



# Complete CICS Integration for VSE: Fast, Easy, Reliable

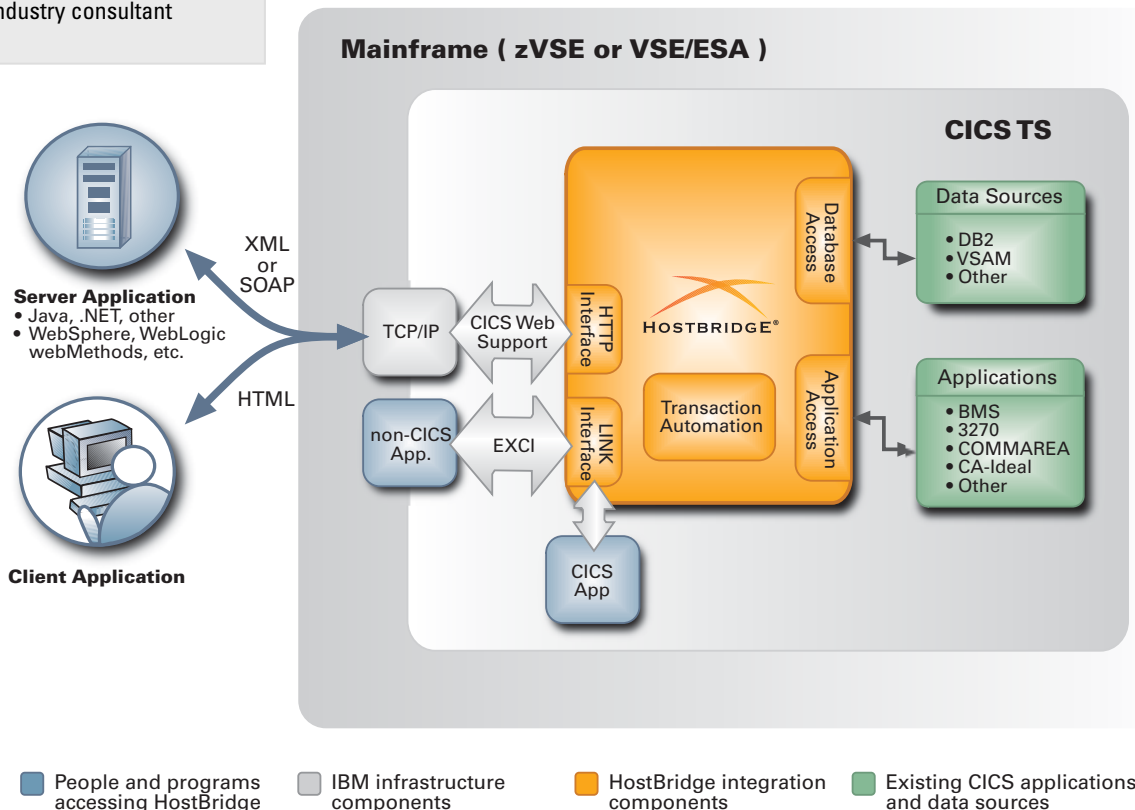
"HostBridge Technology provides leading edge support for application integration and exploitation of industry standards such as XML, SOAP, and JavaScript. Transaction automation, scripting facilities, direct data access and other capabilities keep HostBridge at the forefront of CICS integration. The addition of support for CA-Ideal®, 3270 applications, and HTML output shows that HostBridge Technology not only listens to customers, but responds to them. HostBridge is truly *the* CICS Integration Company."

Bob Yelavich  
CICS industry consultant

Organizations worldwide have decades of business processes and data in legacy applications running under CICS. Dealing with those legacy applications is the single largest headache when they design integration frameworks. HostBridge provides a low-risk, high-value solution that preserves investments in CICS applications and lowers integration costs.

HostBridge is mainframe software that allows CICS transactions and data to be easily integrated with other applications. While these "other" applications are typically client, server, or web-based applications, they can also be other CICS or mainframe-based applications. HostBridge eliminates the need to change or rewrite your CICS applications. This allows you to quickly transform your existing CICS business systems into web services, integrate them with business processes, or make them easily accessible to your partners' networks.

HostBridge runs completely under CICS Transaction Server. As a result, HostBridge can take advantage of the latest interfaces and features provided by IBM within CICS TS. It also allows HostBridge customers to leverage the security, reliability, and scalability of the CICS environment. The figure below illustrates the features and functions available in HostBridge.



