TOP 5 Ways Mainframe Integration Will Evolve in 2018

By Russ Teubner

In this new year, we're reading interesting stories from various experts about how technology will evolve in all areas such as wearable devices, block chain and even cryptocurrencies. I perceived a glaring lack of predictions about mainframe integration, which is unfortunate, because in my view, some very important things are destined to leave their mark on the mainframe integration landscape in 2018. So, with an admitted and unabashed pro-mainframe bias, I offer these prognostications about mainframe integration in this new year.

1. Server-Side JavaScript and Node.js Continue to Come of Age

Well over a decade ago, we here at HostBridge took a gamble on a nascent language called JavaScript, which at the time was strictly client-side. We thought, however, JavaScript was a great language for describing the operations required for application integration. We also understood that there was no reason it couldn't run on an IBM mainframe, so in 2004, the era of server-side JavaScript on IBM mainframes was born.

Node.js is an open source server framework that relies on JavaScript. Think of the relationship between Node.js and JavaScript as analogous to the relationship between CICS and z/OS. CICS is a multilanguage app server that runs on top of an operating system. Node.js is a single-language app server that runs on top of the Google V8 JavaScript engine.

From the mainframe architect's perspective, there is much to like about Node.js and a few things to be very concerned about. For example, the intricacy of authoring and testing Node.js code, compared to authoring and testing pure JavaScript code, will probably mean organizations will not author a lot of Node.js code themselves. Instead, they will either:

- Rely on a Node.js "package" (if one exists to suit their needs), or
- They will author pure JavaScript (using a platform like ours).

I predict that, *given that both IBM and HostBridge are working hard to elevate the role of JavaScript and Node.js in the modern mainframe environment, these technologies will rapidly mature during 2018.*

2. iPaaS: Interesting, but Buyer Beware!

Those of us who are in the integration technology business have recently learned a new acronym: "iPaaS" (Gartner explains: "**Integration Platform as a Service** (iPaaS) is a suite of cloud services enabling development, execution and governance of integration flows connecting any combination of on-premises and cloud-based processes, services, applications and data within individual or across multiple organizations.")

In general, I'm enthusiastic about cloud-based services. I admit, however, some skepticism about iPaaS. I believe iPaaS will find a niche, but probably NOT for orchestrating fine-grained, high-volume services running on a mainframe.

I say this from an understanding of how HostBridge customers use our JavaScript engine (hb.js) to orchestrate millions of transactions per day. The duration of some of these transactions (including the required data access) is measured in microseconds. Are organizations focused on delivering excellent end-user application response really going to orchestrate activities that take microseconds across a cloud-based infrastructure that requires milliseconds (or more) of latency? I think not. Every millisecond of latency on the back-end is a problem, because there's so much of it on the front-end!

My skepticism aside, I believe iPaaS solutions will find their place orchestrating macro-level activities. In fact, I predict that *by the end of 2018, at least one of our customers will use an iPaaS product/solution to drive a HostBridge service/script running on the mainframe.* This represents a sensible division of labor: perform fine-grained, high-speed orchestration of mainframe apps and data ON the mainframe, but integrate mainframe and non-mainframe apps/data using an iPaaS solution. Integration architecture has always been a "horses for courses" field.

3. Mainframe Resurgence Will Drive Integration Requirements

Those of us in the mainframe world have lost count on how many times the mainframe has been declared dead. Yet, its pulse is as strong as ever! Surely it is time to declare a period of mainframe resurgence in 2018. Lest you think I'm being flippant, I offer these proof points of resurgence from the work of two other independent mainframe software vendors.

Who has done more to reenvision the mainframe as a first-class application platform than Chris O'Malley, Compuware's CEO? Those interested in matters related to IBM mainframe technology could not have missed one of Chris's missives on the fallacy of "Bi-Modal IT." Compuware has done more than others (including IBM) to help organizations rethink and exploit the latent value of their mainframe applications.

Another member of the Mainframe Resurgence Hall of Fame is Syncsort CEO Josh Rogers, who has done much to help organizations reenvision the mainframe as a participant in the big data and analytics space. Clearly, Syncsort has led the charge in helping enterprises embrace the mainframe as an asset, not an impediment, in fulfilling their big data and analytics initiatives.

Compuware and Syncsort are doing much to help organizations rediscover the "gold" buried in their mainframe applications (and evolve their development processes accordingly). As organizations use the power of mainframe apps and data to enrich their analytics initiatives, I predict *organizations will need to deploy more robust integration technologies to combine the value of their mainframe apps and data with non-mainframe platforms during 2018.*

4. Big Data and the Mainframe Learn to Play Well Together

The mainframe is a rich source of data for Big Data initiatives, assuming IT organizations can figure out how to let the mainframe play in that game. And play it must, as mainframes have a key—if hidden—

role in fulfilling business transactions originating from web, cloud and mobile users. Too many IT organizations assume that including the mainframe in the "data lake" requires replicating mainframe data into operational data stores. As Syncsort's 2017 "State of the Mainframe" study found, 60 percent of respondents indicated they had plans to move data off the mainframe for analytics this year.

Anyone with mainframe experience understands the challenges (and wisdom) of doing this. There are several approaches that support mainframe data replication, such as tools for log replication or flat file dumps. Each have their limitations, requiring some amount of mainframe resource, and the replication process is often brittle and unreliable. Then there is the issue that the replicated data itself is rarely real-time. If you are going to incur overhead to stage the data off the mainframe, why not just use that overhead to get at the data directly?

There are many ways to cost-effectively access and leverage the data in place, on the mainframe. I predict that *in 2018, organizations will discover how much needless movement of data is occurring, even if with good intentions. Some will also learn how easy it is to create mainframe web services to allow Hadoop and other analytics platforms to integrate directly with mainframe data.*

5. The Mainframe Appears on the SIEM Radar Screen

Most organizations that use SIEM platforms have a visibility gap where mainframes are concerned. Transactions that originate in the cloud or via mobile applications go off the SIEM radar when they enter the mainframe. This is extremely problematic when there is a need for an end-to-end view of these transactions, to diagnose a problem, or perhaps audit customer service levels (not to mention security).

Until now, SIEM vendors, and most of their enterprise customers, have chosen to live with this gap. Some were troubled enough by this gap that they developed DIY solutions to close it, or they relied on vendor-developed "hooks" into CICS and other mainframe applications to get a complete, end-to-end view. The cost of putting programmatic hooks into CICS often increased maintenance, added a performance penalty or jeopardized stability.

IBM provided a partial solution when it added its Transaction Tracking infrastructure to CICS, enabling the tracking of what goes on inside and across regions. Vendors such as Syncsort, through its Ironstream® Solution, and now HostBridge through the HostBridge Transaction Analytics Connector, provide an easy path for enterprises to fully understand the impact of web and mobile transactions on the mainframe through their SIEM systems. I predict that *2018 will see the early adoption of these solutions that put the mainframe on the SIEM radar screen, closing the gap and finally allowing enterprises to easily have a complete view for performance management or auditing purposes.*

Conclusion

I expect 2018 will be a year in which organizations will articulate new requirements for their mainframes. I believe (or at least hope) we'll see many conversations occurring in conference rooms, and in front of white boards with a "box" representing the mainframe, where someone begins a sentence with "What if we could …," To me, that's the acid test of whether mainframe resurgence is occurring. Organizations should begin to ask how the value of their mainframe investments can be more effectively integrated with other IT capabilities in order to create new value for their customers.

Selfishly, I hope I can participate in many such conversations during 2018. **ETJ**

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