use.

Technical Specifications

Dorado Model 390 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	
Processors (maximum)	Up to eight (8) cells each with four (4) instruction processors for a maximum of 32 IPs	Four (4) partitions of four (4) processors each, for a total of 16 Intel® CPUs	Total number of processors (including Intel CPUs) are fewer than or equal to 32.
Processor types	0.13u CMOS ASIC	Intel® Xeon® processor MP, 2.83 GHz 4M or 3.33 GHz 8M	
Processor upgrade	4-CPU cell with IO module (a cell pair)	4-CPU cell	
Shared cache	8 Megawords	48 MB per cell	
Memory (included)	1 Gigaword	0	
Memory (maximum)	4 Gigawords per cell	32 GB per cell	32 Gigawords, 256 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 one (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 Maximum 6Aa 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: 13-39° 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.

For more information, contact your Unisys representative.

Or call:

1-800-874-8647, ext. 405 (U.S. and Canada)

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

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