

## Unisys ClearPath Plus Libra Model 595 Server

The ClearPath Plus Libra Model 595 server is the most versatile and powerful MCP-based system ever offered. It offers two major innovations—"pay-for-use" business models and industry-leading metering technology. Together, the dynamic combination of metering and pay-for-use provide the cornerstone for establishing an in-house "private utility," secure within your own walls and available today. The Libra Model 595 system is a Unisys Modern Mainframe that delivers all of the traditional mainframe attributes along with unparalleled versatility—letting you realize the rewards of utility computing without the risk.

THE UNISYS CLEARPATH PLUS  
LIBRA FAMILY OF SERVERS.



ClearPath Plus Libra Model 595 mainframes are mid-range to high-end servers, the newest and most versatile members of the ClearPath Plus Libra Family of Servers. The Libra Model 595 server delivers state-of-the-art metering technology that measures the processing power delivered by the system. The benefits of metering technology 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. Metering and pay-for-use functionality leverage the extraordinary power and capacity of high-performance Unisys CMOS processor technology, a highly advanced IO subsystem and the Unisys Cellular MultiProcessing (CMP) architecture that underpins Libra 500 Series servers.

Libra Model 595 servers feature a modular

design that supports a high level of infrastructure flexibility for the agile enterprise, including a choice of metered and non-metered MCP partitions, non-metered Virtual Machine for ClearPath MCP (MCPvm) or open partitions, hardware technologies, applications, growth options and integration software. The overall design maximizes the return on your current IT investment and gives you the agility to quickly and effectively respond to new challenges and business opportunities.

### Product highlights.

- ▶ Metering technology embedded in the MCP
- ▶ Pay-for-use business models
- ▶ The Unisys Operating Environment (UOE)
- ▶ Self-adjusting processing power

- > Consulting.
- > Systems Integration.
- > Outsourcing.
- > Infrastructure.
- > Server Technology.

**UNISYS**

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- ▶ Independent, self-contained, module-based ClearPath architecture
- ▶ High-performance Unisys MCP CMOS processors
- ▶ 20% improved high-performance IO subsystem
- ▶ Up to 32 MCP CMOS processor-based native partitions
- ▶ 16-processor-image capability
- ▶ Policy-based Resource Management infrastructure
- ▶ Ready IO
- ▶ Ready Networking
- ▶ Ready Memory
- ▶ Reserve MCP processors, memory and IO
- ▶ Cryptographic Co-processor

**On-demand agility, on-demand control.**

The Libra Model 595 server equips you with technology and processing power that can be business transforming. Extra resources are “always on” and available at your disposal 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. Through our “governor” feature, you can dynamically control the amount of resources available to be metered. No other solution on 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 by combining the versatility of metering technology with outstanding control functionality.

*The Libra Model 595 server delivers flexibility, control and mission-critical reliability with these features:*

**Metered system performance.**

Libra Model 595 servers with their Pay-for-Use business models give you total control over your operational and financial environment.

- ▶ **On-demand processing power.** Unlike traditional servers, you license the Libra Model 595 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 MCP operating environment measures your usage, which is reported back to Unisys via e-mail on a monthly basis. If you have used processing power higher than the base level you licensed up front, you are billed for it. If you have not done so, no charges are incurred. Alternately, 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, raise it up to the ceiling to use the most processing power possible with your system or set it to values in between. You can adjust the

governor at any time using a system command. And, with scripts, you can set a series of timed governor settings to match 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 new metered business continuance workload that enables one metered system to serve as a backup for another. This new workload can be used in the event of any planned or unplanned interruption to your primary production metered system.

### **Reliable, resilient, flexible.**

Libra 595 servers offer you more versatility and reliability features than any other high-end system on the market today.

