Competitive Advantage Requires
Revolutionary Platforms

opticca

Challenge:

The dilemma for enterprise IT organizations is needless delays in delivering new business value, the result of ever-rising technical debt bred by too many repetitive, redundant operational tasks.

Solution:

As the enterprise continues to migrate more toward increasingly granular services, all the more reason to adopt an agile, modern application development platform that is equipped to deal with evolutionary changes.

Benefits:

- Dynamic, flexible architecture that is reliable, scalable, redundant, and secure

- Leverage public, private, hybrid, or multi-cloud architectures to provide limitless opportunities

- Leverage container platforms to deploy value across environments seamlessly

The Challenge

Faced with today's hyper-competitive business environment, and accelerated pace of customer demand, enterprises must build applications that quickly adapt to changing needs, and the traditional way of rolling out (and supporting) large applications just isn't sufficient. Today's enterprise architects and VPs of applications are wondering:

- How can I deploy and release modern applications in days or weeks, not months or years and minimize downtime on app updates?
- How can I leverage multiple development teams on different language platforms to build those modern applications?
- How can I scale applications as needs change, while minimizing infrastructure costs to accommodate that scaling?

Revolutionary Platform Quickstart based on Containers, Microservices & DevOps

Opticca provides a platform that's built to make the business units and IT work together. An extensible modern architecture enabling the best of breeds to team up to deliver lean, lightweight, and rapid development and deployments.

Opticca's Revolutionary Platform combines the latest open source, portable tools with trusted best-practice services, equipping IT teams to develop apps faster, be more resilient and offer a great experience for the customer. A new microservices architecture built for the demands of today's IT teams, offering a solution running the best technologies for building highly-scalable applications in a container-based DevOps environment, and delivering:

- Reduction of technical debt, resulting in faster time to market and reduced operating costs
- Elimination of redundant, resource intensive operational tasks
- Automated and efficient CI/CD pipelines, triggering predictable, reliable software deployments
- Improved communication protocols between Business, Development, Operations, Administration, and Security teams
- CI/CD, containerization, API management and automatic testing are all part of the platform, and governance, monitoring and security are available as add-ons.

Migrating to a Container-based Microservices architecture

One of the things we hear over and over again about DevOps, Containers and Microservices is "Sounds great, but how do we get started?" You don't just add water and watch it grow. Real businesses need a real roadmap to adopting and evolving to these new age IT patterns. Is it top down or bottom up? The path is not rocket science per se, but it is not totally intuitive either.

Let's introduce the players...

The Rise of Microservices

Microservices has emerged as a solution to many of the problems associated with large, monolithic applications. Releasing just a small change to a million-lines-of-code monolithic application requires that the whole application is deployed, which means these happen infrequently. As a result, changes usually build up between releases, leading to more comprehensive releases. And the longer between releases, the higher the risk that something goes wrong.

With microservices, developers can change the code in one service and deploy it separately from the other parts of the system. This allows them to deploy code faster and get new functionality out to customers sooner. If a problem should arise, it can swiftly be isolated to a single service so a fast rollback can be made easily. This speed of deployment with reduced risk is a main reason why organizations like Amazon and Netflix use microservices architectures, ensuring they remove as many barriers as possible to get software out the door.

Containers: The Launchpad for Microservices

Software containers have formed a standardized frame for all services, transforming how developers build and deploy applications. Containers package a piece of software in a complete filesystem comprising everything it requires to run, which ensures it will run the same every time, independent of the environment it is running in.

Containers reduce complexity and enable developers to scale applications both faster and cheaper. Compared with virtual machines, containers have a very small footprint, which means that a single server can host far more containers than VMs. They can also be launched in mere seconds, compared to several minutes for virtual machines.

Containers enable greater control and security of the services through container cluster management and orchestration tools such as Kubernetes and Red Hat OpenShift Container Platform. Using these tools to manage multiple microservices versus a single monolithic application, can become much more controllable at scale.

Successful Microservices Strategy Starts with DevOps

DevOps combines a culture centered on collaboration through owning the code from development to production, instead of developers simply throwing it over the wall to operations and having no subsequent responsibility. DevOps also uses openness and automation to help accelerate application delivery and a dynamic, programmable platform. It is no longer about simply bringing developers and operations staff together to help accelerate time to market, but rather incorporate business teams to enable greater alignment of the development and delivery process with business objectives.

Microservices building blocks: APIs

An application programming interface (API) is a toolset of protocols and routines exposing the functionality of a service or application to others, allowing them to communicate. APIs make it much simpler for developers to combine data from different sources to build applications.

APIs can expand the reach of a company's key assets, letting them be shared, reused or resold as a new revenue stream. From a business perspective, few software companies today can grow without publishing an API of their service. This means that developers all over the world can build new, interconnected technologies and services that enhance the software and take it in innovative directions.

The Evolution: Make way for Containerized Microservices

Organizations of all sizes are rushing to create deeper relationships with customers via business processes that now largely occur online. Not only does that shift increase the number of applications that need to be developed, it also creates a requirement to enhance the customer experience by regularly updating those applications.

