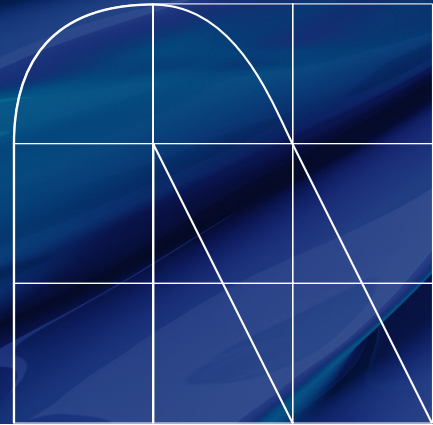


Find your path to modernized mainframe applications with UniKix



UniKix by NTT DATA

Many established businesses grapple with the excessive costs, vendor lock-in, incompatibility and resource scarcity of their legacy mainframe systems. They can see the vision of an agile and scalable cloud environment, but are unable to bridge the gap from mainframe to cloud. Enter NTT DATA and our UniKix Mainframe Re-hosting Software Suite.

UniKix provides a smooth path to re-hosting or re-platforming mainframe application assets. Implemented well over 1,000 times around the globe, it bridges the gap between the old and the new through a scalable yet stable software environment.

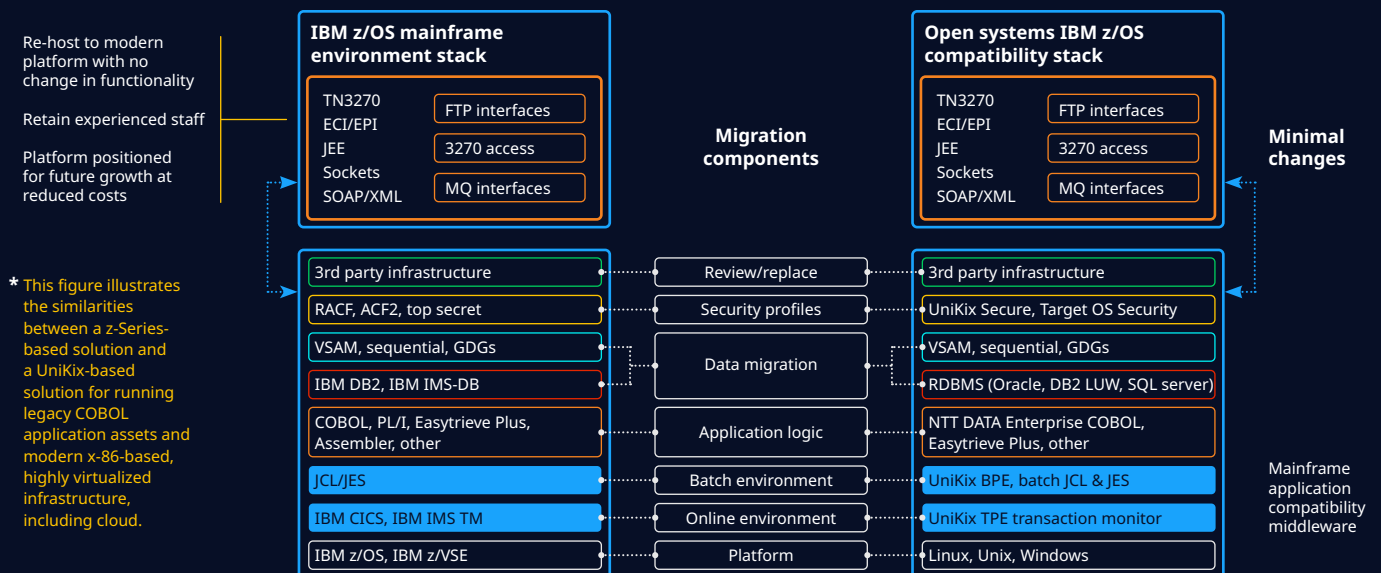
With UniKix, your organization can maintain and enhance the value of existing applications without extensive rewrites or reengineering. The software suite reuses existing mainframe application source code and data

assets but runs in a much lower-cost hardware and software environment. This approach reduces the total cost of ownership by up to 70% and provides the opportunity for substantial savings when fully implemented.

It also unlocks innovation, agility and scalability, all while providing continuity and operational excellence. This more open and modern target platform accelerates maintenance and development using industry-standard methodologies and tooling.

How does UniKix Mainframe Re-hosting work?

The software suite provides an alternative environment so you can run workloads natively on highly virtualized systems, including those in the cloud. These workloads include migrated CICS transactions, IMS applications, and batch and job control language (JCL) workloads.



So, how can you move away from the mainframe with UniKix?

The primary components of the UniKix Mainframe Re-hosting Software Suite include:

UniKix Transaction Processing Environment (TPE) software.

UniKix TPE software runs re-hosted online IBM CICS applications, IBM IMS/TM applications and related services on industry-standard servers and operating systems such as Red Hat Linux. It manages programs, files, queues, transactions, screens, terminals and other application resources, providing a robust execution environment for business applications. The software supports a variety of client devices, including IBM 3270 SNA, TN3270, IBM WebSphere, ECI/EPI, web services and Java technology-based clients.

UniKix Batch Processing Environment (BPE) software.