- ▶ **Self-adjusting processing power.** The ability of the system to adjust its own performance is realized through *automatic regulation of processing power*. With this advancement, should a processor go off line (intentionally or not), the processing level of the remaining in-service processors is escalated to recapture as much of the processing power as possible that was being delivered by the offline processor.
- ▶ **Unisys Operating Environment (UOE).** For production workloads, the traditional Integrated Operating Environment (IOE) package is replaced on the Libra Model 595 server with the newest version of our operating environment—the UOE. This environment includes many software products that were once licensed separately, thus enhancing your operating environment with more rich functionality than ever before.
- ▶ **Optimized resiliency.** You can shift full system performance into a single domain on Libra 595 Model servers that have dual-domain configurations.
- ▶ **More opportunities for growth.** The scalable 16-way partition/image capability delivers major improvements for a single system image—with almost twice the performance, twice the IO connectivity and capacity and twice the memory previously available. The result is an improved growth path through both horizontal and vertical scalability.
- ▶ **Reserve resources when you need them.** The Libra Model 595 server includes a Policy-based Resource Management infrastructure containing reserve IO, networking and memory capacity. One of the most important benefits of these new features is the ability to switch to the reserve component in the case of failure of the active IO or memory component—without extra cost. When there's additional demand, you can easily enable reserve IO, networking and memory capacity by purchasing licensing keys.
- ▶ **Multiple-operating-system choices.** The Libra Model 595 platform supports up to 32 independent partitions concurrently running Unisys MCP in metered and non-metered partitions and the following operating systems in other non-metered partitions: Virtual Machine for ClearPath MCP (MCPvm), Microsoft® Windows® Server 2003, Enterprise Edition and Windows® Server 2003, Datacenter Edition, Novell SUSE Linux Enterprise Server 9 (SLES 9) and Red Hat Enterprise Linux 4 (RHEL 4). This makes it possible to choose the application environments that best meet both your specific business needs and processing requirements. You can dedicate Libra partitions to production, development, testing, disaster recovery, CRM and ERP solutions, the Enterprise Application Environment and many others.

- ▶ **“Plug-and-Play” modules.** Independent and self-contained modules allow you to easily add and remove a module without disturbing workloads running on other modules. For example, you can add an entirely new workload and module without disturbing your live production workload. You can also mix and match different Libra modules within one server complex. You can combine Libra Model 595, Libra Model 590, Libra Model 585, Libra Model 580, Libra Model 520, Libra Model 300, Windows, Linux and Java modules within one server complex.
- ▶ **More consolidation options.** The wide choice of concurrently running operating systems enables you to consolidate multiple servers on a single platform: NX, A Series, Windows and Linux environments. Consolidation gives you centralized control of multiple servers with potential savings in both your system and operational costs.
- ▶ **Generate applications quickly.** The Enterprise Application Environment (EAE) is a rapid application development and deployment environment that enables you to generate new applications from business rules and definitions. With EAE you are equipped to react quickly to opportunities—even beat your competition to market—positioning yourself for competitive advantage in your market space.
- ▶ **Integration automation.** ClearPath ePortal is a modular, enterprise-class, e-business integration automation solution that enables you to easily extend ClearPath MCP applications to reach new partners, channels and markets. ClearPath ePortal is an optimized, application-specific architecture that provides automation at every point in the solution—from development to deployment. ClearPath ePortal requires no new

incremental skills and can radically reduce the cost of creating new business solutions, thus accelerating your time to market and bringing new levels of efficiency to your ClearPath infrastructure. The ClearPath ePortal solution:

- Provides built-in Web and wireless capabilities (HTML and WML)
- Automates the process of modernizing and staging the deployment of MCP applications and system software
- Provides industry-standard interfaces directly from ClearPath software. This capability enables the non ClearPath entities of your organization to gain access to ClearPath applications and system software—without the need to learn or manage any software specific to Unisys.

### **A complete operating environment.**

The ClearPath MCP operating environment for ClearPath Plus Libra 500 Series servers includes all of the software needed to operate the system. The “heart” of the operating environment is the MCP 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.

The Transaction Server, previously known as COMS, is a transaction manager and application server designed especially for and highly integrated with the ClearPath MCP operating environment. The Transaction Server is extremely versatile; it can process transactions from a variety of clients including Web and mobile devices as well as traditional terminal-oriented devices. It can also participate in distributed “global” transactions and message queuing.

Enterprise Database Server for ClearPath MCP, formerly known as DMSII, is a mature, proven database management system that is highly scalable and reliable. It can be used by applications running in a variety of operating environments including ClearPath MCP, Java, Microsoft Windows, UNIX and Linux.

Unisys and its partners offer a complete portfolio of software for ClearPath MCP servers that includes software for these critical areas:

- ▶ Security
- ▶ Application development tools
- ▶ System tools and utilities
- ▶ Performance monitoring
- ▶ Database, query and reporting tools
- ▶ Communications and networking
- ▶ Middleware
- ▶ Systems management

With Unisys Sentinel you get a single point of access to your Windows and MCP partitions using centralized, Web-based, GUI access to all of its management tools and an "at-a-glance" view of your Libra Model 595 system's overall health. Server Sentinel provides self-healing capabilities for the Microsoft Windows based partitions of your ClearPath Plus MCP servers and integrates with Unisys Application Sentinel and NetIQ AppManager software for application management. For the enterprise management layer of your data center, Server Sentinel provides an integration path to enterprise management systems such as Tivoli NetView, HP OpenView, BMC patrol and CA Unicenter for managing your networked hardware and software. Server Sentinel includes functionality previously provided by the System Management Center product for ClearPath MCP systems.

