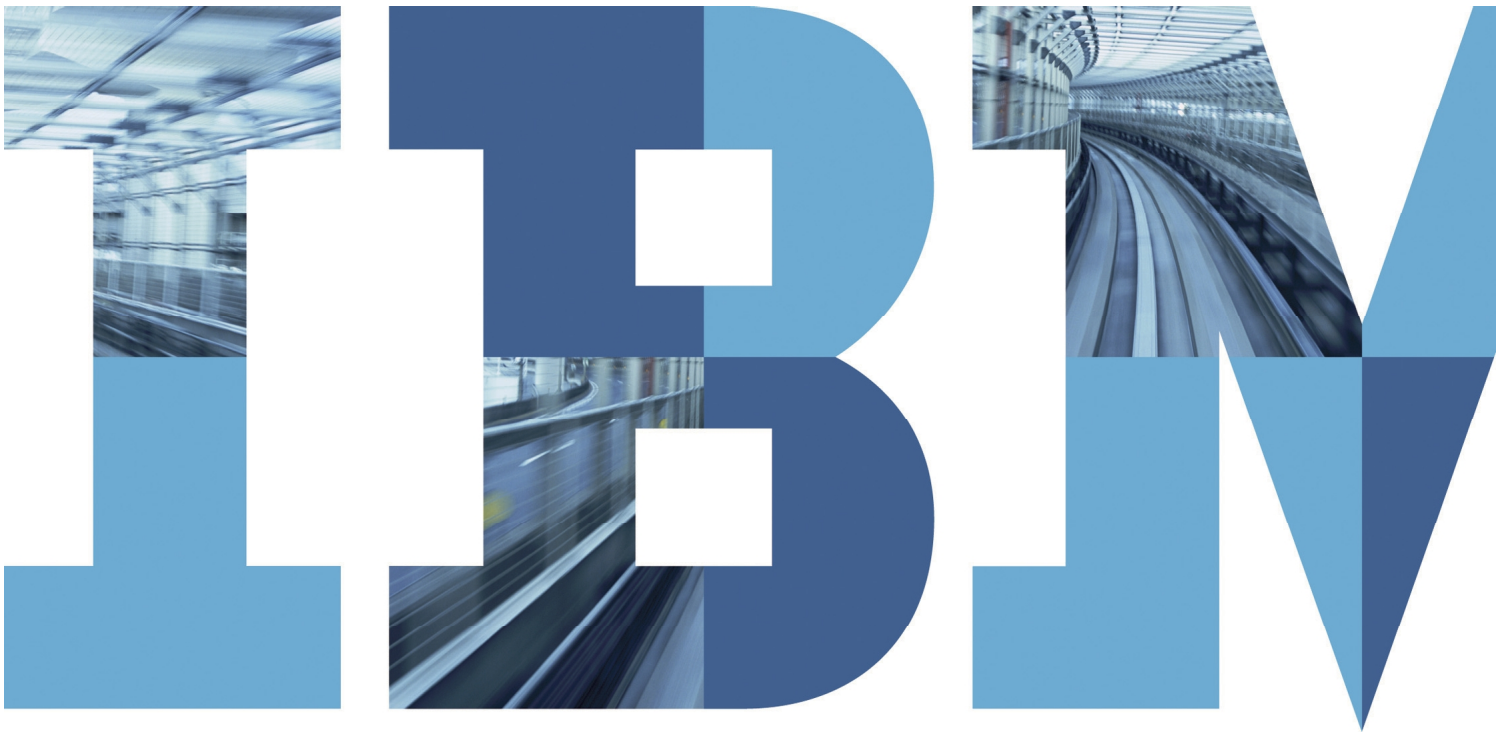
IBM Software

Evolving IBM z/VSE systems in a web-oriented world

Extend your mission-critical mainframe operations with Linux on IBM System z technology



IBM

Continuing the innovative evolution of a trusted system

In an industry in which many platforms have made their mark in history, the IBM VSE operating system stands out as one of the most flexible, cost-efficient systems ever developed. It's also one of the oldest, having held a steadfast presence in the business world since it was first introduced in 1964 for the IBM System/360. The VSE operating system owes its longevity and overall success in large part to its reliability and stability—prized by loyal mainframe users worldwide—as well as to its adaptability and extensibility. For more than four decades, IBM has continually evolved VSE, now called the IBM® z/VSE® operating system and running in an IBM System z® environment, so it remains a viable platform that addresses its users' most pressing business needs. More important, it is *still* evolving.

Today, the technological landscape is highly complex and web centric, making the simplicity of z/VSE more appealing than ever. Yet z/VSE solutions clearly need added capacity and functionality to support the deployment of new, advanced workloads and the provisioning of new IT services. Once again, IBM is addressing the needs of z/VSE users by providing them with a strategic road map that allows them to continue to maintain and operate their existing mainframe applications while helping them meet new business demands for advanced, web-based workloads. With this road map, z/VSE users can protect their existing investments by seamlessly integrating their overall IT systems and network with their z/VSE assets. Using Linux on System z technology, they also can extend their solutions to the web—a fundamentally important step toward dissolving the division between centralized and distributed computing.