UniKix BPE software provides a complete job entry subsystem (JES) environment for the administration, execution and management of batch workloads on highly virtualized servers. It supports concepts such as job step-level management, workload classes and priorities, as well as file types such as VSAM, concatenated datasets and generational data groups (GDGs). UniKix BPE software includes facilities for migrating IBM z/OS environment and IBM z/VSE environment job control language (JCL) job streams.

UniKix BPE provides facilities to run existing JCL with minor modifications. It also provides facilities for batch conversion of JCL to scripts using solution-supplied utilities. Any JCL references to datasets, libraries and

GDGs are then mapped to the new directories and filenames in the distributed platform OS file system, where the migrated resources live.

UniKix Secure. UniKix Secure software provides the administration and runtime services of an external security manager (ESM) for the UniKix TPE software environment. It delivers the detailed security protection businesses require for applications that are central to daily operations. This protection includes a comprehensive role-based access control security model, inclusive permissions model, multiple user profile choices and adaptable hierarchical relationship options.

UniKix Central Manager. The UniKix Central Manager software provides a graphical window into UniKix TPE

software regions and UniKix BPE subsystems. Operators can clearly view and track system events and performance. The UniKix Central Manager's easy-to-use interface provides centralized, real-time information for determining system status, processing rates, potential bottlenecks and configuration enhancements. It all aids in guaranteeing performance levels and user response times.

Migrating Programs and JCL.

Mainframe re-hosting can quickly move the same COBOL, JCL and batch applications that have served businesses for years to a distributed environment with minor code changes. You can migrate most COBOL and PL/I programs with only minor changes and a recompilation on a distributed operating environment. Applications written in C, C++ and Java can also be executed in this environment.

Migrating data. You can migrate data stored in VSAM files, IBM IMS databases and IBM DB2 databases to a distributed platform. In addition to supporting Oracle RDBMS, IBM's DB2-LUW and Oracle RDBMS, the UniKix Mainframe Re-hosting Software Suite provides support for VSAM file services, sequential files and GDGs.

Since IBM IMS databases are hierarchical, the database structure is translated to a relational database environment before the data is migrated. If done manually, this process can be time-intensive and error-prone. Leveraging NTT DATA H-RDB automated migration tools saves significant time and effort during migration projects and delivers modern database designs that are optimized for system performance.



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Navigating the modernization path

NTT DATA provides extensive and flexible application re-hosting services to move legacy software assets to flexible, cost-effective, highly virtualized distributed systems, including cloud. We tailor service offerings to meet your organization's business objectives and technical needs. Our Application Modernization consultants have expertise in mainframe, online and batch environments, distributed and legacy systems, and application re-hosting.

Whether you're just starting out or need help along the way, our application re-hosting services have you covered.

Project evaluation. If you're interested in evaluating the feasibility of a mainframe re-hosting migration project in terms of both business and technical merit, NTT DATA offers an initial consultation and design activity. Our Application Modernization re-hosting experts evaluate information on your existing mainframe hardware and software, applications, file and data types, and other areas. Based on this information, we'll evaluate your options for re-hosting an application to distributed systems and cloud. If initial technical and financial characteristics show that a re-hosted application environment is a good fit, then we'll propose a move to a more detailed design phase.

Application asset cataloging and source assessment. NTT DATA experts perform a more extensive analysis of the application environment in the application assessment and solution design phase. The source assessment helps create an inventory of application source code components (programs, copybooks, include files, BMS maps, MFS screens, JCL, parameter libraries and other relevant source modules).

Beyond the application components themselves, we offer infrastructure and operational environment assessments and solution design services. These assessments investigate and characterize the support requirements of your current application framework, and then we provide recommendations on how to meet these requirements on a distributed system platform.

Application migration. If you decide to re-host, we provide several options to either perform or support your application transition to the UniKix TPE/BPE software solution environments:

- **Mainframe Application Re-hosting Projects** deliver end-to-end application re-hosting services. Projects could include migration of source code and JCL, data conversion, hardware configuration and installation, and UniKix TPE/BPE software installation and configuration.

- **Mainframe Migration Technology Transfer Services**

offer a combination of training, on-the-job consulting assistance on a migration project and oversight as you conduct the migration. This option includes the transition from the mainframe to the target distributed systems environment.

In addition to the hands-on training our re-hosting experts provide throughout the migration service, we offer a broad range of learning resources. These include courses in UniKix TPE/BPE software to help your staff gain an in-depth understanding of the target IT infrastructure. Classes can be tailored to your business needs and delivered at your site or an NTT DATA training center.

And finally, if you're looking to not only re-host application assets but also receive vendor support, NTT DATA provides a wide variety of software and hardware infrastructure managed services. We also offer application development and maintenance services and support.

No matter how demanding your workloads or what industry you're in — from commercial and financial services to healthcare, manufacturing and the public sector — NTT DATA and UniKix offer a premier path to modernized mainframe applications.

Visit our [UniKix site](#) to learn more.

NTT DATA is a \$30 billion trusted global innovator of IT and business services. We help clients transform through business and technology consulting, industry and digital solutions, applications development and management, managed edge-to-cloud infrastructure services, BPO, systems integration and global data centers. We are committed to our clients' long-term success and combine global reach with local client service in over 80 countries.

