APPLICATION MODERNIZATION AT A TIPPING POINT
Red Hat and Puzzle Partner to Accelerate Time-to-Market for Application Modernization

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Introduction: Business Leaders Under Pressure to Deliver on the Digital Business Needs of Today

The current economic climate has reinforced the importance of digital transformation. Business leaders across Europe are seeking ways to improve organizational agility, customer experience, and employee experience and, of course, drive competitive advantage in the process. The pressure to deliver on digital needs is intensifying. As a direct result, application modernization is now at a tipping point. In a recent IDC survey (January 2020), 84% of European organizations were already embarking on application modernization initiatives (44%) or planning to do so within the next 18 months (40%). But the reality for many of these businesses is that they have inflexible, monolithic, and outdated application estates. This legacy is difficult and costly to upgrade.

Businesses embarking on application modernization face decisions around whether to refactor, replatform, and/or repackage legacy applications into more flexible, often cloud-native technologies. Most are likely to seek cloud migration where possible to drive the added benefits of flexibility, scalability, and reduced cost that come with moving workloads to the cloud. There is also the important consideration of whether to retire old applications completely if they are no longer required.

Many organizations still need help understanding their options in this new world; for instance, which workloads to prioritize, what skills they need, and how to move applications safely to the new platform. Many can find themselves at risk of being left in application modernization limbo without clear guidance and support.

Puzzle ITC, a Red Hat Premier Partner, believes it can help. With over 140 people, the company has specialist engineers across both software and infrastructure who can help bridge the gap that often exists in its customers' IT organizations. Not only does it have its own skilled teams, its membership and participation in the open source community gives it access to a broad ecosystem of problem solvers and innovators. It has deep understanding of the technology and culture of modern development environments. Finally, it has a long-standing partnership with Red Hat that enables it to operate and deploy enterprise-grade open source solutions.

> "Puzzle are able to bridge the gap between software development and infrastructure... they have both the culture and the technical capabilities to truly help customers modernize their applications."
> Philipp Meier, Senior Partner Account Manager, Red Hat EMEA

Key Needs and Challenges of Application Modernization

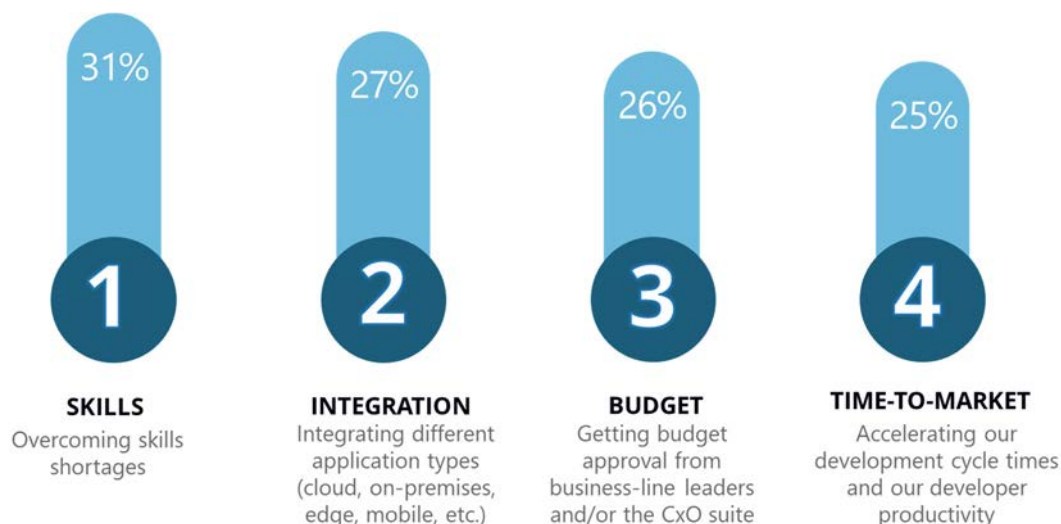### *What Are the Key Needs Being Addressed by Application Modernization?*

This tipping point is driven by the need to:

1. **Improve enterprise agility** — In these fast-paced times, all organizations must optimize processes and adjust them in a more agile manner as business needs evolve.
2. **Optimize costs** — In many organizations, particularly those with sprawling application estates, the cost of application delivery and maintenance can be very significant. There is a need to simplify and recalibrate the IT landscape and ultimately reduce the costs associated with it. Application modernization can improve mean time to recovery (MTTR) and reduce the labor and capital costs of deploying and maintaining applications.
3. **Simplify and standardize** — Most organizations grapple with complexity in their application portfolios. Application modernization is often driven by the need to move to more standardized platforms, create frameworks to streamline the management of applications, and simplify and recalibrate the IT landscape.
4. **Improve employee and customer experience** — More modern applications can help bolster business performance at a line-of-business level, improving functionality, enabling better analytics and, of course, ensuring faster response times. Critically, putting modern features and functionality into users' hands can enhance their productivity.
5. **Attract and retain developer talent** — New, young developer talent expect to work on modern technologies. Not only are they not interested in working on legacy systems, they often don't know how to deal with legacy code. This problem is magnified by many legacy developers reaching retirement age, taking with them their knowledge of legacy systems. Having a modern application environment is critical to attract and retain developer talent.

