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Whitepaper

Efficient SAP Data Integration in Microsoft Fabric: Optimizing Your Data Strategy with Xtract Universal ›

Discover how to overcome the challenges of SAP data integration – particularly in light of SAP Note 3255746 – and seamlessly integrate your data into Microsoft Fabric. This whitepaper explains how Xtract Universal by Theobald Software provides a robust and flexible solution for efficient SAP data replication and a reliable alternative to the ODP Connector, ensuring efficient incremental SAP data replication.

Explore practical use cases, real customer success stories, and upcoming innovations, including how Xtract Universal enables seamless data integration with Microsoft technologies like **Fabric Mirroring**, helping you future-proof your SAP data strategy.

Content›

1. Meeting the Challenge of SAP Data Integration›

Integrating SAP data with modern cloud platforms is critical for companies looking to make data-driven decisions and optimize their operations. Many organizations, including those using Microsoft Fabric, often rely on SAP systems for critical data in sales, logistics, finance and more. Managing this data efficiently – especially ensuring (near) real-time access – has always posed a challenge due to the complexity and volume of SAP datasets.

Historically, organizations have used Microsoft's native Connector for Operational Data Provisioning (ODP) to manage incremental SAP data loading, which enabled seamless data integration for analytics workflows. However, SAP Note 3255746 introduces a significant shift, discontinuing the use of ODP Data Replication APIs for accessing SAP ABAP sources. This presents a new challenge for organizations, disrupting established data workflows and forcing businesses to either manage complete data reloads, with the risk of performance issues, or find more efficient alternatives for SAP data replication. Yet, challenges in SAP data integration extend beyond ODP alone. Companies often struggle with maintaining efficient, scalable data flows while ensuring that SAP data is consistently merged with other critical business data in cloud environments like Microsoft Fabric.

This is where Theobald Software's Xtract Universal provides a robust and comprehensive solution. The interface based on SAP-certified technology offers a powerful solution for SAP data extraction and integration, enabling organizations to overcome a range of data replication hurdles. By leveraging alternative technologies such as Table, Table CDC, and DeltaQ, Xtract Universal ensures both incremental and bulk data replication can continue efficiently, even in the event of changes such as ODP restrictions. Organizations can centralize their SAP data in platforms like Microsoft Fabric, including the OneLake data lake storage, allowing for deeper insights and optimized decision-making.

This whitepaper will guide you through the various challenges of SAP data integration, including those posed by SAP Note 3255746, and explore how **Xtract Universal** offers a versatile solution for these hurdles. You'll discover practical use cases, see how Xtract Universal supports seamless data replication, and understand the benefits of integrating SAP data with **Microsoft's Fabric platform**, including incremental data merging through **Fabric Mirroring**.
We'll also discuss upcoming innovations and how Xtract Universal helps future-proof your SAP data strategy, optimizing your operations and enabling data-driven decisions.

2. In Context: Addressing SAP Data Integration Challenges❯

The integration of SAP data has long been a challenge for organizations, particularly when it comes to managing incremental data updated and handling large volumes of transactional data. SAP Note 3255746, which discontinues the use of the ODP Framework, has introduced an additional hurdle for organizations relying on this method for efficient, incremental data replication and their SAP-to-Microsoft data integration.

Incremental Data Loading

Traditionally, organizations have used solutions like the ODP Connector to incrementally load data from SAP, extracting only new or changed records. This approach is crucial for minimizing system load and ensuring up-to-date insights in analytics platforms. The restriction of the ODP Connector has forced companies to explore alternative options for maintaining this functionality, without resorting to full data reloads that consume more bandwith and resources.

However, Xtract Universal offers a robust alternative. With capabilities like **Table CDC** and **DeltaQ**, businesses can continue to benefit from incremental data loading, ensuring that their data pipelines remain efficient and responsive, even with the discontinuation of ODP. Xtract Universal's advanced extraction methods maintain near real-time data synchronization, providing the timely insights businesses need to make informed decisions.