## Benefits of XML

- Portability – applications can access and move data among multiple platforms; hardware changes do not disrupt the flow of information.
- Interoperability – applications work well with other XML-enabled technologies, ensuring component compatibility.
- Risk reduction – standards reduce implementation costs since companies can purchase important business components from multiple sources.
- Cost reduction – XML eliminates the need to develop custom APIs and data formats to allow communication with legacy applications.
- Future proof – standards represent the most stable technology interfaces and vendors support standards as technology evolves.

“Products such as HostBridge can save organizations time and money by allowing them to utilize and leverage in-house resources and proven technology while moving to the next-generation eBusiness environment.”

Sally Cusack  
IDC

## HostBridge Overview

The HostBridge base product XML-enables any CICS transaction or program. This allows any existing CICS application to be accessed by, and integrated with, any type of distributed application. HostBridge provides this capability without requiring modification to your existing applications, and without screen scraping. As a result, HostBridge is the perfect tool for integrating CICS applications with other client, server, or web-based applications.

### CICS Applications

When used to access terminal-oriented CICS applications (BMS and 3270 transactions), HostBridge exploits the 3270 Bridge interface (TS 1.1.1) to intercept the flow of data into, and out of, a CICS transaction. In the case of BMS applications, HostBridge is able to intercept the flow of data *before* a 3270 data stream is generated as output or expected as input. When used with non-visual CICS applications (COMMAREA programs), HostBridge can LINK to programs in the region in which HostBridge runs, or in remote regions (remote regions can be running a version of CICS prior to TS 1.1.1).

HostBridge has the unique ability to allow developers to integrate legacy Advantage™ CA-Ideal® applications using field names from panel definitions rather than row/column coordinates from screen scraping. With HostBridge, web-based applications call Advantage CA-Ideal transactions without any changes to the existing programs.

### Flexible Connection Methods

HostBridge supports a wide variety of connectivity options, which allows it to communicate with virtually any type of distributed application. These options ensure that organizations can accomplish their CICS integration objectives regardless of the networking or communication methods available.

- *HTTP* – A growing number of organizations use HTTP as the means to communicate between CICS and distributed applications (e.g., those running on Windows or UNIX servers). HTTP is simple, fast, and flexible.
- *SOAP* – HostBridge supports SOAP (Simple Object Access Protocol) using either its integrated SOAP stack or IBM’s SOAP for CICS. This allows HostBridge to expose CICS applications and data as web services.
- *LINK/EXCI* – This interface allows other mainframe applications (CICS or non-CICS) to invoke the facilities and services of HostBridge. It also allows distributed applications to invoke HostBridge using the ECI interface.

### Security

Running a CICS transaction or program through HostBridge is just as secure as running it from a 3270 terminal. This is because HostBridge runs within the CICS environment and leverages the security-related services provided by your existing security system (e.g., IBM, ACF/2, TopSecret, BIM-Alert, homegrown). As a result, HostBridge works within whatever security models you have in place to protect sensitive corporate applications and data.

### HostBridge ROI: Fast Return on Integration

With shrinking margins and tightened budgets, companies must develop integration strategies that extend the useful lives of legacy applications, embrace emerging technologies, and generate new returns on investment. HostBridge immediately extends the ROI of CICS applications – both “inside” and “outside” the firewall.

- Not having to change existing CICS applications lowers implementation costs
- No screen scraping lowers maintenance costs
- No middle tier servers lowers operational costs
- Immediate access to CICS applications and data speeds return on integration projects

## Transaction Automation

The HostBridge ComQ facility provides transaction automation and aggregation capabilities that expand on the functionality of the HostBridge base product. HostBridge ComQ streamlines the CICS integration effort for HostBridge VSE customers through the use of CICS-based transaction automation and scripting facilities.

### CICS-based Transaction Automation and Scripting

HostBridge supports integrated transaction aggregation and navigation based on an efficient CICS-based transaction automation engine that runs on the mainframe. HostBridge ComQ utilizes the standard HostBridge COMMAREA Support function, executes as a CICS transaction invoked by standard HostBridge HTTP requests, provides cross-region CICS support without requiring multiple HostBridge instances, and execute/autoreply to multiple CICS transactions within a single HostBridge request before returning HostBridge XML output to requesting server or web application.

Consider an integration scenario that requires multiple CICS transactions to obtain the data required by a web-based application. For customers with complex transactions and/or integration requirements, this feature offers several benefits over server-based transaction automation solutions:

- *Improves performance* – Eliminates large numbers of HTTP requests and responses between middle-tier servers and the mainframe, which reduces latency for end users.
- *Increases flexibility* – Creates reusable components that middle tier applications can access using any technology, such as .NET and Java.
- *Simplifies development* – Allows web developers to use one call to run multiple CICS transactions.

