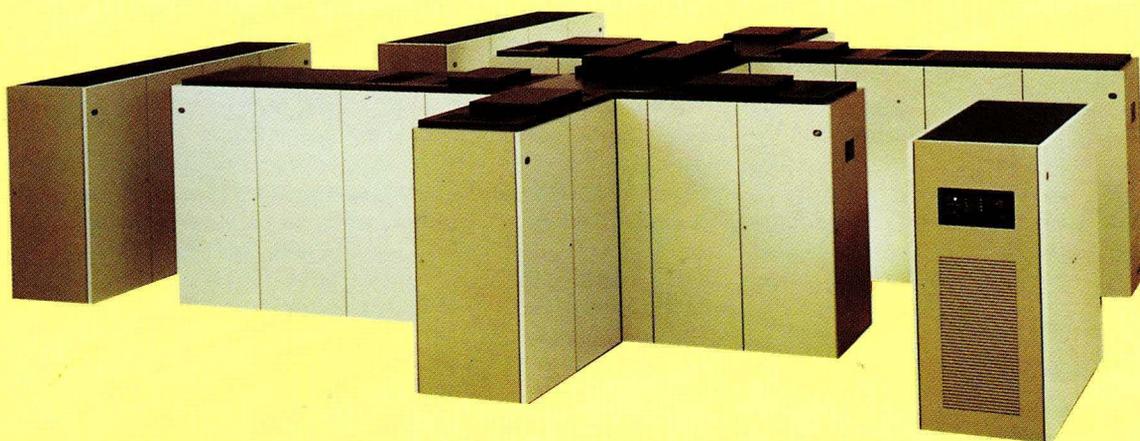


# Virtual Storage Extended/Enterprise Systems Architecture Version 1 Release 1

• *A new era begins*



VSE/ESA(\*) Version 1 Release 1 is a member of the family of Enterprise Systems Architecture/390(\*) (ESA/390) operating systems, delivering full-function transaction processing and batch capabilities at an attractive price/performance level.

VSE/ESA provides constraint relief and enhanced availability, as well as improving its affinity with Multiple Virtual Storage/Enterprise Systems Architecture (MVS/ESA) and SAA(\*) for existing VSE/SP users. It also provides an entry and intermediate environment for new VSE users.

In addition, VSE/ESA provides native support for the ES/9000(\*) family of uniprocessors.

## *Increased real memory for better performance*

VSE/ESA in ESA mode supports up to 24 times the real memory of previous versions — giving you up to 384MB of real memory. VSE/ESA also reduces paging and significantly increases the number of users the system can handle. This means you're able to dramatically improve the productivity of your users by increasing the performance of your system.

VSE/ESA also offers a total virtual storage of up to 256MB, with a maximum address space size of 16MB. In addition, VSE/ESA relocates Advanced Communications Function/Virtual Telecommunications Access Method (ACF/VTAM) from a shared partition and places it in a private partition. On an ESA/370 processor, VSE/POWER is relocated from a shared partition into a private one.

The IBM logo, consisting of the letters 'IBM' in a bold, stylized font with horizontal stripes.

As a result of these enhancements, the requirement for shared storage is reduced, making more virtual storage available for user applications.

#### *Improved system capability through dynamic partitions*

By adding dynamic partitions — termed “dynamic” because they exist only as long as needed — VSE/ESA can help you improve system capacity. In addition, virtual storage constraint relief is realised by providing up to 200 additional dynamic partitions with separate address spaces — enabling you to benefit from the full use of the memory and capabilities of the ES/9000 family of processors. This means that you can substantially improve performance by allowing users to run more applications and increase productivity.

With VSE/ESA, these dynamic partitions are grouped and scheduled by class. The combination of these dynamic partitions and additional address spaces means that you can realise greater capacity from your system.

#### *Enhanced availability means greater productivity*

As transaction processing applications evolve that are critical to the success of your business, availability becomes a key consideration. The Extended Recovery Facility (XRF) function of Customer Information Control System/VSE(\*) (CICS/VSE\*) Version 2 Release 1 enables VSE/ESA to address the availability requirement, while protecting existing investments in applications and skills.

In a variety of configurations, an initialised alternative CICS partition under XRF can automatically take over from CICS in the event of unplanned or unscheduled outages. XRF automatically recognises a CICS failure and transfers the workload to the alternative CICS to minimise disruption time to users.