What Are the Key Challenges of Application Modernization?

FIGURE 1

Key Challenges of Application Management

Q: What are the top challenges your organization faces in terms of application modernization? [TOP 4]

31%	27%	26%	25%
1	**2**	**3**	**4**
SKILLS	**INTEGRATION**	**BUDGET**	**TIME-TO-MARKET**
Overcoming skills shortages	Integrating different application types (cloud, on-premises, edge, mobile, etc.)	Getting budget approval from business-line leaders and/or the CxO suite	Accelerating our development cycle times and our developer productivity

Source: IDC EMEA, IT Services Survey, January 2020. N=700

1. **Skills** — Skills are the number-one challenge associated with application modernization in Europe. Partnering with a skilled provider (such as Puzzle ITC) can help address these challenges, particularly when a knowledge transfer and training service provided as part of the modernization contract.

IDC has estimated that in 2020, 90% of organizations will have adjusted project plans, delayed product or service releases, or lost revenue from a lack of IT skills, resulting in more than $90 billion of lost revenue annually in Europe.

2. **Integration** — The integration of modern technology into legacy applications was the number-one technology bottleneck cited in a recent European DevOps survey. Integration was cited by 70% of European organizations, while lack of business integration is the top process bottleneck for 60% of organizations. Partnering with providers that have expertise in both the technical integration and process change requirements can help overcome some of these major barriers to application modernization success.

3. **Budget** — Any application modernization initiative requires a strong business case to secure funding. IDC recommends educating financial decision makers about "technical debt" (i.e., the unfunded critical IT liabilities, including the risks associated with legacy systems that need to be retired, replaced, or modernized because they've reached the end of their life cycle). This includes the cost to business in terms of non-interoperability, inconsistent data, maintenance costs, security vulnerabilities, lack of agility, missed business opportunities, poor customer service, lack of vendor support, and the cost of outdated skill sets. Balancing the "technical debt" against the cost of application modernization can go a long way to securing the necessary funding from the business.

4. Time to Market — Legacy systems inevitably hold back innovation because they can be decades old and often running on proprietary applications that are simply not designed to work with modern architectures or standards. Accelerating time to market to innovate and drive new business value is one of the key imperatives behind application modernization, but this can only be done on a modern, agile architecture.

IDC's DevOps survey findings show that accelerating developer productivity and addressing skills shortages are the top requirements in application delivery modernization for 44% and 41% of European organizations.

Open Source Accelerates Time-to-Market for Application Modernization

Modernizing applications via repackaging or containerization is the most popular approach as it can be more efficient, reduce complexity, and accelerate time to market. Containerization is a fairly new concept, but it is maturing fast. Typically, open source platforms such as Kubernetes allow developers to create and deliver applications quickly and more securely onto any infrastructure. The container packages together the application code with all the necessary development libraries and then supports developers via built-in automation, integration, governance, and application life cycle best practice. The idea is that containerized applications can be written once and then run almost anywhere, providing maximum flexibility for customers' applications to be run on any combination of public and private cloud or traditional on-premises infrastructure.

IDC recommends that organizations should take full advantage of open source innovation and communities to accelerate application modernization. Open source innovation is both cost efficient and freely available through the community, and has been tested and made available for widespread use. Open source can be a great way to speed up time to develop and deliver applications into production. Unsurprisingly then, open source is the joint top technology priority for 65% of European organizations looking to accelerate application delivery in the next twelve months.

The Red Hat and Puzzle Partnership

Puzzle ITC was founded 20 years ago and was one of Red Hat's first and most successful partners in Switzerland. With over 140 employees, growing at 10%–20% a year, Puzzle ITC attributes its success to two critical factors — its culture and technical strengths.

Culture: Since its inception, Puzzle has embraced the open source principle of meritocracy, perpetuating this ideal in the way its organization is structured, the way its talent is nurtured, and the way it problem-solves for its customers. All employees are called members, so everyone is on the same level. It operates within the broader open source community, and this culture of openness permeates the way it engages with its clients, offering free innovation labs, opportunities for idea exchange, and contributing to the community. Many of the projects it works on are surfaced through the community. This has the added benefit of keeping technical talent engaged and bringing new innovations to customers in the Swiss and German markets.

"We really invest in our culture. It is one of the most profound reasons why we are where we are today. For the past 20 years, the culture, the community, the open source way of thinking [has been] the basis of our success." Thomas Philipona, CTO, Puzzle ITC

Technical: From a technical perspective, Puzzle has both infrastructure and software development expertise. Bridging the gap between these two domains is vital for the success of application modernization, particularly within the context of DevOps. Puzzle can help its customers identify the areas in their IT infrastructure that can potentially impede DevOps processes and bridge the gap.