Handling Large Data Volumes

Managing vast amounts of SAP data is a persistent challenge, especially for organizations with high transaction volumes across departments like sales, logistics, and finance. The ODP Connector offered an efficient way to handle bulk data transfers. Losing this functionality adds complexity. However, Xtract Universal, with its ability to manage both incremental and full data loads, provides a comprehensive solution for businesses needing to move large datasets into platforms like Microsoft Fabric. By leveraging the scalability of Xtract Universal, businesses can handle bulk data transfers without performance bottlenecks, ensuring that even large datasets are processed efficiently and integrated into their chosen data environment.

Real-Time Data Integration

The ODP Connector was designed to support near real-time data provisioning, ensuring that businesses could consistently access up-to-date information from SAP systems. The discontinuation of this feature means companies must now explore alternative methods to maintain real-time data availability, which can disrupt business operations. Xtract Universal's flexible and high-performance data extraction methods ensure that real-time data integration can continue. Its seamless integration with Microsoft Fabric enables businesses to replicate SAP data quickly and accurately, maintaining up-to-date datasets across their cloud ecosystems.

Integration with Microsoft Fabric and Azure Data Services

Many organizations rely on Microsoft's suite of cloud services – including Azure Data Factory, Synapse Analytics and Microsoft Fabric – to process and analyze their SAP data. Without the ODP Connector, it becomes more difficult to supply these systems with incremental, up-to-date data, resulting in less efficient workflows and potentially outdated data being used for analysis. Xtract Universal provides a powerful alternative for integrating SAP data into these environments. Its compatibility with Microsoft's data services ensures that companies can continue to work with incremental data updates, delivering fresh insights without the need for cumbersome workarounds.

Increased Complexity and Costs

The removal of ODP functionality forces businesses to adopt more complex workarounds or invest in additional tools to maintain SAP data integration. This adds both cost and complexity to IT infrastructures, straining resources and complicating data management processes. By offering a flexible and scalable solution for SAP data integration, Xtract Universal reduces the need for complex, resource-intensive Workarounds. Businesses can avoid costly infrastructure changes while maintaining efficient data integration workflows. Additionally, the interface is based on SAP-certified Technology, ensuring reliability and compatibility with SAP systems, which provides further confidence for businesses looking to streamline their data strategies.

The SAP Note 3255746 restricts the use of RFC modules in ODP Data Replication, affecting Xtract users relying on this component for SAP data extraction. Learn more about these changes and explore alternative solutions in our **blog post**.

Guidance on SAP

NOTE 3255746

3. The Solution: SAP Data Integration with Xtract Universal and Microsoft Fabric›

As we've seen, SAP data integration presents multiple challenges, particularly in environments where near real-time data availability and incremental loading are crucial. While the SAP Note 3255746 introduces additional complexity for organizations, Xtract Universal provides a powerful and versatile solution that goes beyond addressing specific limitations. By offering a range of **alternative technologies**, including robust features and a broad range of integration components, the SAP interface ensures seamless and efficient SAP data integration into **Microsoft Fabric**. With features designed to optimize data extraction and replication processes, companies can maintain efficient workflows and gain timely insights within Microsoft's data ecosystem.

3.1   Flexible Alternatives for Data Extraction and Replication

Xtract Universal is built to support a variety of extraction methods and offers several key alternatives to the ODP component, ensuring seamless SAP data integration:

Table and Table CDC Components›
For transactional and master data, the Table component provides direct access to SAP tables, while Table CDC (Change Data Capture) replicates only the changed records. This ensures efficient and incremental data updates, reducing the load on both the source system and the network.

DeltaQ for SAP DataSources and Extractors›
DeltaQ allows companies to continue using SAP DataSources (SAPI extractors) to pull incremental data, ensuring that the discontinuation of ODP doesn't disrupt data replication processes.

OData API›
As an alternative to ODP, Xtract Universal is developing extended support for SAP's OData API, enabling access to data in a compliant and future-proof manner. This feature will be available by Q4 2024, providing even more flexibility for customers in choosing the most suitable extraction method for their SAP environments.

BW Cube and OHS Components›
For SAP NetWeaver Business Warehouse (BW) and BW/4HANA environments, Xtract Universal offers integration through BW Cube and OHS components, which are unaffected by the SAP Note. These components allow for efficient extraction of large volumes of data for business analytics.

