



Matrix®

## 64-Bit Memory Management & Intersystem Communications for OS/390 and z/OS

### Solution Overview

Through processor and memory expansion, IBM System z mainframes are designed to scale to support the requirements of even the busiest data center. However, this is inevitably an expensive and inefficient way to compensate for poor application performance. Matrix® from Exspans provides a superior solution. Via a full-featured API, Matrix enables application programmers to take full advantage of existing but otherwise inaccessible system resources to maximize application performance while minimizing costs.

Matrix's 64-bit memory management enables the creation and control of multi-gigabyte private and shared virtual dataspace, presented to applications as contiguous linear address ranges. This allows for the loading and manipulation of large data sets -- both tables and indices -- to optimize application performance.

Robust intersystem communications allow both synchronous and asynchronous access to shared public dataspace. Single and multiple applications running on individual systems or on a sysplex can load, unload, and swap table data through simple and secure token handling routines. Virtual work areas may be mirrored across systems, accessible by multiple applications, to further increase performance.

Matrix's well-documented, easy-to-use API is designed to allow application programmers to increase application performance without extensive retraining in MVS. This allows data centers hosting large data sets to maximize human resources while minimizing costs. Return on investment is realized as a measurable increase in performance without the need to increase processor counts, physical memory, or technical staff.

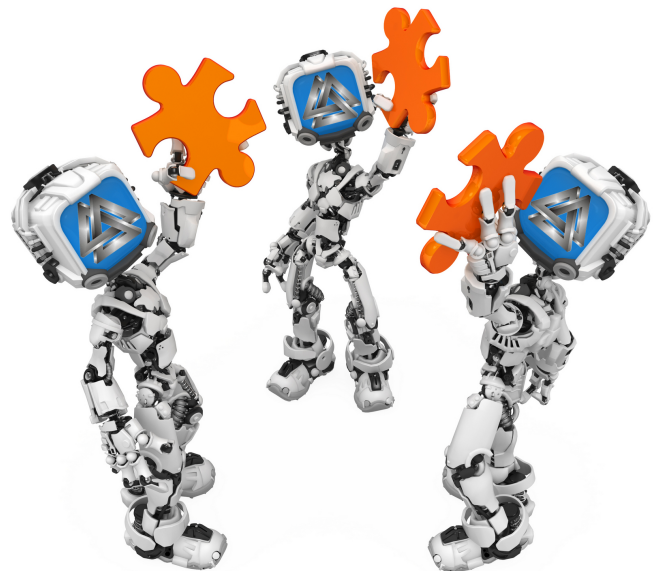
Contact Exspans to learn more, and visit the Exspans web site to download a no-obligation trial version of Matrix.

### Business Opportunities Created by This Solution

At a human level, Matrix's well-documented, easy to use API allows application programmers to take full advantage of system resources with minimal retraining in MVS. Free from having to master complex system functions, programmers can focus on tuning application performance, eliminating bugs, and adding new features.

At the technical level, Matrix's 64-bit memory mode enables the creation of multi-gigabyte virtual work areas facilitating faster data and index access, while streamlined intersystem communication allows secure and flexible data sharing between applications and across systems.

In both cases, organizations realize immediate cost control benefits: achievable service-level goals and more efficient resource utilization with minimal effort and without unnecessary hardware upgrades.



*Matrix lets your application programmers juggle system resources with ease.*

## Problems Addressed by This Solution

Ideally, an application developer will have extensive knowledge of and experience with system-level MVS functions, with the access rights necessary to apply these to achieve optimal performance.

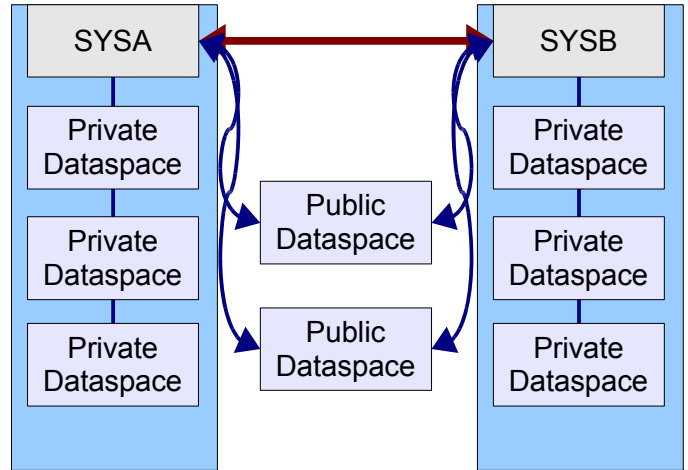
In practice, system-level access to extended memory functions and intersystem communications is generally inaccessible to typical application developers. Indeed, larger organizations may segregate system and application developers, with only the former holding in-depth hardware awareness and being granted access to manipulate OS resources.

Conversely, smaller organizations may have a developer or a team of developers that attempt to merge both system and application programming. However, since each field requires a different skill set, these developers may be ill-equipped to provide the in-depth experience and knowledge necessary to achieve optimal performance across all benchmarks.

As a result, application and system conflicts lead to processor and memory bottlenecks, which lead to inefficient program execution. Slow running applications in turn lead to lost productivity. In an effort to compensate for these losses, organizations resort to costly hardware acquisitions, which lead to further costs including increased power and cooling requirements, maintenance, and human resources.

## Industries of Specialization

Matrix is ideally suited for data centers hosting large and complex data sets, where maximum system performance and resource utilization are priorities. It has proven its value in numerous small and medium-sized organizations in the fields of education, healthcare, insurance, finance and banking, and travel and transportation.



*Matrix provides a full-featured API for 64-bit memory management, virtual space administration, and intersystem communication.*

## Exspans Overview

Exspans provides high quality, easy to use, and cost effective IBM OS/390 and z/OS memory management and intersystem communications utilities for small and medium-sized organizations across North America and Europe. Our founders have been developing and supporting software for IBM mainframe customers since the early 1970s.

Additional offerings in Exspans' catalog include:

- ✓ AutoMan - OS/390 and z/OS automation power tools enabling full system and application control, monitoring, maintenance, scheduling, and scripting, from IPL to shutdown and all points between.
- ✓ TapeMan - Multi-system and multi-device tape drive control and sharing.

Exspans is an IBM Business Partner and Partner in Development, and a member of IBM's ISV Partnership Program.

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