### **System attributes.**

The ClearPath Plus Libra Model 595 server offers exceptional business value based on these improved mainframe hardware and software attributes:

- ▶ Metering technology embedded in the MCP
- ▶ Unisys Operating Environment (UOE)
- ▶ Self-adjusting processing power
- ▶ Policy-based Resource Management infrastructure
- ▶ High-volume, mission-critical transaction processing
- ▶ The ability to run hundreds of mission-critical workloads and databases under one instance of the MCP operating system
- ▶ Unparalleled scalability in Symmetric MultiProcessing (SMP) mode
- ▶ High-performance interoperability
- ▶ Multiple operating system environments
- ▶ Powerful middleware for application, Internet, message and data integration
- ▶ The ability to integrate ClearPath MCP 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 MCP software portfolio with true mainframe attributes
- ▶ Automated integration of MCP 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 Sentinel for simplified systems management
- ▶ Choice of hardware and software for consolidation options

## Unisys ClearPath Plus Libra Model 595 Server:

### System specifications

#### Maximum processors.

- ▶ A maximum of 32 modules within a system complex
- ▶ Up to four (4) modules per cabinet
  - An MCP module is fully populated with four (4) MCP CMOS processors
  - An Intel® module is fully populated with four (4) or eight (8) Intel® processors
- ▶ Up to 16 Unisys MCP CMOS processors per cabinet with MCP images
  - Single module: up to four (4) processors
  - Dual module: up to eight (8) processors
  - Three (3) modules: up to 12 processors
  - Four (4) modules: up to 16 processors
  - One (1) image can be from one (1) to 16 processors
  - A module is always fully populated with four (4) MCP CMOS processors
  - Up to four (4) MCP CMOS images per cabinet
- ▶ The overall maximum number of MCP CMOS processors is 128 within a system complex
- ▶ Optionally up to 24 Intel® processors per cabinet with open server images
  - Up to 24 Intel® processors per image in any combination of 4, 8 or 16 processors for any of the supported open server operating environments: Virtual Machine for ClearPath MCP (MCPvm), Microsoft® Windows® Server 2003, Enterprise and Datacenter Editions, Novell SUSE Linux Enterprise Server 9 (SLES 9), Red Hat Enterprise Linux 4 (RHEL 4)
  - Up to three (3) Intel® based images

#### Processor types.

- ▶ Unisys MCP CMOS processors
- ▶ Intel® Xeon™ processor MP (EM64T)
  - 3.1 GHz with 1 MB L2 cache
  - 3.66 GHz with 1 MB L2 cache

#### Operating environments supported.

- ▶ ClearPath MCP AND
- ▶ Virtual Machine for ClearPath MCP (MCPvm)
- ▶ Microsoft® Windows® Server 2003, Enterprise Edition
- ▶ Microsoft® Windows® Server 2003, Datacenter Edition
- ▶ Novell SUSE Linux Enterprise Server 9 (SLES 9)
- ▶ Red Hat Enterprise Linux 4 (RHEL 4)

#### Performance.

- ▶ 20 to 3,800 MIPS per MCP native partition (486 to 92,340 RPMs)
- ▶ 20 to 300 MIPS per MCPvm partition (500 to 7,300 RPMs)

#### Memory.

- ▶ 3 GB of MCP memory minimum per module (requires 4 GB physical memory)
- ▶ 24 GB of MCP memory maximum per partition (requires 32 GB physical memory)
- ▶ 48 GB of MCP memory maximum per cabinet (requires 64 GB physical memory)
- ▶ Reserve memory: the Libra Model 595 module is delivered with 4 GB of active memory and 12 GB of reserve memory

#### Power domains.

- ▶ Minimum: One (1) per module. Maximum: four (4) per cabinet

**Partitions.**

- ▶ A maximum of 32 partitions within a system complex
- ▶ Up to four (4) partitions per cabinet
  - Up to four (4) partitions each fully populated with four (4) MCP CMOS processors
  - A single MCP image can be from one (1) to sixteen (16) MCP CMOS processors
  - Optionally up to three (3) Windows, Linux and/or Virtual Machine for ClearPath MCP partitions
  - Optionally up to three (3) Java partitions
  - Optionally up to three (3) partitions with any combination of Libra Model 590, Libra Model 585, Libra Model 580, Libra Model 520, Libra Model 300, Windows, Linux and Java partitions
- ▶ A minimum MCP partition is one (1) module with one (1) active MCP CMOS processor and three (3) processors in reserve
- ▶ A maximum MCP partition is four (4) modules with 16 active MCP CMOS processors