3.2   Seamless Integration with Microsoft Fabric and OneLake

Xtract Universal offers a powerful and flexible solution for integrating SAP data into Microsoft OneLake. The seamless connection between Xtract Universal and the Microsoft ecosystem allows organizations to achieve centralized and scalable data management. This integration lays the foundation for efficient data analysis and enables companies to make better and faster decisions based on the relevant data and become even more successful.
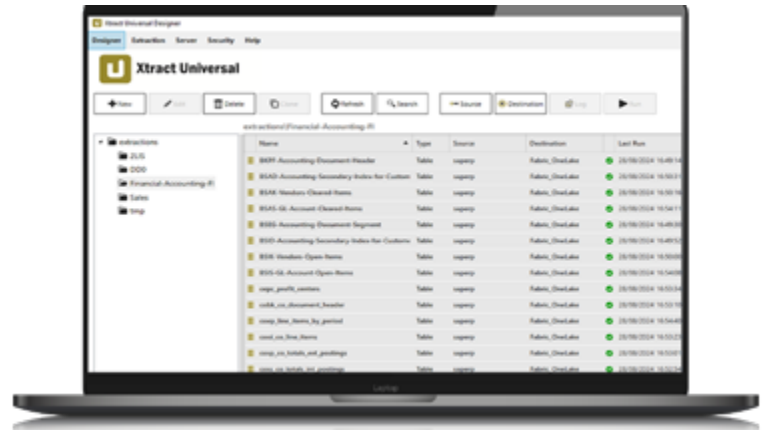
Centralized Data Storage in one Repository›
By replicating SAP data into Microsoft OneLake, Xtract Universal enables businesses to consolidate their datasets in a single, scalable data lake repository. This centralization simplifies both historical and real-time data management, enabling deep insights using Fabric's advanced analytics and machine learning capabilities. It also enhances data accessibility and reliability within the Microsoft Fabric ecosystem – across the organization.

Support for Multiple Microsoft Destinations›
Xtract Universal offers flexible integration not just with OneLake but also with various Microsoft destinations, including Azure Data Lake Storage, Azure SQL, and Azure Synapse Analytics. This flexibility allows organizations to build scalable data pipelines that meet their unique needs for storage, analysis, and business intelligence. By accommodating various data platforms, Xtract Universal ensures that companies can create tailored data architectures without the constraints of a one-size-fits-all solution.

Near Real-Time Data Integration›
Xtract Universal enables near real-time data replication into Microsoft Fabric, ensuring that business-critical information is available with minimal latency. Whether integrating financial data for near-instant reporting or synchronizing sales data for actionable insights, Xtract Universal's near real-time integration enhances decision-making and operational efficiency.

Optimized for Microsoft Power BI and Synapse Analytics›
With native support for Microsoft Power BI and Synapse Analytics, Xtract Universal enhances the overall analytics and reporting experience. Power BI users can directly connect to the SAP data replicated in OneLake or Azure environments, creating rich, real-time visualizations. For more complex data modeling and AI-driven insights, Synapse Analytics further leverages the full power of SAP data across the enterprise.

4. Use Cases: How Companies Benefit from Integrating SAP Data into Microsoft Fabric›

Across various industries and business sectors, there is a growing need to seamlessly integrate SAP data into modern data platforms like Microsoft Fabric to enable faster, more accurate, and data-driven decision-making. Below, we present three concrete use cases that demonstrate how companies can leverage SAP data integration into Microsoft Fabric—with the support of Xtract Universal—to gain valuable insights, improve data availability, reduce costs, and enhance data security.

4.1   Optimized Data Analysis for Controlling Teams

The challenge›

Finance and controlling teams need access to accurate, up-to-date financial data to make informed budgeting decisions and ensure financial stability. Traditional SAP systems often store this data in silos, making it difficult to extract and replicate for real-time analysis.