## Direct Data Access

The HostBridge-Direct facility allows direct data access to popular VSE data sources for data integration, when utilizing CICS transactions may not be necessary or warranted.

### VSAM, DB2, and TSQ Data Access

Frequently, organizations need to retrieve information directly from CICS data sources as part of an integration process. HostBridge can read and write directly to VSAM files, DB2 databases, or temporary storage queues (TSQs). As a result, HostBridge is a complete solution for both application and data integration. Developers can rely upon a single, industrial-strength product and standards-based interface to access all CICS resources, which saves organizations time and money.

“Today, IBM customers use CICS to process over 30 billion transactions per day with a commercial value of several trillion dollars per week. By allowing these customers to XML-enable existing transactions without code changes, HostBridge demonstrates how easily CICS transactions can be integrated into rapidly deployed and highly scalable e-business applications.”

Dr. Geoff Sharman  
Senior Consultant  
IBM Transaction Systems  
(retired)

## Technical Requirements

HostBridge requires the following software:

- CICS Transaction Server 1.1.1 or greater
- VSE/ESA 2.5 or greater or zVSE

## Conclusion

For companies integrating CICS applications and data sources with new technologies, HostBridge saves time, saves money, and eliminates the complexity that usually accompanies integration. HostBridge provides the scalability and reliability expected of mainframe software and combines them with uncommon simplicity so it easily fits into any integration architecture. Because it runs entirely on the mainframe, HostBridge eliminates costs and performance problems that plague middle tier solutions. Ease of use, broad connectivity, and support for industry standards like XML, HTTP, SOAP, and ECMAScript allow HostBridge to extend the ROI of CICS applications.

The table below summarizes the basic and extended features in HostBridge.

Feature	Benefit
XML-enable CICS applications and data sources	<b>Integrate all your applications and data sources instantly.</b> HostBridge XML-enables BMS and 3270 transactions and COMMAREA programs. It does not require any changes to existing applications and it eliminates the need to learn multiple integration tools for different application types. HostBridge also allows you to access VSAM, DB2, and TSQ data sources directly and receive the results as XML documents.
Advantage™ CA-Ideal® support	<b>Integration based on field names rather than screen geometry.</b> HostBridge provides the unique ability to allow developers to integrate legacy CA-Ideal applications using field names from panel definitions rather than row/column coordinates from screen scraping.
CICS-based transaction automation	<b>Improves integration performance and flexibility.</b> The HostBridge ComQ feature set includes a CICS-based engine that allows developers to create transaction automation scripts and run the scripts in compiled form on the mainframe. Middle tier applications can send a single HTTP request to invoke the new process using .NET, Java, or any other middle tier technology. This eliminates multiple round-trip HTTP requests for each step in a process and reduces latency.
No screen-scraping	<b>More stable and scalable than screen-scraping solutions.</b> Screen-scraping techniques are prone to scalability and maintenance problems. For example, changes to host screens usually break screen-scraping integration. HostBridge does not rely on the use of row/column coordinates to identify field locations, so changes to the CICS application do not affect it, and it does not suffer from performance problems that plague screen scrapers.
Mainframe-based software	<b>On-demand scalability, no downtime, and high performance.</b> HostBridge runs under CICS on the mainframe (under OS/390, z/OS, and VSE) and benefits from trusted mainframe scalability and stability. It has as few “moving parts” as possible to increase performance and ensure data integrity between integrated applications.
Dynamic XML and HTML	<b>Ensures data integrity from mainframe to middle-tier.</b> Programs that use templates or generate programs with hard-coded data structures are inflexible and create maintenance problems for developers. HostBridge builds XML and HTML documents in real-time and reflects changes in the host applications automatically.
Ease of use	<b>Shorten time to market and lower integration costs.</b> HostBridge installs in less than an hour and instantly XML-enables all your CICS applications without any configuration. HostBridge documents conform to a fixed schema that ensures developers receive consistent information from the mainframe. Thus, costs usually associated with learning how to use middle tier solutions decrease when using HostBridge.
Standards-based	<b>No new scripting languages and future-proof integration.</b> Your employees use their familiarity with technologies such as XML, SOAP, JavaScript, .NET, and Java to rapidly XML-enable CICS applications and data sources and integrate them with other applications. Reliance upon industry standards ensures that future developers will have the necessary skills to maintain and build upon work done by today’s developers.

## Contact Information

For more information about HostBridge, or to inquire about our free 30-day trial, contact us using the information below.

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