

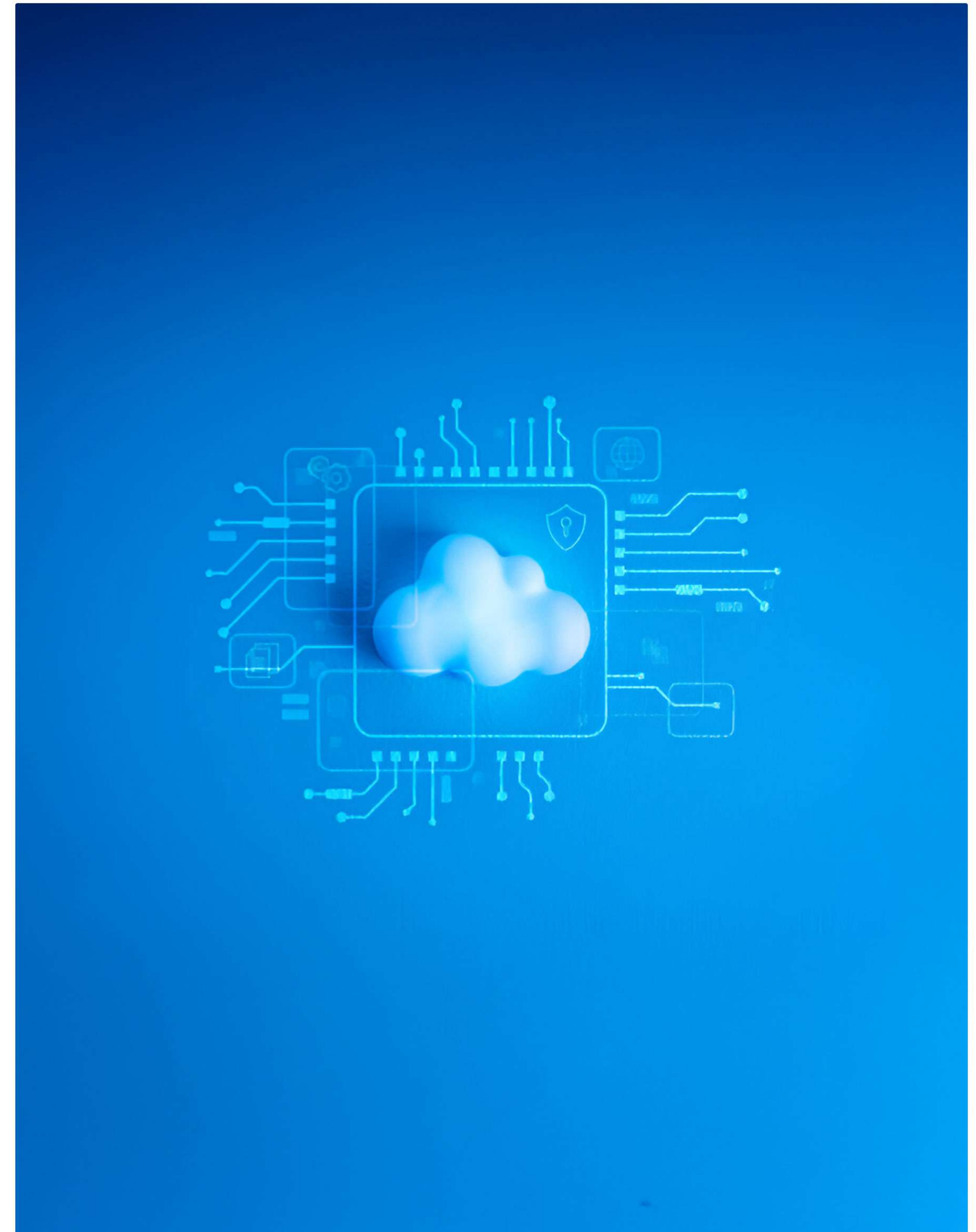
SAP Clean Core Approach: Redefining Flexibility and Extensibility



Introducing the Clean Core Approach

The need for software extensions in SAP

The greatest benefit of SAP from the customer's view is, the delivery of applications software to cover business processes for finance, logistics, manufacturing, and human resources with transparency, data security, scalability, flexibility, and customization covering wide industries and countries. SAP offers flexibility to each industry to customize, design, and execute processes differently than other industries.



The Need for Flexibility

SAP's success with its applications lies in the breadth of scope it offers and its flexibility to cater to unique customer needs. Customers value the ability to adjust the delivered scope to fit their specific requirements. Recognizing this, SAP eagerly embraced the challenge of providing a wide scope and flexibility for customers to adapt it as needed. This required innovative and "out-of-the-box" design thinking from SAP.

