



SAP S/4HANA Cloud - Side-by-side Extensions

PUBLIC

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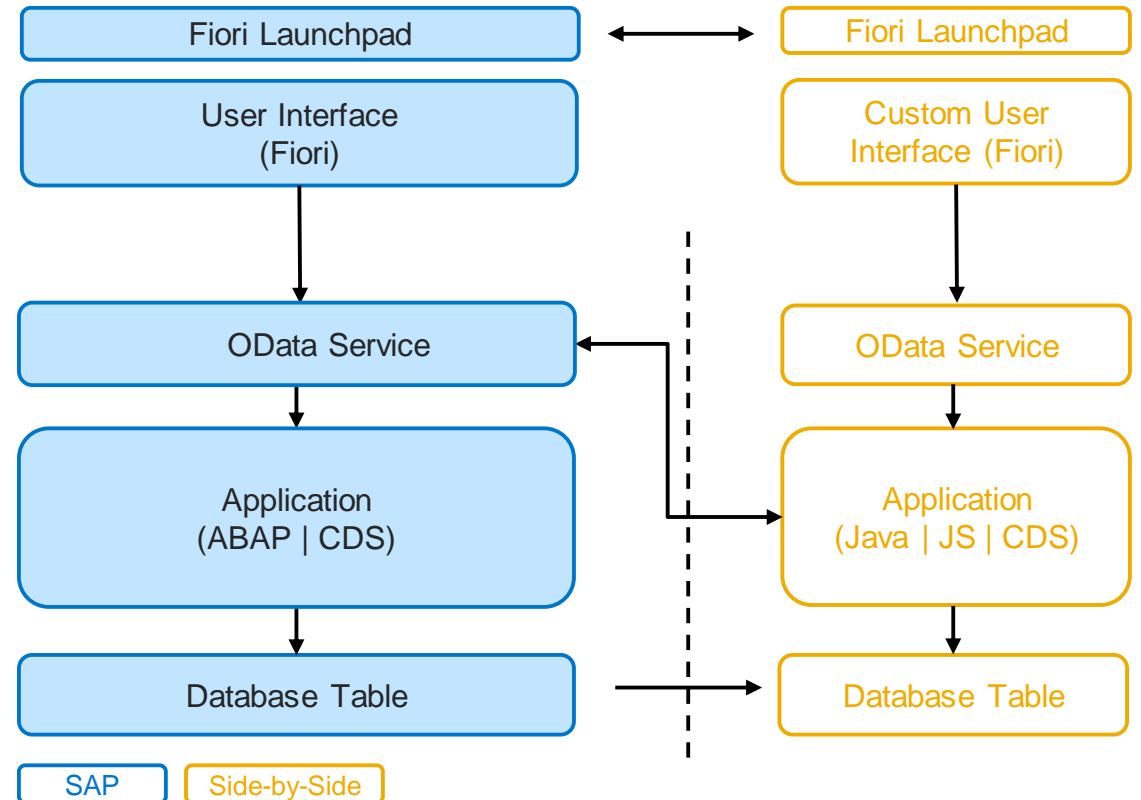
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What is a custom side-by-side extension?

Custom extension applications

A side-by-side extension is a customer developed and operated application, running next to SAP S/4HANA

- **De-coupled integration via APIs, events and replication services**
- **Lifecycle independent**
- **Separated application stacks**
- **Highly productive development environment with the SAP WebIDE and S/4HANA Cloud SDK**
- **Supports hybrid scenarios**



Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



DevOps



Microservices



Containers



Continuous Delivery

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



DevOps



Culture of teamwork, joint end-to-end responsibility



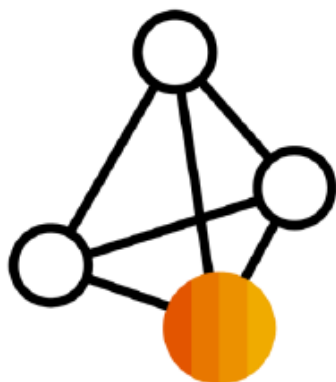
Fast delivery of software value to market