With a Container-based Microservices architecture, individual services can be added, changed or removed at any time without the need to bring the entire application offline for maintenance. As a result, multiple DevOps teams can work independently on new functionality or bug fixes at the same time, and at their own pace.
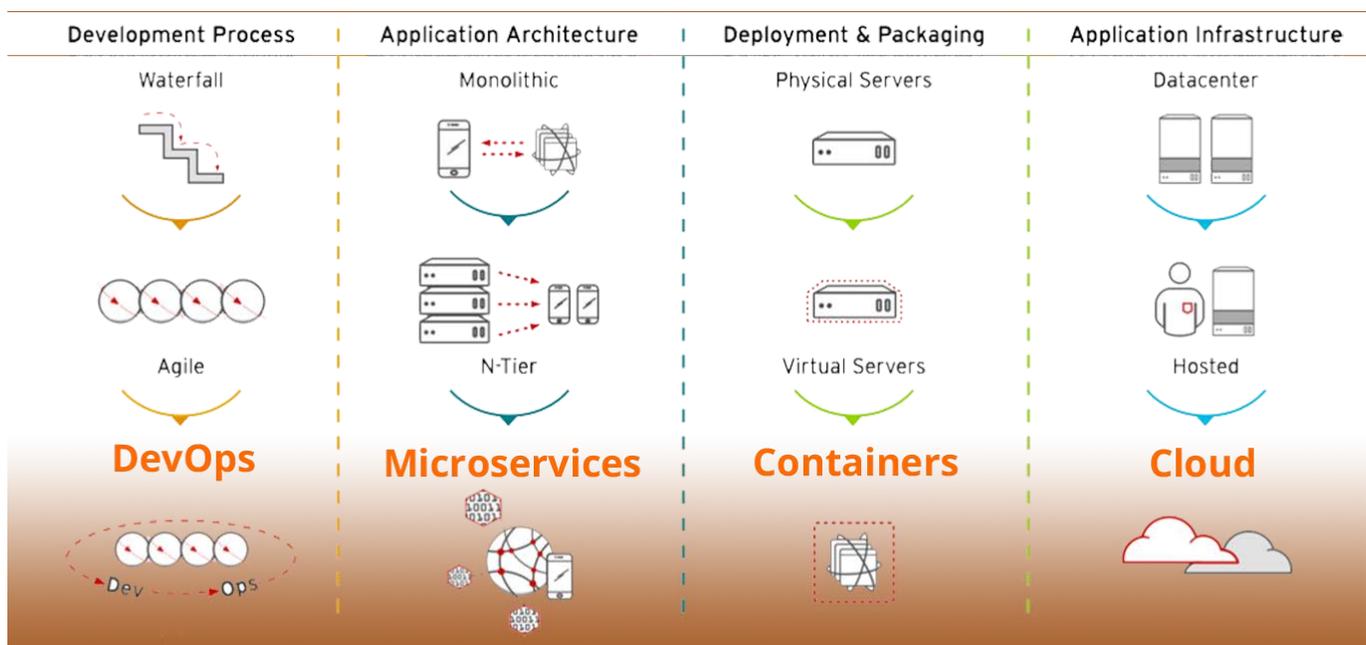
IT Must Evolve to Stay Ahead of the Demands

The era of monoliths, common-off-the-shelf software, and SOA layers is being replaced by a business-like containerized microservices architecture, where DevOps teams build, deploy, manage and improve reasonably sized, business-oriented microservices that can stand alone, or be part of a larger application or system.

The result is:

• Architecture will be understandable by business-oriented people
• Maximized probability that a new feature touches only one microservice
• Amount of integration is low, and requires few service calls to run
• Changes for business innovation will be easy

Features and Benefits

Building and deploying containerized applications on an automated, programmable infrastructure drives business value through digital transformation. Opticca solutions enhance developer productivity, business agility, IT flexibility, and application scalability. The result helps you adapt to changes in the marketplace and shorten the time it takes to bring an application to market.

- **Fast deployment.** Change code in one service and deploy it separately from other parts of the system.
- **Improve scalability.** Each piece of functionality is a separate service. Scale by replicating services as needed. Selective scaling means more efficient use of code, reducing the infrastructure you need.
- **Composability and portability.** Functionality can be reused and consumed in different ways for different purposes. Easily replace or remove a microservice. Containers are portable across different platforms and clouds.
- **Organizational Agility.** Small, autonomous, empowered teams. Fewer bottlenecks and less resistance to change. Easy for new developers to get on board and learn the code.
- **Drive a model of continuous integration and continuous deployment.**
- **Technology Diversity.** Use different technologies inside each microservice mixing languages, frameworks and data-storage technologies. Pick the right tool for each job.
- **Resilience.** Loose coupling and bounded context limits the failure domain. Failure of one instance has minimal impact on the application. When failing is less risky it's easier to experiment and innovate.

Faster Deployments

Summary

The stage is set for companies to reach new levels of productivity and digital evolution. Containers, Microservices, and DevOps done together in the right way allow business units and IT to work together as a team again. The benefit will be significant for those companies that succeed - and life will be harder for their competition.

Attaining business agility goes beyond quick app development to quick app delivery. Opticca Revolutionary Platform Quickstart empowers companies to deliver greater business agility by harnessing the collective power of industry-standard DevOps tools to drive continuous application integration, delivery, and deployment. You get to leverage emerging best practices and focus on the strategic big picture.

Next Steps

To learn more about Opticca Consulting and the Revolutionary Platform Quickstart program, please contact your Opticca representative or visit www.opticca.com.

About Opticca Consulting

Opticca Consulting delivers revolutionary platforms that enable our clients to outperform their competition. We help our clients speed up application development and deliver value faster than ever before by adopting architectures using DevOps, Containers and Microservices, as well as supporting Automation and CI/CD pipelines. Our extensive partner network helps us drive collaboration and leverage technology independence. We've built a team of passionate technologists who truly care about achieving quality outcomes, building lasting relationships, and delivering on what we promise – every client is a reference.
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