Because of the larger number of partitions available, you can use additional CICS partitions for added capacity, or employ them as alternative CICS partitions, which can mean higher availability of facilities.

XRF can also reduce the number of planned outages. For instance, control can be applied to the primary (active) CICS and transferred to the alternative CICS when there is service or maintenance. In this way, the alternative CICS continues to service users.

#### *Providing additional flexibility among systems*

VSE/ESA has a strong affinity with MVS/ESA that is provided by common subsystems, languages and application generators. This means that you have access to richer, more productive products including CICS, VTAM, COBOL II(\*), C (Statement of Direction), Structured Query Language Data System (SQL/DS) and Cross System Product (CSP).

If you're running a VSE/ESA system that's affiliated with an MVS/ESA enterprise, this affinity can result in the sharing of skills and programs.

With new levels of VSE/ESA affinity with MVS/ESA, plus the operating system's unattended node capabilities, an MVS/ESA enterprise has attractive options for VSE/ESA distributed systems. In this way you can more effectively utilise the existing skills of your system support staff by sharing these skills across the enterprise. In addition because of VSE/ESA's unique affinity with MVS/ESA, you retain the option of centralised processing, or a mixture of centralised and distributed processing.

So with VSE/ESA, you have an operating system that gives you the flexibility to make the most of your current information system investment, plus the freedom to meet your future needs.

What's more, if you're a VSE user considering a move to MVS/ESA, the system's enhanced flexibility means you can develop applications under VSE/ESA with total confidence that you'll be able to migrate these valuable programs to MVS when ready.

#### *Constraint relief increases capacity*

VSE/ESA improves processing capacity by relieving system constraints. As a result, your system support staff and end-users are able to work much more productively. Requirements for tuning and balancing the VSE/ESA system are reduced, so users are able to direct their skills toward the applications necessary to improve business competitiveness.

VSE/ESA takes advantage of the capabilities of the ES/9000 family of processors, allowing new users to work more effectively in less time.

VSE/ESA enhances your ability to grow within a VSE system to enable your system to expand with your needs, while helping to improve both end-user productivity and customer service.

#### *Highlights*

- Supports ES/9000, ES/3090, and Enterprise System/9370(\*) (ES/9370\*) processors
- Includes Systems Application Architecture(\*) (SAA) application-enabling products to provide a stable application development environment
- Provides support for the dynamic channel subsystem to supply significant constraint relief, improved performance and growth enablement
- Offers affinity with MVS/ESA systems and major subsystems
- Offers enhancements to many optional products including Cross System Product (CSP), Structured Query Language/Data System (SQL/DS) and more
- Supports larger real memory, more partitions, increased virtual storage and additional channels
- Improves the ability to function as a remote unattended node
- Provides virtual storage constraint relief by placing ACF/VTAM and VSE/POWER in private address spaces
- Reduces requirements for tuning and balancing to improve end-user productivity
- Delivers enhanced availability for transaction processing with XRF

#### *Technical information*

##### *Hardware requirements*

VSE/ESA provides native support for:

- ES/9000 family
- ES/3090
- ES/9370 family, including ES/9371 Models 10, 12 and 14
- All processors currently supported by VSE/SP Version 4 (except IBM System 370 Models 135 and 158)

VSE/ESA runs with the Processor Resource/Systems Manager (PR/SM) feature of ES/9000 and ES/3090.

Minimum hardware configuration supported by VSE/ESA:

- 2MB of processor storage is required. Depending upon products used, the minimum requirements may be larger
- Approximately 440MB of system Direct Access Storage Device (DASD) — depending on the volumes — is required on two volumes for a standard system
- One tape unit is required to install VSE/ESA
- One line printer or terminal printer with approximately 300 lpm

In a system configuration, the following is required:

- One systems console
- For CICS/VSE, at least one CICS display unit

*Performance considerations*

VSE/ESA offers the potential for substantial improvements in performance and capacity. These improvements will depend upon workload characteristics, machine configuration and operational effectiveness. Capacity increases can be realised only if enough processing power, real memory and I/O capacity are provided in a balanced system.

*Take your first step today*

An effective transaction processing system can have a dramatic effect on your overall operations:

your processing can be completed more efficiently,

your users can work more productively,

you're assured of an investment that's

easily upgradable to more powerful

systems.

For more information about VSE/ESA, talk to your IBM marketing representative today. You'll learn more about the many advantages VSE/ESA can offer businesses like yours.



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