SAP explored two potential solutions. One involved providing a system with "frozen" source code, focusing on ease of maintenance but sacrificing flexibility for end-users and business stakeholders. The other solution allowed unrestricted code modification, posing challenges in maintenance and upgrades. Neither approach was adopted. Instead, SAP found a unique approach, balancing the needs of end-users, business stakeholders, and the IT department. This balanced approach, allowing customer-initiated code adjustments in a controlled manner, was revolutionary when SAP R/3 was introduced and remains a critical factor in SAP ERP's phenomenal success.

Classic Extensibility Approaches – ABAP Custom Development in SAP before SAP S/4HANA Cloud

In the classic approach, before SAP S/4HANA Cloud, customizing SAP applications was relatively straightforward. SAP provided "exits" across different system layers—data, visual, and code—to allow customers to add custom fields and functionalities without altering the core system. In case there were no exits, or enhancement points available, the customers successfully modified SAP standard objects to achieve the desired functionality

This process was managed through a defined process of documentation, testing, and activation, ensuring customer-specific needs were met while maintaining system integrity. However, as SAP systems evolved from R/3 to business suites to S/4HANA and moved to the cloud, managing these customizations became more complex, requiring new strategies to balance flexibility and stability.

Embracing Clean Core in SAP S/4HANA

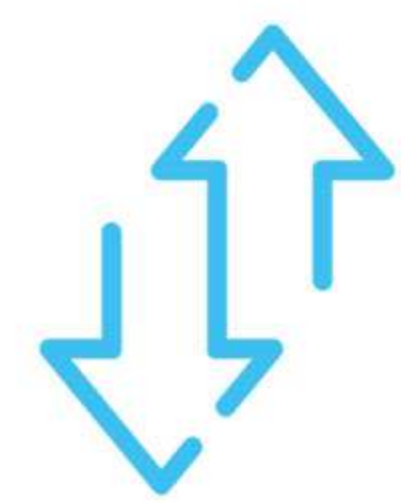
In today's fast-paced business environment, agility and efficiency are paramount. SAP S/4HANA offers a powerful solution, to truly unlock its potential, adopting a Clean Core approach is essential.



What is Clean Core?

