

# F5 Friday: The Evolution of Reference Architectures to Repeatable Architectures



Lori MacVittie, 2011-04-03

*A reference architecture is a solution with the “some assembly required” instructions missing.*



As a developer and later an enterprise architect, I evaluated and leveraged untold number of “reference architectures.” Reference architectures, in and of themselves, are a valuable resource for

organizations as they provide a foundational framework around which a concrete architecture can be derived and ultimately deployed.

As data center architecture becomes more complex, employing emerging technologies like [cloud computing](#) and virtualization, this process becomes fraught with difficulty. The sheer number of moving parts and building blocks upon which such a framework must be laid is growing, and it is rarely the case that a single vendor has all the components necessary to implement such an architecture. Integration and collaboration across infrastructure solutions alone, a necessary component of a dynamic data center capable of providing the economy of scale desired, becomes a challenge on top of the expected topological design and configuration of individual components required to successfully deploy an enterprise infrastructure architecture from the blueprint of a reference architecture.

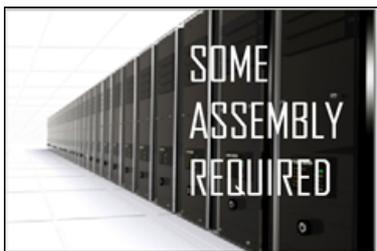
It is becoming increasingly important to provide not only reference architectures, but *repeatable* architectures. Architectural guidelines that not only provide the abstraction of a reference architecture but offer the kind of detailed topological and integration guidance necessary for enterprise architects to move from concept to concrete implementation.

Andre Kindness 🗣️ of [Forrester Research](#) said it well in a recent post titled, “[Don’t Underestimate The Value Of Information, Documentation, And Expertise!](#)”:



Support documentation and availability to knowledge is especially critical in networking design, deployment, maintenance, and upgrades. Some pundits have relegated networking to a commodity play, but networking is more than plumbing. It’s the fabric that supports a dynamic business connecting users to services that are relevant to the moment, are aggregated at the point of use, and originate from multiple locations. The complexity has evolved from designing in a few links to tens of hundreds of relationships (security, acceleration, prioritization, etc.) along the flow of apps and data through a network. Virtualization, convergence, consolidation, and the evolving data center networks are prime examples of today’s network complexity.

## REPEATABLE ARCHITECTURE



For many years one of F5’s differentiators has been the development and subsequent offering of “[Application Ready Solutions](#)”.

The focus early on was on providing optimal deployment configuration of F5 solutions for specific applications including IBM, Oracle, Microsoft and more recently, VMware. These deployment guides are step-by-step, detailed documentation developed through collaborative testing with the application

provider that offer the expertise of both organizations in deploying F5 solutions for optimal performance and efficiency.

As the data center grows more complex, so do the challenges associated with architecting a firm foundation. It requires more than application-specific guidance, it now requires *architectural* guidance. While reference architectures are certainly still germane and useful, there also needs to be an evolution toward repeatable architectures such that the replication of proposed solutions derived from the collaborative efforts of vendors is achievable. It's not enough to throw up an architecture comprised of multiple solutions from multiple vendors without providing the insight and guidance necessary to actually replicate that architecture in the data center.

That's why it's exciting to see our collaborative efforts with vendors of key data center solutions like IBM and VMware result in what are "repeatable architectures." These are not simply white papers and Power Point decks that came out of joint meetings; these are [architectural blueprints](#) that can be repeated in the data center. These are the missing instructions for the "some assembly required" architecture. These jointly designed and developed architectures have already been implemented and tested – and then tested again and again. The repeatable architecture that emerges from such efforts are based on the combined knowledge and expertise of the engineers involved from both organizations, providing insight normally not discovered – and certainly not validated – by an isolated implementation.

This same collaboration, this cooperative and joint design and implementation of architectures, is required within the enterprise as well. It's not enough for architects to design and subsequently "toss over the wall" an enterprise reference architecture. It's not enough for application specialists in the enterprise to toss a deployment over the wall to the network and security operations teams. Collaboration across compute, network and storage infrastructure requires collaboration across the teams responsible for their management, implementation and optimal configuration.

## **THE FUTURE is REPEATABLE**

[This F5-IBM solution](#) is the tangible representation of an emerging model of collaborative, documented and repeatable architectures.

It's an extension of an existing model F5 has used for years to provide the expertise and insight of the engineers and architects inside the organization that know the products best, and understand how to integrate, optimize and deploy successfully such joint efforts. Repeatable architectures are as important an evolution in the support of jointly developed solutions as APIs and dynamic control planes are to the successful implementation of data center automation.

More information on the F5-IBM repeatable enterprise cloud architecture:

-  [Why You Need a Cloud to Call Your Own – F5 and IBM White Paper](#)
  -  [Building an Enterprise Cloud with F5 and IBM – F5 Tech Brief](#)
  -  [SlideShare Presentation](#)
  -  [F5 and IBM: Cloud Computing Architecture – Demo](#)
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#### *Related blogs & articles:*

-  [F5 Application Ready Solutions](#)
-  [F5 and IBM Help Enterprise Customers Confidently Deploy Private Clouds](#)
-  [F5 Friday: A War of Ecosystems](#)
-  [Data Center Feng Shui: Process Equally Important as Preparation](#)
-  [Don't Underestimate The Value Of Information, Documentation, And Expertise!](#)
-  [Service Provider Series: Managing the IPv6 Migration](#)

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