**IO slots.**

- ▶ Eight (8) 32-bit 66 MHz PCI slots with 64-bit data addressing capabilities per module
- ▶ Reserve IO: Libra 595 systems are delivered with one (1) active and two (2) reserve fibre channel adapters

**Architecture.**

- ▶ Unisys module-based Cellular MultiProcessing (CMP)
  - Four-way, non-blocking, crossbar inter-connect
  - SMP-based programming model (applications run without change)
  - Fully independent modules

**Environmental.**

- ▶ Cooling.
  - Seven (7) fans per module (N+1)
- ▶ Power.
  - Two (2) 1200 Watt supplies per module
- ▶ Power domains.
  - Single Phase, /200-240 VAC, 50/60 Hz, 10 Amps per line cord
- ▶ Thermal.
  - 300 cfm of air per module

**Access area.**

- ▶ Front and rear

**Weights and dimensions.**

- ▶ See Table 1.

**Noise level.**

- ▶ 6.6 Bels re: 1pW

**Shock.**

- ▶ Operating: 3.0g, 15ms
- ▶ Non-operating: 8.0g, 15ms

**Vibration.**

- ▶ Operating: 0.01 in. 5-22 Hz; 0.25 g 22-300 Hz
- ▶ Non-operating: 0.10 in. 5-10 Hz; 0.5g 10-70 Hz; 0.002 in. 70-99 Hz; 1.0g 99-300 Hz

**Temperature.**

- ▶ Operating: 13°C to 35°C (55°F to 95°F)
- ▶ Shipping: -40°C to 65°C (-40°F to 149°F)

**Relative humidity.**

- ▶ Operating: 10-80% (non-condensing)
- ▶ Non-operating: 95% maximum (non-condensing)

**Altitude.**

- ▶ Operating: 0-8,000 feet (0 - 2,436 meters)
- ▶ Shipping: 0-14000 feet (0-4263 meters)

**Unisys ClearPath Plus Libra Model 595 Servers: Table 1 Weights and Dimensions**

<b>Style Number</b>	<b>Description</b>	<b>Weight* pounds (kilograms)</b>	<b>Width* inches (meters)</b>	<b>Depth* inches (meters)</b>	<b>Height* inches (meters)</b>
LM595-141	Single module, 4-processor native MCP partition; 4 GB memory **	277 (126)	19 (0.5)	32 (0.8)	11 (0.3)
LM595-142	Single module, 4-processor native MCP partition; 4 GB memory. Upgradeable to a 8-processor configuration	737 (335)	27 (0.7)	43 (1.1)	69 (1.8)
LM595-242	Redundant dual module, single 8-processor native MCP partition; 8 GB memory	870 (395)	27 (0.7)	43 (1.1)	69 (1.8)
LM595-243	Redundant dual module, single 8-processor native MCP partition; 8 GB memory. Upgradeable to 12- and 16-processor configurations	880 (400)	27 (0.7)	43 (1.1)	69 (1.8)
LM595-343	Three (3) modules, single 12-processor native MCP partition; 12 GB memory. Upgradeable to a 16-processor configuration	1,020 (463)	27 (0.7)	43 (1.1)	69 (1.8)
LM595-443	Four (4) redundant modules, 16-processor native MCP partition; 16 GB memory	1,160 (527)	27 (0.7)	43 (1.1)	69 (1.8)

\* Outside dimension

\*\* Free-standing configuration for installation in an existing cabinet.

**For more information, please contact  
your Unisys representative.**

**Or call Unisys today at:  
1-800-874-8647, ext. 776 (U.S and  
Canada)  
00-1-595-742-6780, ext. 776 (other  
countries)**

**For the most up-to-date ClearPath  
Plus Libra Model 595 server  
information, visit our website at:  
<http://www.unisys.com/cp/libra>**

**You'll find even more details and  
documents through our community  
of ClearPath users and experts at:  
<http://www.unisys.com/cp/community>**

**You can also contact us by email at:  
<mailto:cic@unisys.com>**

**For the more information, visit our website at:  
<http://www.unisys.com/cp/libra>**

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