"Over the course of the years, as the requirements became higher and higher, the z/VSE on the mainframe proved itself as an absolutely reliable operating system that was both stable and secure and became easier and easier to administrate."

—IT manager, Wessels + Müller AG, a German automotive distributor

The timeless appeal and benefits of IBM z/VSE solutions

Like most IT managers, those who rely primarily on z/VSE to run their core operations must continually reevaluate their IT strategy to help ensure that their IT systems are delivering optimal value. Given the requirements of today's modern workloads, which require 64-bit virtual support, these managers are seeking new opportunities to consolidate their distributed workload on the mainframe.

The benefits of growing current z/VSE system-based platforms are compelling. First, many organizations have made significant, long-term investments in their z/VSE solutions that go far beyond the operating system itself to include mission-critical application code and data. Organizations often rely on the system to run their core business activities, including financial transactions, customer order processing, production and inventory control, and payroll. Also, their IT personnel often have spent years accumulating the knowledge and skills necessary to maintain these applications. Second, the z/VSE operating system is seen by many users as virtually synonymous with availability, serviceability, scalability and security. The risks of parting with a system long designed around these basic attributes are significant. Third, the z/VSE operating system is as efficient as it is robust and dependable, offering a comparably low total cost of ownership (TCO). It also can deliver significant economies of scale as workloads increase and provide a lower-cost power and cooling solution (when compared with the electricity costs of distributed server farms or installations).

What's more, IT managers know their z/VSE solutions inside and out and know they can depend on them. They also know that IBM is invested in their success. When it comes to evolving the mainframe architecture so it supports new innovations as well as maintains compatibility with previous releases, IBM holds an impressive track record.

"This [z/VSE] environment … has evolved and remains contemporary by using applications and extensions that are hosted on zLinux, and the Business Class machines, past, present, and future, continue to make operational and economic sense."

—Stephen D. Bartlett, senior contributing analyst, The Clipper Group[1]

Protect, integrate and extend your z/VSE solutions

IBM z/VSE users know they have a good thing going and only hope that it keeps getting better. And it has. In years past, IBM has expanded the mainframe's core capabilities to include web serving, autonomics, disaster recovery and grid computing. Now IBM once again is helping to ensure that your

z/VSE operating system remains viable and delivers significant business value well into the future. The current IBM strategy for evolving z/VSE systems, which features a hybrid model based on open and industry standards, employs the following three-step road map.

Protect your existing embedded z/VSE investments and knowledge base

Your IT organization can leverage the latest innovative IBM System z and IBM System Storage® technologies to help protect investments in core z/VSE programs, data, equipment, skill sets, business processes and user training. Advanced virtualization capabilities on System z mainframes allow you to create servers in seconds plus extend the flexibility of your IT infrastructure.

Integrate your z/VSE solutions with your other systems and networks

Using z/VSE connectors, web services and IBM middleware such as IBM WebSphere® and IBM Tivoli® software, your IT organization can integrate existing z/VSE solutions with the rest of your IT. Older yet quite valuable applications, such as IBM CICS® (Customer Information Control System) programs, can be web-enabled so their interfaces are simplified and updated and their workload capacities are expanded.

Extend the platform with new solutions based on Linux on System z technology

Your IT organization can use the Linux on System z environment as both a gateway to the Internet for existing z/VSE applications and as a host for new applications. Extended with Linux technology-enabled tools, your z/VSE systems can better support the rapid introduction of new, competitive IT solutions. You can save the expense of switching to a new platform while retaining the security-rich capabilities of a mainframe. In addition, new applications can be seamlessly integrated with operations and transaction data stored on your z/VSE systems.

Thousands of applications already have been enabled to run on the Linux on System z platform, which combines the open standards of the Linux operating system with the advanced capabilities of the IBM System z platform. These applications take advantage of the leading security and encryption features within System z mainframes and IBM z/Architecture® technology.

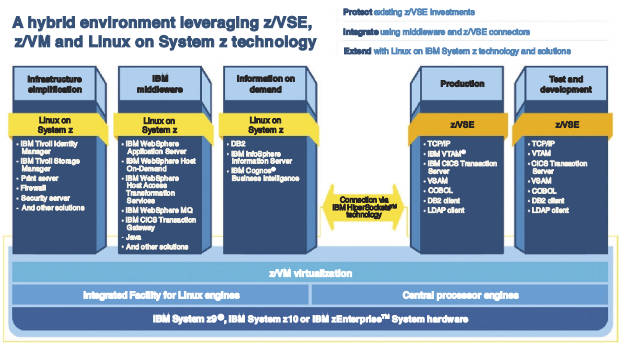


Figure 1: IBM z/VSE connectors, web services and IBM middleware integrate existing z/VSE solutions with the rest of the organization's IT. Extended with Linux technology, the z/VSE platform then serves as both a gateway to the Internet for existing z/VSE applications and as a host for new applications.

