



Future of RPG and AS/400 Technology for business- critical software

RPG is a high-level, fully procedural programming language that enables companies to create enterprise applications on IBM's leading minicomputer system, the AS400 or iSeries. Currently, several core business apps are created in RPG, and AS/400 technology remains at the centre of many firms' ERP software and IT infrastructure. That means developers with knowledge of RPG programming are needed to support these systems. More recently, as RPG has lost popularity, finding suitable developers has become more difficult, particularly as many more retire than seek training in RPG.

It's an awkward situation: AS/400 remains in use, but few younger developers are familiar with it as it becomes obsolete. The result? Great and growing demand for developers with the relevant experience.

A brief history of AS/400 ■

Back in 1988, IBM introduced the Application System/400, a suite of user-friendly computers aimed at small and medium-sized enterprises. The global rollout also comprised over 1,000 software packages including the OS/400 operating system. IBM described it as one of the largest simultaneous applications announcements in computer history.

AS/400 proved very popular, with desirable qualities such as single-level storage, where the entire storage of a computer is seen as a two-dimensional plane of addresses; an integrated OS; and Technology Independent Machine Interface (TIMI), a virtual instruction set that allows the OS and application programs to exploit advances in hardware and software with no need for recompilation. In short, it was slick, dependable, secure and virtually unhackable.

In 2000, the AS/400 was replaced with the IBM eServer iSeries, which were high-performance, integrated business servers for mid-market companies. The hardware and the software of the AS/400 have endured numerous upgrades, revisions and name changes in its time, but a consistent characteristic is both the continued use of its name colloquially and its forward compatibility. (It's worth noting that, while many in the industry call their system an AS/400, the modern hardware is Power Systems, which runs IBM i, the updated operating system.) RPG programmers can still run programs created for the AS/400 in 1988 on a Power Systems server today without the need for many significant alterations.

As technology continues developing, AS/400 is still vital to and much loved by sectors such as banking and finance, manufacturing, retail, logistics and freight, which all cherish information security and stability above all.

Where do we stand now? ■

Many companies continue to depend on legacy AS/400 technology within their business-critical IT operations, but it's becoming harder and harder to get developers who understand the RPG programming that underpins it. There are a few alternatives to finding full-time employees with relevant expertise: Google and Microsoft both offer cloud hosting, which enables firms to connect their AS/400 with the latest technologies.

In general, however, many firms are now looking at a dilemma: move away from legacy technology altogether, a very costly and disrupting process, or try to locate the few and expensive RPG programmers with the knowledge to handle the current system. Few have the desire to pursue the third option: diverting valuable resources to identify the means to bring the current system up to date.

That said, many argue that by planning suitably far ahead today, new IBM systems can keep operating tomorrow. According to this side of the debate, there are a few key reasons you shouldn't second-guess your AS/400:

- It's scalable.
- It's safe.
- It's dependable.
- It's online-enabled.
- It's forward compatible.
- It's flexible, supporting a combination of native and open source programming languages.

What does the future look like for RPG Programming? ■

No one knows your business better than you do, but there's a strong argument for staying loyal to dependable legacy technology at the same time as a broader modernisation push. Industry leaders agree that there's no burning platform to move away from AS/400; broadly speaking, it's still inexpensive, energy-efficient, robust, easy to migrate and works well with modern technologies.

Still, as with any aspect of business, it's good to keep abreast of the latest trends around approaches, efficacy, the market, and strategy.

Having a long history doesn't mean AS/400 is outdated; instead, it has a solid base, and has been tried and tested in a way modern technologies have not. One reason it has passed the test of time is that so many industries rely on the system's continuation. Data security has only grown in importance for business, and in an age of increasing cyberattacks, AS/400 keeps putting up a strong defence.

As the debate around AS/400 carries on, it's vital to collaborate with partners who are familiar with this technology. At E-ngineers, we're dedicated to enabling you to extend the life of your existing technology, identifying your business's unique needs, and developing our offer to you as you grow.

