



Three Ways to Future-Proof Your SAP® on IBM i Implementation

IBM first introduced the AS/400 nearly 30 years ago. Since then, it has upgraded and re-branded the platform as iSeries and, most recently, IBM i for Power Systems. In an industry where longevity is measured in months, not decades, IBM i remains a remarkably efficient, fully integrated platform for mission-critical applications.

Predicting the death of the AS/400 and its descendants has been a cottage industry for many years. And yet, thousands of enterprises worldwide still rely on it as their mission-critical application platform, including a significant population of SAP customers. However, as a proprietary platform requiring “tribal” management knowledge, it has become increasingly difficult for enterprises to manage on-premise implementations of SAP on IBM i. The biggest problem is the risk of departure of skilled IBM i professionals, coupled with no real pipeline of new IBM i pros, which can leave organizations in a difficult bind as they look to replace an increasingly rare skill set.

Because of this, it is wise for enterprises running mission-critical applications on IBM i to build a “succession plan” should their IBM i specialists leave the organization.

This type of plan is typically built around three options:

-  Maintain the status quo, but build “bench strength” of SAP on IBM i expertise
-  Migrate to a new platform, either on premise or in the cloud
-  Keep the IBM i implementation, but migrate it to the cloud

IBM i Challenges

The original AS/400 was introduced in 1988 as a fully integrated midrange system for running mission-critical applications. Today, it retains that same profile, but is marketed as the IBM i operating system for IBM Power Systems. The system is designed to be a “one box” solution for even the most demanding applications, complete with full redundancy, and boasts remarkable forward-compatibility – an AS/400 application from 1988 would run just fine on a current IBM i platform.

More than 100,000 enterprises today continue to use IBM i as a mission-critical computing platform. This amazing longevity, however, is also its Achilles’ Heel. While the system continues to evolve and improve, the population of IT pros who know how to run it is dwindling, and the number of pros who know how to run SAP on IBM i is even smaller. Another challenge is cost – the IBM i is a very expensive system, although it also has far greater capacity and capabilities than other systems, since the system is designed to provide all the capabilities an enterprise needs in a single form factor. And finally, there is a perception challenge – the AS/400 product line’s longevity creates the perception that IBM i is outdated. (This is why many migration projects to other platforms are framed as “modernizations.”)

These issues can make on-premise implementations of the IBM i problematic. The big question for enterprises is: “What, if anything, should we do about it?” The following are three practical options for SAP customers.

This paper examines these three options and how they can help SAP customers to solve the IBM i conundrum.

Maintain the Status Quo

More than a few enterprises running SAP on IBM i live by the rule: “If it ain’t broke, don’t fix it.” Given the challenges behind getting any mission-critical application to run properly, this is a valid perspective. Everything needs to be measured in risk vs. reward, and it may very well be that the perceived risk of changing platforms or migrating to the cloud outweighs the risk of being unable to find “SAP on IBM i” skills when they are needed.

If keeping the deployment on premise is the preferred option, it is prudent to identify people or organizations that can augment the existing staff with the appropriate skill sets if they are needed. Building up this “bench strength” of IBM i skills will protect against disruption, should the primary IBM i expert leave the organization.

A managed services provider (MSP) with these skills can serve as the ideal insurance policy if needed. That’s why when evaluating MSPs, it’s critical to ensure they have specific experience with SAP on IBM i, and not just one or the other. They should have a proven track record of serving this role with a number of clients, providing SAP and IBM i monitoring and management, and working with an internal staff responsible for the hands-on systems maintenance. It’s also important to make sure the MSP has the proper skill sets to support any other applications that may be running on IBM i.

Migrate to a New Platform

While it may be enticing to “modernize” and migrate to a new platform, it is important to accurately determine the costs of doing so before proceeding down this path. At face value, it would seem to be an easy financial decision, since IBM i for Power Systems is a very expensive system. In practice, however, things are not that simple.

For example, IBM i is a very powerful and fully integrated platform. Replacing it with Windows or Linux-based platforms will cause system proliferation. It can take 20-30 application and database servers to do the work of a single instance of IBM i on Power Systems. Obviously, deploying 20-30 additional servers also introduces management and maintenance challenges – updates and patches now must be executed across dozens of servers rather than on a single server, additional personnel may be needed to manage the environment, and so on.