High software quality, customer satisfaction

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



Microservices



Small, autonomous, independently deployable services



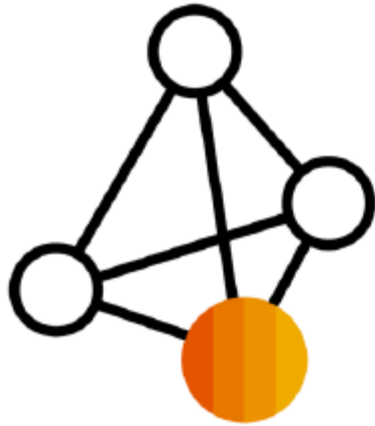
Organized around loosely coupled business domains



Offer higher flexibility than monolithic applications
at the cost of managing a distributed system

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



Microservices



Key benefits

- Technology heterogeneity
- Organizational alignment
- Scaling

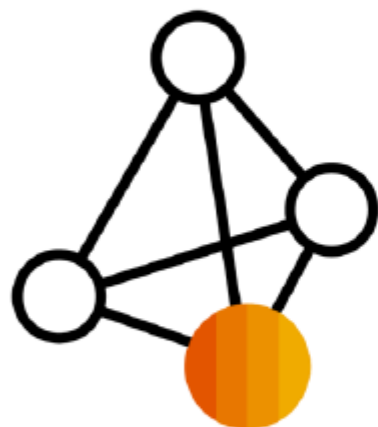


Benefits with trade-offs

- Resilience
- Ease of deployment
- Optimizing for replaceability
- Composability

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



Microservices



Architectural approaches

- Monolith-first
- Microservices-first



Recommendations

"It depends ..."

- business knowledge
- team experience
- technical constraints
- and other factors

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



Containers



Applications are isolated processes based on control groups and namespaces



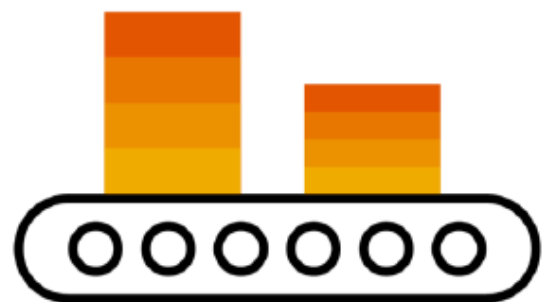
More lightweight than virtual machines



Easy, reliable, and flexible way of moving software between computing environments

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

What is cloud-native?



Continuous Delivery



Short release cycles, ship multiple times per day



High degree of automation, codified knowledge



Fast recovery from defects, experiment without risk

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

The twelve-factor application

1. Codebase
2. Dependencies
3. Config
4. Backing services
5. Build, release, run
6. Processes
7. Port binding
8. Concurrency
9. Disposability
10. Dev/prod parity
11. Logs
12. Admin processes