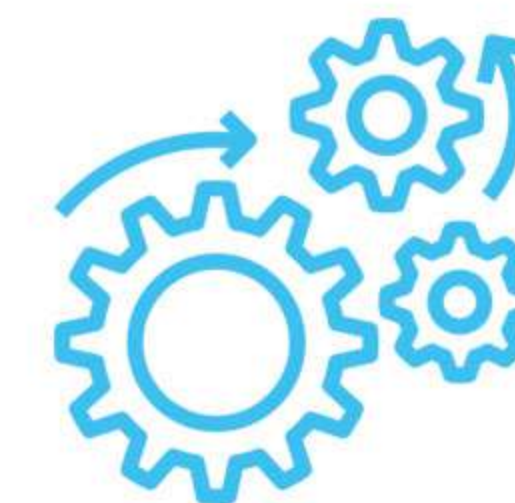
Clean Core Concept

Clean

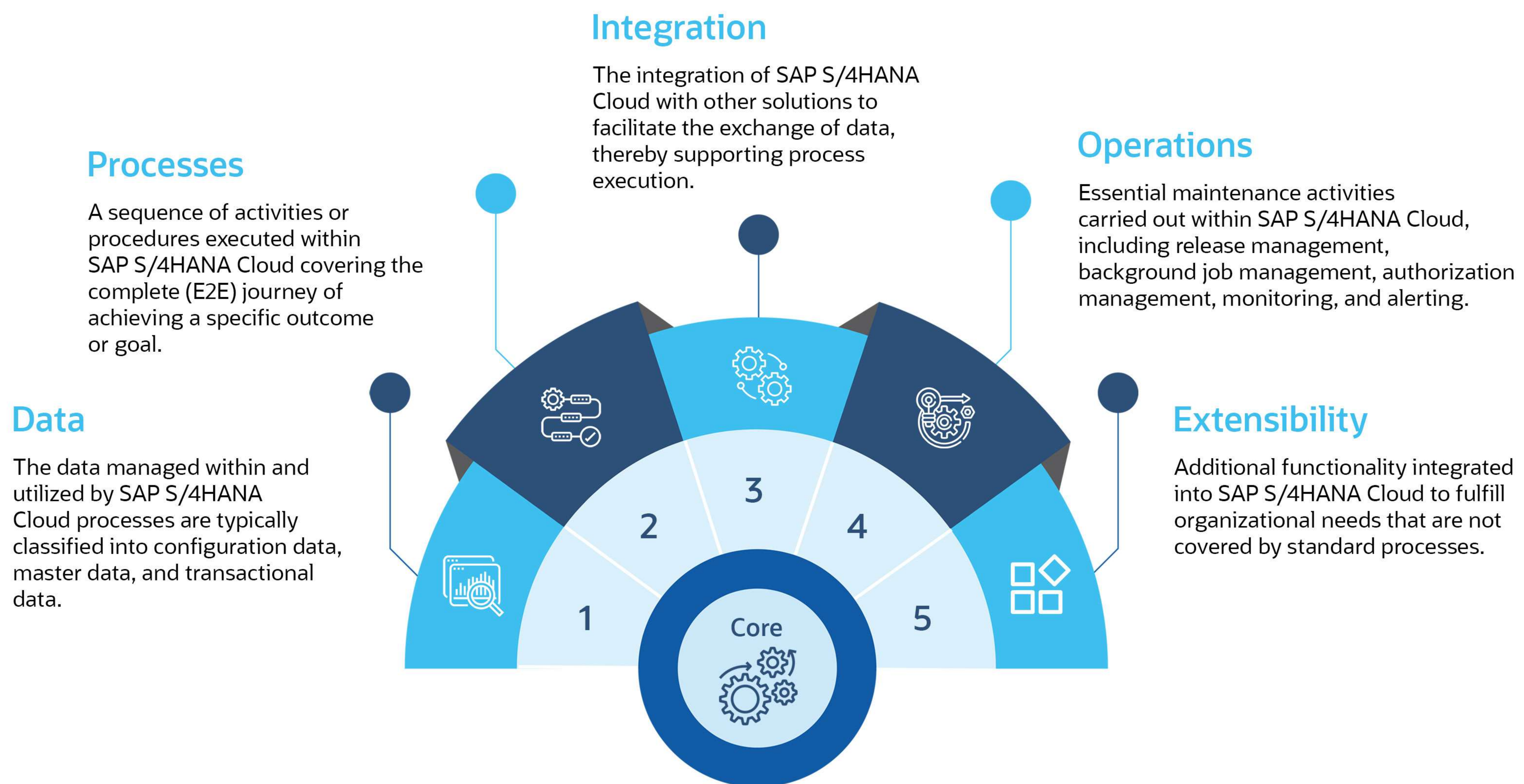


Clean means that for each of the previously mentioned aspects, the necessary steps are taken to ensure it is current, cloud-compliant, optimized, and perfected, based on the specific aspect in question.

Core



The core describes the main aspects of SAP S/4HANA Cloud. These aspects can be thought of as dimensions or components, and they are oriented around the following.



Clean Core

Clean Core is a concept and strategy aimed at creating a modern, flexible, and cloud-compliant SAP S/4HANA Cloud environment. This is achieved through the integration and extension of SAP S/4HANA Cloud to ensure cloud compliance, high-quality master data, and optimized business process governance.

With a Clean Core approach, customers benefit from improved maintainability and a lower total cost of ownership (TCO) for SAP S/4HANA Cloud, making it a more efficient and cost-effective solution.

A Clean Core in SAP S/4HANA means maintaining an up to date, documented, unmodified, consistent, efficient application system and having custom extensions decoupled from SAP source code. This approach ensures smooth system upgrades, reduces complexity, and minimizes technical debt.

SAP S/4HANA Cloud operates in a shared environment where all customers use the same base code line, and changes are applied simultaneously across the board. This setup necessitates a rethink of applying customer-specific enhancements differing from earlier on-premises environments. Recognizing the continued need for customer enhancements, SAP has embraced the challenge of adapting these processes for the cloud.

The solution involves developing a unique extension philosophy for the cloud and introducing the concept of a "clean core." This approach aims to maintain the integrity of the base code while allowing for necessary customizations in a controlled manner, ensuring smooth updates and maintenance without disrupting the overall system.

Benefits of Clean Core

The Clean Core approach offers advantages for everyone involved.

For customers:

- Ease of upgrade: Simplifies upgrades, making them non-disruptive from a custom code perspective.
- Fast consumption of innovation: Ensures continuous access to cutting-edge technologies.
- E2E system security, continuity, and stability.

- TCO: Optimizes infrastructure and license usage, lowering total cost of ownership.
- Permanent traceability: Maintains comprehensive traceability throughout all core areas.

For partners:

- Future-proof and cloud-ready solutions.
- Promotion of fit-to-standard compliance: Encourages adherence to clean core modular innovation.
- Reduction of complexity: Streamlines the use of out-of-the-box SAP solutions.