Solution with Xtract Universal and Microsoft Fabric›

With Xtract Universal, finance teams can replicate SAP data directly into Microsoft OneLake. This central storage enables access to real-time and historical financial data that can be analyzed in Microsoft Fabric. The **Table CDC** feature ensures that only updated data is transferred, reducing latency and making near real-time analysis possible. With Microsoft Fabric's advanced analytics, this consolidated data can be further analyzed, enabling better financial planning.

Benefits and Outcomes›

With this solution, the controlling team can immediately identify where cost savings can be made or where investments are needed, leading to faster and more accurate financial planning and decision-making.

4.2   Enhanced Data Availability for Sales Teams

The challenge>

Sales teams need access to up-to-date customer data, sales figures, and analyses to proactively respond to market changes and adjust sales strategies. However, accessing and consolidating data from SAP systems, especially for remote or distributed teams, can be cumbersome.

Solution with Xtract Universal and Microsoft Fabric>

Xtract Universal enables seamless replication of SAP data into Microsoft OneLake, providing sales teams with a unified view of customer data and sales figures. This data can be accessed in near real-time across different platforms and devices, empowering sales teams to adjust their strategies dynamically. Using **Power BI** in combination with Microsoft Fabric allows for in-depth analysis and actionable insights.

Benefits and Outcomes>

Sales representatives can analyze customer data and sales figures in near real-time, adjust sales strategies, and optimize customer engagement to achieve their sales targets. This improves responsiveness and enhances the efficiency of the entire sales team.

4.3   Cost-Efficient and Secure Data Management for IT Teams

The challenge>

IT departments face increasing pressure to manage data efficiently while ensuring security and minimizing costs. Fragmented data storage across different systems can lead to redundant data and increased management complexity.

Solution with Xtract Universal and Microsoft Fabric>

Xtract Universal simplifies SAP data integration by consolidating it into Microsoft OneLake, reducing redundancy and lowering management costs. By leveraging **Microsoft Fabric's advanced data security and scalability**, IT departments can ensure secure, compliant data management. Xtract Universal supports various Microsoft destinations, such as **Azure Data Lake** and **Azure SQL**, providing flexibility for different use cases.
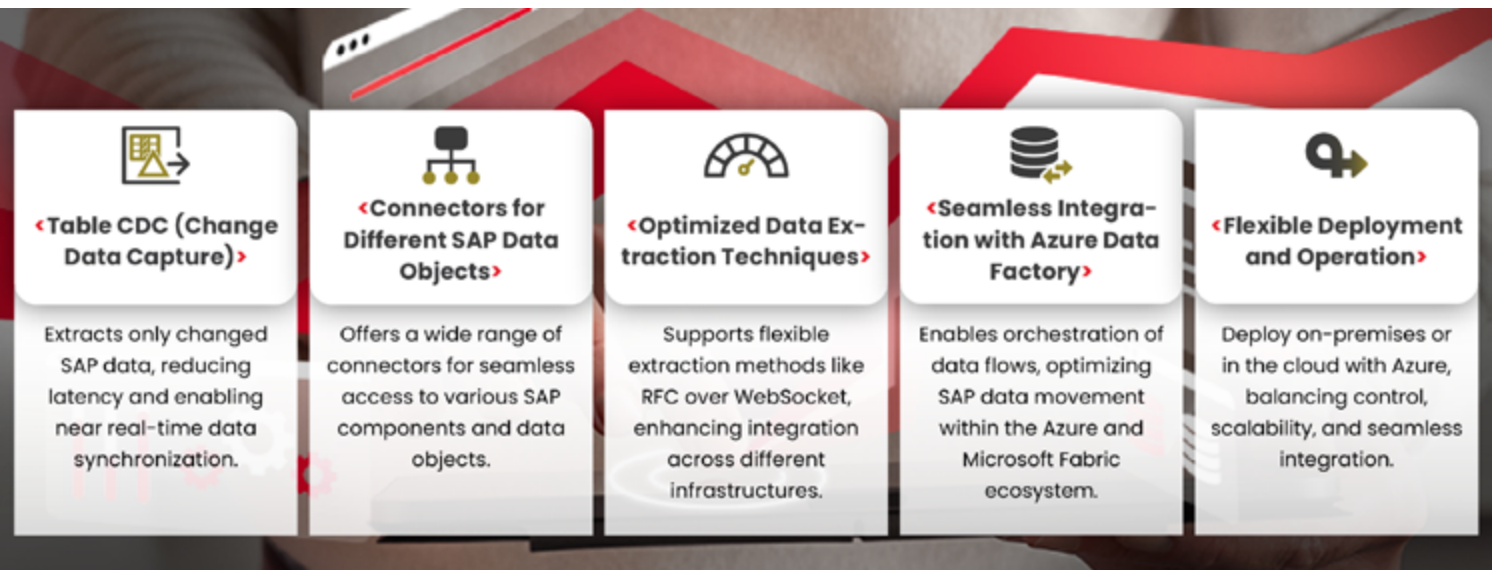
Benefits and Outcomes>