Stateless and self-contained application processes



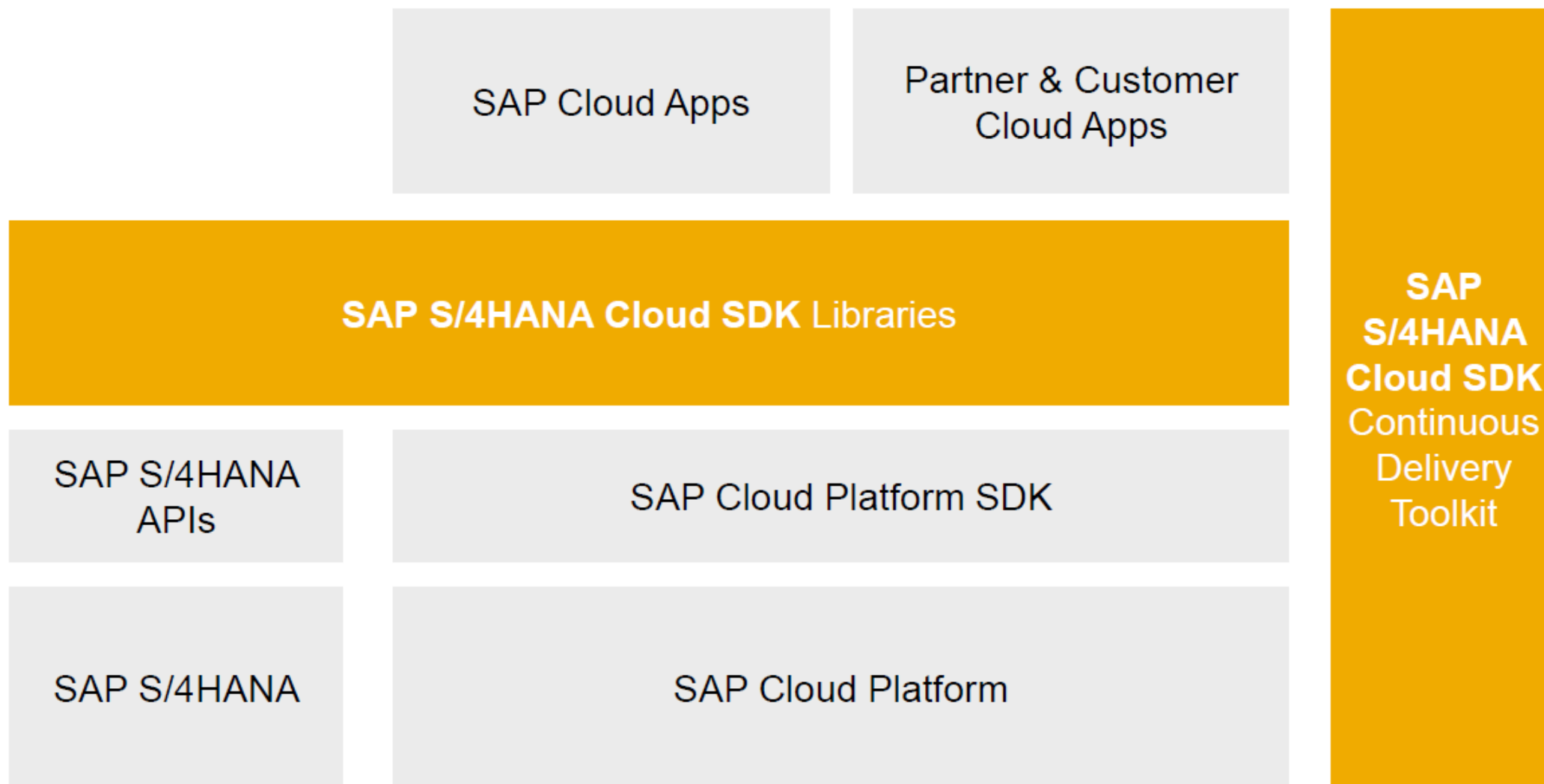
Separation of application code and runtime configuration



Traceability and reproducibility of all changes

Cloud-Native Apps and the SAP S/4HANA Cloud SDK

Overview of SDKs



Cloud-Native Apps and the SAP S/4HANA Cloud SDK

The SAP S/4HANA Cloud SDK



- Transparent integration with SAP S/4HANA Cloud and on-premise
- Java virtual data model for type-safe access to SAP S/4HANA



- Improved application performance by efficient caching management
- Tenant and user-isolated caches



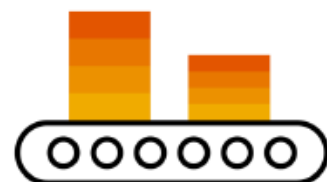
- Easy access to SAP Cloud Platform services with abstractions for platform features
- Eased environment transition (Cloud Platform Neo > Cloud Foundry)



- Enterprise-specific adaptations of open source frameworks
- For example: feature toggling, multitenant persistence, etc.



- Integration with resilience and fault-tolerance framework
- Code analysis and testing support to ensure high quality standards



- Project templates
- Out-of-the-box continuous delivery server
- Preconfigured continuous delivery pipeline including quality checks

Questions & answers



Thank you.

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