Why Clean Core Matters

- 1. Agility and Flexibility:** By keeping the core clean, businesses can quickly adapt to changing requirements without being bogged down by complex customizations. This agility allows for faster response times to market changes and customer needs.
- 2. Efficient Upgrades:** Clean Core principles ensure that upgrades are smoother and less disruptive. Since customizations are minimized and properly documented, the upgrade process is streamlined, reducing the risk of conflicts and errors. This saves valuable time and resources.
- 3. Reduced Technical Debt:** Avoiding over-customization helps in maintaining a system that is easier to manage and extend in the future. Technical debt, which refers to the implied cost of additional rework caused by choosing an easy solution now instead of using a better approach, is minimized, leading to long-term sustainability.

Steps to Achieve Clean Core

- 1. Adopting a policy of zero modifications:** Committing to using SAP S/4HANA without altering its core code. This approach ensures that the system remains stable and easier to maintain, allowing for seamless upgrades and consistent performance. By adhering to standard functionalities and avoiding custom modifications, businesses can reduce complexity, lower costs, and ensure long-term scalability and flexibility of their SAP environment.
- 2. Eliminating enhancements that duplicate standard code and functionality,** as well as removing copies of SAP objects, helps streamline the SAP environment. This approach reduces unnecessary complexity, minimizes maintenance efforts, and improves system performance. By relying on standard features and avoiding redundant customizations, businesses can ensure a more efficient and manageable SAP S/4HANA Cloud system, leading to better overall stability and lower costs.
- 3. Using released APIs only ("upgrade-stable interfaces")** Relying exclusively on SAP released APIs, known as "upgrade-stable interfaces," ensures consistent and reliable system performance during upgrades. This approach minimizes disruption, simplifies maintenance, and guarantees compatibility with future updates.
- 4. Leveraging the key user (in-app) extensibility of SAP S/4HANA Cloud to its full extent** Maximizing the key user extensibility capabilities within SAP S/4HANA Cloud allows for tailored customizations directly within the application. This empowers users to adapt the system to meet specific needs without compromising the core code's integrity.

5. Employing the capabilities and services offered by SAP Business

Technology Platform to build larger extension applications Utilizing the full range of capabilities and services provided by SAP Business Technology Platform enables the creation of extensive extension applications. This approach supports scalable, cloud-based solutions that enhance the functionality of SAP S/4HANA Cloud.

6. Using SAP Integration Suite Integrating SAP S/4HANA Cloud with other systems via SAP Integration Suite ensures seamless data exchange and process execution. This approach facilitates interoperability, enhances system efficiency, and supports comprehensive business workflows.

7. Document Everything: Comprehensive documentation of all customizations and extensions is crucial. This includes not only what was done but also why it was done and how it interacts with other parts of the system. Proper documentation facilitates better understanding and maintenance of the system. The documentation should create technical and functional documentation for every custom development, outlining the purpose, logic, dependencies, and expected outcomes.

8. Decouple Extensions: Use tools like the ABAP RESTful Application Programming Model (RAP) to create extensions that do not modify the core. This allows for custom functionalities to be added without altering the underlying SAP codebase. Develop custom applications using RAP that run independently of the core system, reducing the risk of impacting standard functionalities during upgrades.

9. Regularly Review and Clean Up: Periodically review the system to identify and remove any unnecessary customizations. This includes redundant code, obsolete extensions, and unused configurations. Keeping the system clean and up to date is an ongoing process. Conduct quarterly system audits to identify and eliminate outdated or redundant customizations, ensuring the system remains optimized.

Real-World Insights

Numerous businesses have effectively embraced Clean Core principles, resulting in more agile and scalable systems. For instance, a global manufacturing company implemented RAP for event-driven architecture, allowing real-time responses to change in production processes. This approach enhanced efficiency and minimized downtime. Similarly, a retail organization utilized the SAP Cloud Platform Integration Suite to connect their e-commerce platform with SAP S/4HANA. By leveraging standard APIs, they facilitated seamless data exchange and improved customer experience without altering the core system.

Conclusion

Embracing a Clean Core approach in SAP S/4HANA is more than just a best practice—it's essential for businesses striving to stay competitive in today's digital landscape. By following the outlined steps, companies can ensure their SAP systems are efficient, adaptable, and future proof.

Future-Proof Your SAP Landscape

Adopting a Clean Core strategy ensures a resilient, scalable, and innovation-ready enterprise. Businesses that embrace this approach can streamline operations, minimize complexity, and ensure long-term success in their SAP journey.

Let's Connect

Looking to simplify your SAP landscape while ensuring flexibility and efficiency? **Reach out to our experts today to explore tailored Clean Core solutions for your enterprise.**



Accelerating Digital Transformation