Centralized data management significantly reduces administrative overhead and associated costs. The IT department can focus on strategic IT projects and increase efficiency while maintaining control over the data infrastructure.

These use cases are just a few examples of how companies can optimize their business process-es and promote data-driven decision-making by integrating SAP data into Microsoft Fabric—with the support of Xtract Universal.

However, the possibilities are far from exhausted: for companies across various industries and de-partments that use SAP, there are numerous other use cases. Whether it is optimizing supply chains, improving product development, meeting strict compliance requirements, or other use cases—the combination of Microsoft Fabric and Xtract Univer-sal makes it possible to support the specific chal-lenges and goals of each company and develop a flexible, future-proof data strategy.

5. Technical Components and Features of Xtract Universal›

‹Table CDC (Change Data Capture)›	‹Connectors for Different SAP Data Objects›	‹Optimized Data Ex-traction Techniques›	‹Seamless Integra-tion with Azure Data Factory›	‹Flexible Deployment and Operation›
Extracts only changed SAP data, reducing latency and enabling near real-time data synchronization.	Offers a wide range of connectors for seamless access to various SAP components and data objects.	Supports flexible extraction methods like RFC over WebSocket, enhancing integration across different infrastructures.	Enables orchestration of data flows, optimizing SAP data movement within the Azure and Microsoft Fabric ecosystem.	Deploy on-premises or in the cloud with Azure, balancing control, scalability, and seamless integration.

Integrating SAP systems with modern platforms like Microsoft Fabric presents many challenges for companies, including the technical complexity of data extraction and the demands for security, perfor-mance, and flexibility. Xtract Universal offers a comprehensive solution tailored to these needs, providing robust and efficient data integration. The technical components and features of Xtract Universal play a crucial role in ensuring seamless integration and maximizing the value derived from SAP data.

Xtract Universal is renowned for its flexibility and optimized integration with Microsoft environments. This not only allows for centralized data management and analysis but also ensures seamless synchroniza-tion of SAP data with various Microsoft technologies in near real-time. The following technical compo-nents and features contribute significantly to this:

Table CDC (Change Data Capture)›

One of the key features of Xtract Universal is its Table CDC (Change Data Capture) capability. This feature extracts only the changed data from SAP tables rather than performing regular full data replications. This innovative approach reduces data latency significantly and improves processing efficiency, providing near real-time data synchronization without relying on SAP Operational Data Provisioning (ODP) Framework. This function is particularly valuable in scenarios where data currency is critical, such as financial analysis or reporting.

Connectors for Different SAP Data Objects›

In addition to Table CDC, Xtract Universal offers a wide range of connectors, each tailored to handle different SAP data objects. These connectors include Table, DeltaQ & ODP, BAPI, Report, SAP Queries, BW Cube, and BW Hierarchy. This extensive range of connectors ensures comprehensive integration and access to diverse SAP components and data, covering the entire data landscape.

Optimized Data Extraction Techniques›

Beyond the traditional RFC connectivity to SAP ABAP applications, Xtract Universal supports alternative data extraction techniques, such as RFC over WebSocket. These alternative approaches allow companies to use different connection types based on their needs and infrastructure, providing greater flexibility in data integration. These alternative approaches offer unique benefits and use cases that complement conventional data transfer options, giving businesses more flexibility in their data integration strategies.