How to Outsource Your AS/400 Support ■

The thought of outsourcing might make you pause, but there are clear benefits to bringing in outside help, rather than hiring full-time employees. The financial gains alone are worth breaking down.

According to Deltek, the **cost of an FTE** breaks down as follows:

- Benefits (healthcare, pension, holiday, sick pay) 35%
- Overheads (workspace, IT, phone, internet) 25%
- Back office administration (execs, admin, legal, accounting) 18%

Overall, each FTE costs about twice their base salary, depending on the industry. By outsourcing your AS/400 support, you can prevent escalating costs around product support staff.

Beyond these immediate savings, there are other good reasons to consider outsourcing a portion of your IBM i work to a reliable partner.

Cut your Exposure to Financial Risk

Employees bring extra financial risks compared with consultants. For instance, businesses have the freedom to hire (and fire) consultants more promptly than they do employees. Often, underperforming staff have to remain on payroll for months, to reduce the potential for a possible employment tribunal. The costs to the business in morale alone can be huge. But with consultants, firms can make the firing decision much more promptly should the consultant underperform.



There When You Need Us

Our team is made up of true IBM i specialists. They're qualified and vetted with more than a decade of IBM i experience. Moreover, we don't offer a one-size-fits-all approach. We know how important it is to deliver the right solution for your business. Whether you just need extra resource or you need to bring your system bang up to date, we have the IBM i / AS400 resources and experience you need.



Why Choose E-engineers? ■

A comprehensive solution for all your company's iSeries AS400 needs

At E-engineers, we pride ourselves on our proficiency in delivering outstanding IBM i development services. What sets us apart is that all the IBM i development we provide is supported, open-endedly, via our expert helpdesk. This gives you continuity and a trusted team you can count on. Many of our clients today migrated away from domestic contractors for this very reason. Continuing support for our IBM i developments and the ability to put in place forward-facing improvements has proven the optimal approach for our clients. At E-engineers, all it takes is a conversation with our experienced specialist RPG programmers, and there's no need to deal with costly consulting firms and third-party contractors.

IBM i Development Support Scope

Outsourced bespoke development including RPG400, RPGILE, SQLRPGLE, Free Format, provides the following benefits:

- Short- and long-term remote / onsite IBM i development.
- Convert your legacy RPG languages to ILE and Free Format.
- Third-party interface support, including EDI, XML and BI.
- Deep functional analysis and training in custom systems.
- Proactive identification of underused technologies.
- Re-configuration of custom systems and programming languages to improve business process, including productivity, efficacy, speed and future-proofing.
- Recommendations of best practice for IBM i users.
- Access to a huge pool of IBM i development consultants
- Open-ended helpdesk support for any Total e-Solutions or client IBM i software development
- App and technical support for IBM iSeries
- OS400 first- and second-line support, including comms, backup and device management
- Third-party B2B liaison support including DR, EDI Trading Partners and hardware vendors
- Access to IBM i Solution Architects, PMs and Business Analysts
- Cloud-based portal for helpdesk recording and knowledge base

Speedy Resolution for All your RPG queries

Our RPG programmers have broad knowledge of AS400 and can get you instant results. Diligent work brings you speedy resolution against your timelines and budgets. Thanks to our decades of experience in this field, we can offer you peace of mind and a promise of the highest standards in quality, communication and commitment.

Flexibility

Whether you are looking to outsource your entire iSeries AS400 requirements or need us to deliver a single project, we can help you every conceivable kind of AS400 project.

Budget-Friendly

For over two decades, we have been providing our clients with industry-leading iSeries AS400 services at reasonable rates.



The Author

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Having almost 20 years of experience working with RPG, IBM i (AS/400) and Equation/Fusion Andrei leads E-engineers' RPG practice helping our clients in banking and other sectors to keep their RPG-based solutions ever-evolving and/or help migrate legacy systems to modern environments.

Do you have any questions? ■

Or just want to discuss other aspects,
you are welcome to contact us

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