Together with VSHN AG, Puzzle ITC has developed its own container platform — APPUiO. On this platform, Puzzle ITC offers free techlabs in Bern, Basel, and Zurich. In these techlabs it invites customers to participate in presentations and hands-on labs to learn how to bring their applications to the container platform, as well as educating on architectural principles and migration platforms.

It works with a wide range of customers including independent software vendors and a diverse mix of customers from the financial services, transportation, health, public sector, and other vertical sectors across the Swiss and German regions.

Puzzle ITC has developed a specific offering for application modernization and migration, which includes a discovery workshop to identify issues and challenges in the customer's existing application landscape. It then offers customers a choice of options:

- **Migration** — Puzzle ITC migrates simple applications to modern, open platforms, for example on a container platform or in the cloud.
- **Modernization** — For more complex applications, it uses a more modern microservice architecture and supports the implementation thereof.
- **CI/CD** — It can help automate deployment processes to enable customers to roll out new features faster.
- **Self-Managed Platform** — Puzzle ITC builds a suitable container platform on behalf of the customer.

Additionally, it offers training, techlabs, knowledge-sharing on building container platforms, support, and services to help introduce a DevOps culture into customers' organizations.

Puzzle ITC enjoys a very healthy relationship with Red Hat, describing the partnership as complementary and very culturally aligned. This alignment benefits their shared customers, with Red Hat providing a broad spectrum of tools and technologies.

"We love Red Hat. Great people, great company, great technology. It's a great combination, Red Hat has the technologies and tools and we help customers get used to those technologies "
Thomas Philipona, CTO, Puzzle ITC

As a premier partner for Red Hat, Puzzle ITC has invested in developing certified skills and specializations across the Red Hat portfolio. It has also earned several specialist competencies as a Red Hat Datacenter Infrastructure provider in areas such as cloud and Kubernetes. It is also a Red Hat CHAMP partner. CHAMP is a collaborative partnership development program run by Red Hat for its most strategic partners.

Future Outlook

Modernizing the application portfolio is part of a wider transformation agenda and will be among the most critical business objectives for European business leaders over the next five years. Today, just 19% of European organizations have modernized half or more of their applications with containers. This number will increase rapidly to reach almost 35% of European enterprises by 2021.

Containerization is fast becoming the de-facto ecosystem for application modernization, with open source increasingly becoming an important part of the solution, due to its innovation and developer community culture.

Application modernization demands determination, strategic investment, and cultural adjustments. Businesses are encouraged to work with technology partners that can help them overcome major hurdles, provide access to talent, and accelerate time-to-market.

DevOps methodologies and practices are rapidly being adopted to drive business change and agility. More than half (60%) of large European organizations use DevOps, and 29% plan to adopt DevOps practices in the coming 12 months. European organizations anticipate an average of 43% of the application estate will be developed and deployed using DevOps practices by 2021.

However, scaling DevOps requires a shift in IT investment strategies. To be successful, companies must adopt modern development and deployment practices that accelerate application delivery and address the challenges of talent shortage and developer reskilling. The battle ahead will increasingly center around the struggle to secure developer talent. Looking ahead, it is important that businesses understand the rising role of and options for AI as well as low-code and no-code technologies to address some of the skills challenges and make innovation more accessible to the wider enterprise.

Conclusion

IDC believes that application modernization will remain a priority for European organizations looking to adapt to an ever more competitive market over the next few years.

Application modernization is a complex technical process as well as a change journey. Companies embarking on this strategy need to weigh the opportunities and risks carefully. An important factor in this process is to consider the degree of alignment with the vendors and partners with which they choose to engage. This alignment should be considered from both a cultural and technology standpoint.

Identifying a trusted partner that can support their strategy, help their teams access the right level of skills and knowhow, and engage with the right partners to transition their aging application estates to these next-generation delivery platforms and models can make all the difference.

About the Analysts

Margaret Adam, AVP, European Services, Channels and Alliances Ecosystems

Based in London, Margaret is responsible for driving IDC's research, innovation, and thought leadership agenda in services and partnering ecosystems in Europe. Central to this is understanding how broader industry trends impact the services landscape and the relationships that customers have with their technology partners. This includes identifying next-generation services partners and channels, advising on innovative practices, and understanding the implications and opportunities that digital transformation presents to services vendors and the broader partnering ecosystem.

John O'Brien, Research Director, European Intelligent Application Services

Based in London, John sits in IDC Europe's Accelerated App Delivery (AccAD) practice, where he contributes to a broader research team assessing the paradigm shifts in application delivery via DevOps, microservices, cloud-based delivery, and low-code/no-code apps, which are rapidly evolving to support enterprises on their journey to becoming digital-native enterprises. John's research cuts across the traditional IT services boundaries to offer a new perspective on digital disruption, offering research and advice for clients around strategy, performance, partner ecosystems, competitive positioning, and end-user demands and needs, providing information and advice to support business plans and go-to-market activities.

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