Another major challenge with platform migration is other non-sap applications on the IBM hosts, since IBM i applications will not run on other operating systems. If, for example, an organization wants to migrate from IBM i to Windows, it must have a strategy in place for redeveloping applications and printer services for the Windows platform.

With these considerations in mind, one must consider both the capital and ongoing operational expenses that a migration will incur. It may very well be that those expenses are tolerable when compared to the long-term risk of running mission-critical applications on a proprietary system, but it is important to fully understand them before making a decision to change.

Another possibility would be to migrate to a new platform in a hosted-cloud environment. This helps mitigate the complexity and personnel costs associated with an on-premise migration, since they are now the responsibility of a third-party hosting provider. However, it remains important for SAP customers to select a partner that not only has experience migrating IBM i implementations to Windows or Linux, but also into the cloud.

Migrate to a Hosted-Cloud Environment

A “best of both worlds” solution to the IBM i conundrum may be to migrate the existing on-premise IBM i implementation to a hosted-cloud environment. When done right, this enables organizations to protect themselves from the IBM i skills gap, since the hosting provider – if chosen prudently – will have ample “SAP on IBM i” skills on staff.

This approach also can take the bite out of IBM i costs with more efficient capacity utilization. As mentioned earlier, IBM i is an expensive system, so any unused storage, memory or CPU capacity is a costly waste. In a cloud-hosting environment, organizations only pay for what they use, so they no longer need to worry about predicting system capacity requirements. Finally, cloud migration enables organizations to move from a capital-expense to an operational-expense business model. Being able to “pay as you go” is a much more attractive usage model than having to project system requirements for an in-house implementation, and then fund those through large capital outlays.

The most important aspect of migrating to a hosted-cloud environment is choosing the right hosting provider. For SAP customers, it is not enough for the provider to have IBM i skills; it must also have experience running SAP on IBM i. Additionally, since most IBM i organizations run multiple mission-critical applications on the system, the hosting provider must also have the skills to manage those applications on IBM i. Finally, it is important for the hosting provider to have experience migrating all of this to other platforms, since it could be necessary to do so in the future should an application provider like SAP choose to no longer support IBM i.

When evaluating hosting providers, it is important to understand that many SAP customers have based this decision solely on the provider's SAP experience, only to discover after the fact that the provider does not have the required IBM i skills. The provider may think they can figure it out on the fly, but this is not a realistic approach since SAP interacts with the IBM i operating system and database in such a fundamentally different way than with other platforms.

Migrating IBM i for Power Systems to a cloud hosting environment can deliver multiple benefits including:

- **Reducing total cost of operations** through lower maintenance costs and data center overhead
- **“Right-sizing” capital expenditures** by only paying for required resources
- **Streamlining** change control processes
- **On-demand scaling** to keep pace with resource-intensive periods
- **Reducing the complexity** of overall IT environments

The Path Forward

After nearly three decades of service, IBM i remains a robust platform for running mission-critical applications. Its long-term prospects, however, are somewhat murky due to the growing IBM i skills shortage, and questions around software vendors' continued support for the platform. With this reality in mind, it is prudent for organizations to have an IBM i succession plan in place to minimize any potential disruptions in mission-critical application performance and availability.

The three options presented in this paper each come with their own set of risks and rewards. Migrating IBM i to a cloud hosting environment is usually the best solution for organizations seeking to minimize disruption while inoculating themselves from the IBM i skills shortage.

The right hosting provider for this scenario will have the following attributes:

- Experience managing SAP on IBM i, as well as any additional applications running on the system
- Experience migrating SAP on IBM i to a hosted cloud environment, along with any other applications running on the system
- Experience migrating SAP from IBM i to other platforms, in the event that one day you need to do so

Even for organizations that wish to keep IBM i on premise, these attributes are highly relevant, because they protect against the IBM i skills shortage and provide a path forward to any future application environment. Ultimately, these sets of skills and capabilities will future-proof any IBM i implementation.

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