

# Letters from the Trenches



## Scalability and CICS Integration

### From the HostBridge Archive

On their own, both CICS and web-based application servers are stable and scalable. The same is not always true of the adapters that allow these two platforms to communicate. Adapters usually run on middle tier machines that emulate 3270 terminals and connect to the host using TN3270. The diagram below shows the complex data paths for transactions conducted using solutions that include middle-tier components. Typically, this architecture produces 4-7 second response times, a maximum of 100 concurrent sessions per middle tier server, and a propensity to break down due to the many possible points of failure.

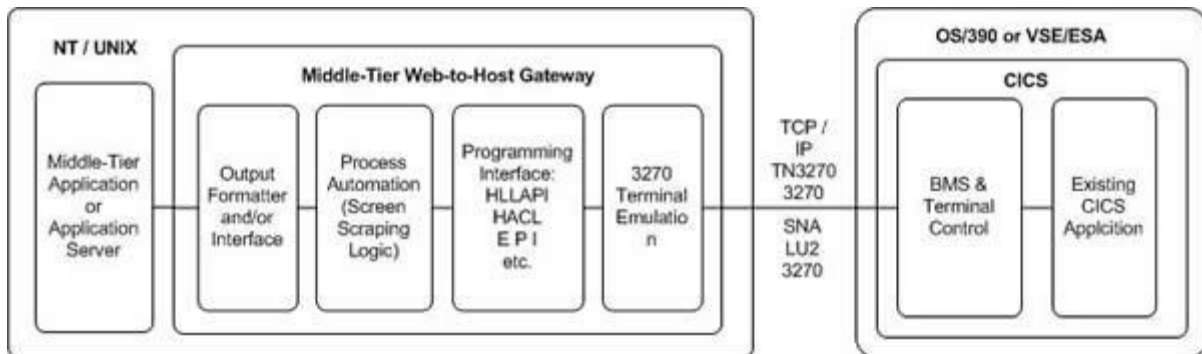
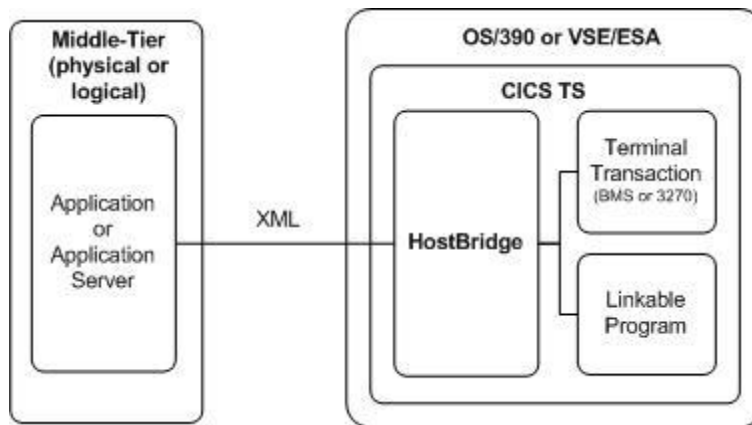


Figure 1. Typical web-to-host solution without HostBridge

Because it runs on the mainframe, there is no need to incur overhead by passing data through SNA stacks and HLLAPI running on an NT or UNIX box. This allows HostBridge to run at the full speed of your CICS applications. The diagram below shows the relatively simple data path required for conducting transactions using HostBridge. This architecture provides sub-second response times, as many concurrent transactions as the host system allows, and more reliable integration since there are fewer moving parts.



**Figure 2. HostBridge solution**

## Case Study

A large bank wanted to integrate their CICS programs with Microsoft's .NET architecture. One of their chief concerns was the scalability and performance of the integration solution. The .NET team selected HostBridge as the CICS adapter and immediately began testing against a small CICS test region. The results are summarized below.

- Six test machines generated 8000 concurrent connections to the HostBridge.
- Latency averaged 180-240 milliseconds per transaction (versus the 4-7 seconds produced by typical middle-tier solutions).
- Sustained performance at over 300 transactions per second with no increase in latency (versus 100 transactions per second on middle-tier solutions that also show dramatic performance drops with increases in sustained connections)

Although the test was conducted within a constrained CICS test region, the results far exceeded those of other solutions and more than met the bank's requirements. Because it works equally well with .NET and Java, HostBridge allows the bank flexibility in how it connects to CICS in the future.

## Tech Notes

This section answers common technical questions.

### **Q. Does HostBridge support SDF2-generated BMS maps?**

**A.** Yes. HostBridge provides a program that will accept as input the BMS macro code generated by SDF2, and generate as output the identical BMS macro code with the long/real field names. Fortunately, all the info we need to do this is included in the BMS macro source generated by SDF2. The great thing about this approach is that it is totally transparent to the COBOL program/programmer. It is also totally transparent to HostBridge. All you would need to do is include an additional step in the JCL used to generate/compile your SDF2 maps.