Four ways to extend your z/VSE platform with Linux technology

By leveraging Linux operating system-enabled tools from IBM, your organization can do so much more with its mainframe. The four scenarios described below demonstrate ways in which your organization can use z/VSE connectors and Linux on System z technology to integrate its z/VSE platform into a heterogeneous environment and expand its current IT architectures to support today's workloads and applications. IBM z/VSE users across industries already are achieving business value from having implemented these types of solutions.

CICS integration for z/VSE clients

Your organization can more fully utilize its z/VSE platform by integrating existing CICS transactions with distributed transactional processes. Using IBM CICS Transaction Gateway software running on the Linux on System z platform, you can allow real-time web browser access to new and existing CICS applications while supporting comprehensive transaction reliability and security with your existing, proven platform. This integration facilitates the design and deployment of combined CICS and Java Platform, Enterprise Edition (Java EE) and web services solutions while helping reduce associated costs and risks. With these heterogeneous solutions, your organization can scale operations as needed (without rewriting application code), share data as needed with IBM z/VM® virtualization technology, and exploit the high availability and reliability of the System z platform.

Data integration for z/VSE clients

IBM DB2® information management software running on Linux on System z technology offers z/VSE users an ideal foundation for integrating data across the enterprise. Real-time access to a consistent, consolidated data pool helps eliminate problems with data inconsistencies and improve operational effectiveness while reducing management costs. Scalable and reliable, it can also serve as the foundation for a data warehouse and business intelligence solution that can facilitate faster business decisions through rapid, efficient data analysis.

SOA and web services for z/VSE assets

By implementing web-based solutions running under Linux on System z technology, your organization can both leverage and extend your existing application portfolio. Using a service-oriented architecture (SOA) and web services, your organization can more fully integrate its CICS applications in a cross-platform environment to support core business processes and link users with crucial information for daily operations. Encapsulated through web services into repeatable business tasks, existing CICS business logic can be integrated with other systems—virtually independent of platform—in this form and then reused in dynamic, new ways. Web services can, for example, be used to better connect or extend services to user groups, including customers, suppliers and business allies.

Fratelli Carli customers purchase products on the go using Linux technology

A leading producer of premium olive oil and other consumer products, Fratelli Carli S.p.A. serves customers in Italy, Europe and the United States. Having successfully grown its business for 100 years, the company continually looks for new ways to improve customer satisfaction.

The company decided to offer customers the option of purchasing Fratelli Carli products anytime, anywhere, using their mobile browsers. Extending its existing z/VSE platform, the company implemented a web-based payment application running on Linux on System z technology and leveraging IBM DB2 information management software. "Fratelli Carli chose IBM System z10™ because it's extremely reliable, secure and gives us the opportunity to integrate modern Linux systems with fast legacy applications," says Marco Gardini, IT operations manager at Fratelli Carli. "I decided to install the DB2 in the Linux engine because this means the corporate data is available for both legacy system and distributed systems. This choice allows us to achieve maximum applications integration with different systems and to obtain the maximum potential from the … Linux engine."

By using Linux on System z technology, the company has been able to seamlessly integrate its existing z/VSE data with the new service. Its customers, in turn, now enjoy the convenience of making security-rich purchases using their mobile browsers.

Web browser access to z/VSE resources

With Linux on System z technology, existing green screen z/VSE applications and data can be accessed via virtually any standard web browser. Your organization can save the costs inherent in redesigning and rewriting tailored CICS applications. It can also avoid the downtime required to deploy packaged applications and the chance that they will not meet user requirements. Existing assets can be combined with Java technology-based applications to create new web applications using IBM InfoSphere® host integration solutions. Information can be quickly and easily accessed from web applications, improving employee efficiency and customer service while helping reduce employee training costs.

A viable platform for today and tomorrow

By embracing an open, standards-based model for evolving the z/VSE platform, your IT organization can do more with this time-tested, trusted platform than ever before. You won't lose any of the qualities that you value most in your z/VSE system, such as its stability, reliability and security-rich features. Yet you can increase your system performance and capacity and consolidate your applications—old and new—on a single platform.

With z/VSE solutions integrated with applications running under Linux on System z technology, your centralized system can now become the hub for your distributed system. Existing investments can be protected while operations can be extended in new, innovative directions. You'll not only be better able to meet the demands of a web-based world—you'll be able to do it with the mainframe advantages on which you've always counted.

Notes

For more information

To learn more about how your IT organization can evolve its IBM z/VSE environment using Linux on System z technology, contact your IBM sales representative or IBM Business Partner, or visit: **ibm.com**/vse

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IBM Corporation
Software Group
Route 100
Somers, NY 10589
U.S.A.

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[1] The Clipper Group Navigator, *IBM Continues Extension of z/VSE—More Function for Midrange Mainframe Users*, Stephen D. Bartlett, April 8, 2011.

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