Seamless Integration with Azure Data Factory›

Integration with Azure Data Factory is another central advantage of Xtract Universal. This integration enables comprehensive orchestration and management of data flows and workflows within the Microsoft Azure environment. It optimizes the entire data integration process—from the SAP system through Xtract Universal to final analysis in Microsoft Fabric—ensuring smooth data movements and increased traceability and transparency in data management.

Flexible Deployment and Operation›

Xtract Universal offers companies the flexibility to deploy the solution either on-premises or in the cloud. The on-premises option provides better control over physical infrastructure and data security, while deployment as a virtual machine (VM) in Azure offers benefits such as scalability, easy management, and seamless integration with other Azure services. This choice ensures that companies can select the deployment model best suited to their specific requirements.

The combination of these technical capabilities makes Xtract Universal a powerful and flexible solution for companies looking to integrate SAP data into Microsoft Fabric and leverage the comprehensive functionality and scalability of the Microsoft environment.

Through real-time replication and flexible adaptation to existing business processes, Xtract Universal helps organizations fully exploit the benefits of Microsoft Fabric and make data-driven decisions more quickly and securely.

6. Customer Success Stories with Xtract Universal ›

Xtract Universal has been successfully implemented in over 4,000 customer scenarios worldwide, helping numerous companies seamlessly integrate their SAP data into modern data lakes and analytics platforms. The following success stories from LANXESS, DEHN SE, and Covestro illustrate how clients from various industries have gained significant benefits from using Xtract Universal.

LANXESS – Effortlessly Processing SAP Data in Azure

LANXESS, a leading specialty chemicals company, follows a cloud strategy based on Microsoft Azure. As part of this strategy, the company uses Xtract Universal to extract mass data from SAP ERP and BW systems into Azure Storage. This data is then available for processing in Azure Cloud Services.

The Challenge ›
Automated mass data extraction from SAP to Azure Storage for various business units.

Value with Xtract Universal ›
The solution enables automatic extraction of SAP data multiple times a day for over 60 use cases involving more than 500 employees. This automation provides a significant time advantage and ensures that up-to-date data is always available. A major benefit for LANXESS is the ability to pass parameters when invoking an extraction from Xtract Universal. This allows similar queries to be executed with different parameters in various business units, ensuring each unit receives the data relevant to them. This streamlines the process and allows for customized data delivery.

LANXESS Deutschland GmbH

"Connecting Azure cloud solutions and SAP data using Xtract Universal is the safest, easiest and most functional way for us to make SAP data available in the cloud."

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DEHN SE – Cloud-First Strategy with Xtract Universal and Azure Storage

DEHN SE, a leading company in surge protection, lightning protection, and safety equipment, uses Xtract Universal to centralize SAP data in Azure Storage. The data is then used for reporting and analytics with Power BI to support data-driven decision-making and drive digital transformation.

DEHN SE

"*With Xtract Universal, we have the ideal tool for transferring data from the SAP world to the Microsoft world.*"

The Challenge›
Providing SAP data in Azure Storage for central data processing and analytics.

Value with Xtract Universal›
The integration of SAP data into the Azure Cloud is significantly simplified by Xtract Universal. The solution is streamlined and precise, creating an excellent cost-benefit ratio. The entire process of SAP data integration is now automated and efficient. With Xtract Universal, DEHN SE has found a central solution that ensures the availability of SAP data in the Azure Data Lake for processing in Microsoft applications like Azure Data Factory. This central provision supports a comprehensive data analytics strategy essential for data-driven business management.

Covestro – Faster Data Analysis through Optimized SAP Data Availability

Covestro, a global leader in plastics manufacturing, relies on Xtract Universal to extract SAP data from various systems—SAP ERP, SAP BW, and SAP IBP—into an Amazon S3-based data lake. This central data platform supports the company in extensive analyses and innovative applications, leading to significant increases in efficiency and sustainability.

The Challenge›

Cost-effective, automated SAP data transfer to a data lake for data analytics and innovative applications.

