



Solving database performance problems with better storage performance

By Dan Kusnetzky, Distinguished Analyst

EXECUTIVE SUMMARY

In the highly competitive market for virtualized solutions, it is easy to overlook a solution that has been here since the early 1970s, IBM's i. An interesting discussion with a client caused me to consider the role IBM i has had in the formation of virtualization.

In spite of little recognition of the platform in some sectors of the IT market, it is still a popular platform in healthcare, manufacturing, financial services (banking, insurance), retail, travel and several other market segments.

WHAT'S SO INTERESTING ABOUT IBM I?

IBM clearly was one of the companies responsible for the innovative notion that functions could be placed into an artificial or virtual environment. IBM was one of the first companies to come to understand that virtualizing the environment would bring benefits that far outweighed the technical challenges such a move would create.

If we track the history of IBM's efforts along this line we can sketch out many different lines of virtualization that either were created for this family of systems or other IBM families of systems.

Let's wander through the levels of virtualization in use today and see how the IBM i fares.

ACCESS VIRTUALIZATION

Access virtualization is technology that allows clients and servers to work with one another without either having to know too much about the other.

If we look at IBM's track record with this family of systems, we see that the System/34 (the early predecessor of today's IBM i) originally supported up to 8 workstations, typically IBM 5251 Display stations. Over the years since then IBM has made it possible for other workstations, personal computers and now just about any device that supports a Web browser to work with applications executing on an IBM i.

We'd have to say that IBM i supports virtual access.

APPLICATION VIRTUALIZATION

Application virtualization is technology that allows applications to be encapsulated so that previously incompatible applications can be

supported on the same physical system. Server-centric application virtualization also includes some level of workload management as well.

IBM i has a long track record in this area. It allows many business processes to reside on the same physical host and function well together.

IBM gets another checkmark for the IBM i in this category.

PROCESSING VIRTUALIZATION

Processing virtualization is a range of technologies that range from making many systems look like a single computing resource to making a single system look like many computing resources.

IBM was one of the pioneers of this technology and as one would expect, IBM i has been able to address the business requirements of clustering, high availability/fail over, operating system virtualization and partitioning and even virtual machine technology for many years.

IBM I WAS THE FIRST SYSTEM VIRTUALIZATION PLATFORM

A very important point is that IBM i was the first system virtualization platform. The operating system and applications all ran in a virtual environment. Over the years 8-bit, 16-bit, 32-bit and now 64-bit processors supported the environment. Applications didn't need to concern themselves with what processor was supporting their activities. IBM made it possible for organizations to move their applications from processor to processor with no pain and little to no effort. No other supplier has been able to do that.

CLUSTERING AND AVAILABILITY

IBM and several of its partners have long offered virtual processing software in the category of clustering and availability. Several IBM i systems can be harnessed together to provide a highly available environment. These configurations are often used in healthcare and gaming to make sure that critical applications are always available.

NETWORK VIRTUALIZATION

Network virtualization is a range of technologies that provide network fail over, network scalability and reliability. Although IBM i doesn't provide these functions directly, it works quite well in a virtual network environment created by IBM's partners.

STORAGE VIRTUALIZATION

Storage virtualization is a range of technologies that hides the physical details of storage from the systems. This allows greater storage performance, reliability and availability.

IBM i can be seen as one of the pioneers of this technology as well. Applications could be developed without having to know much about the physical storage hardware. Over time, this subsystem has seen quite a number of improvements and yet, applications did not need to be changed to use these enhancements.

SECURITY AND MANAGEMENT FOR VIRTUAL ENVIRONMENTS

Security and management are both important requirements for virtual environments. Over the years IBM i has had a stellar reputation for both security and manageability.

WHAT IS DRIVING IBM I SUCCESS?

The platform's success can be attributed to a number of factors including:

- ☑ IBM's channel marketing and ISV support programs
- ☑ The IBM i platform has been tuned over the years to be a very good platform for ISV software. All of the tools are in place to make it easy to provision, manage and support
- ☑ The platform offers high levels of availability, reliability and security
- ☑ The platform scales far enough to handle the needs

WHAT IS INHIBITING IBM I SUCCESS?

IBM seems to want to confuse the market because the name and marketing approach for this groundbreaking family of computing systems and system software have changed regularly. When it first appeared in the early 1970s, it was known as the System/34. Later, it was renamed as the System/38. Still later, it became known the AS/400. Then it was renamed as iSeries, then System i and now IBM i. Each time there was a name change, the messaging changed along with it.

Putting the name aside for a moment, the IBM i broke so much new ground that it is hard to fathom the impact it has had on the market.

S U M M A R Y

IBM i is clearly one of IBM's hidden jewels. It is worthy of more interest than it currently is getting in the marketplace. Even though IBM was a pioneer in virtual systems, for some reason the market as a whole doesn't acknowledge that fact.

It is unfortunate that IBM made the system a moving target by repeatedly changing the name and how the system and its software were positioned. IBM also failed to convince the market that the IBM i was something that should be examined very closely when making a platform decision.

Organizations seeking the benefits of a virtualized environment ought to be considering IBM i.