Value with Xtract Universal›

The integration of SAP tables takes only ten minutes instead of three hours, resulting in substantial time savings. Additionally, the solution allows for near real-time data availability and significant cost savings—the alternative of using a more comprehensive data integration platform would have been about 15 times more expensive than using Xtract Universal. Looking ahead, the company plans to utilize the Table CDC (Change Data Capture) component for more frequent data updates. This will enable incremental updates where only changed data is loaded, reducing the load time from one hour to a few minutes and greatly increasing efficiency.

Covestro Deutschland AG

About using the Table CDC component in Xtract Universal:

"Instead of reloading a table with 30 million rows each time, we now only update about 1,000 rows that have changed. Instead of an hour, the loading process now takes only a few minutes."

7. Xtract Universal – Future Developments and Roadmap ❯

Theobald Software is continuously working to enhance Xtract Universal, making SAP system integration with Microsoft Fabric even more effective and user-friendly. One of the upcoming innovations is **Fabric Mirroring**, which enables the automatic merging of incremental data updates with existing datasets within Microsoft Fabric. This means that any new data coming in from SAP systems will be seamlessly integrated with previously stored information, ensuring that all data remains up-to-date and cohesive without the need for complex manual processes. This development is particularly aimed at companies dealing with large volumes of data and requiring regular updates.

Xtract Universal ensures that the SAP data is delivered in the correct format, enabling Fabric Mirroring to work without friction. This tight integration simplifies the entire data flow from extraction to analysis, offering a truly end-to-end solution for SAP and Microsoft Fabric users. For instance, a large manufacturing company using Xtract Universal can centralize its SAP production data in OneLake, merge it seamlessly with other operational data through Fabric Mirroring, and leverage Fabric's advanced analytics capabilities. This results in more efficient inventory management, early bottleneck detection, and optimized supply chain operations—leading to improved planning, cost savings, and higher customer satisfaction.

Additionally, Theobald Software is expanding Xtract Universal's connectivity support to include **OData and SAP Public Cloud**. This expansion provides companies with greater flexibility by enabling connections to a broader range of SAP-related data sources. Plans are also in place to integrate additional systems, such as **SAP Concur**, to broaden the solution portfolio and offer seamless data integration across various applications.

Another significant step on the roadmap is the introduction of a **Software as a Service (SaaS) variant of Xtract Universal**. This cloud-based deployment model will offer companies enhanced scalability and flexibility, ideal for organizations seeking a simplified and efficient cloud data integration solution. With the new SaaS option, companies can start quickly, minimize infrastructure costs, and benefit from a highly scalable, cloud-based approach.

With these planned developments, Theobald Software is providing its customers with innovative solutions that meet the demands of an ever-evolving data landscape.

8. Next Steps to Optimize Your Data Strategy>

Xtract Universal delivers comprehensive capabilities for integrating SAP systems with Microsoft Fabric and stands out due to its advanced features, strategic advantages, and forward-looking developments. The solution enables companies to consolidate their SAP data centrally in Microsoft OneLake, leverage Fabric's analytical capabilities, and seamlessly integrate with the extended Microsoft technology stack. This empowers organizations to fully harness their data potential and drive business success through informed, data-driven decisions.

Xtract Universal is not only distinguished by its current features but is also well-prepared for future developments. With upcoming features like Fabric Mirroring and the forthcoming SaaS option, companies are well-positioned to tackle the challenges of digital transformation.

Discover how you can simplify your SAP data integration with Xtract Universal. Take advantage of a free 30-day trial and experience firsthand how our solution can optimize your data strategy and support your organization on its journey to a data-driven future. Contact the Theobald Software team to learn more and discuss your customized solution.

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9. Links to further Information ›

› Product Website https://theobald-software.com/en/xtract-universal/

› Trial Version https://theobald-software.com/en/download-trial

› Success Stories https://theobald-software.com/en/resources/success-stories/

› Theobald Software HelpCenter https://helpcenter.theobald-software.com/xtract-universal/documentation/introduction/

› OneLake Destination https://theobald-software.com/en/microsoft-fabric/

› Azure Storage Destination https://helpcenter.theobald-software.com/xtract-universal/documentation/destinations/azure-storage/

› Azure Synapse Analytics https://helpcenter.theobald-software.com/xtract-universal/documentation/destinations/azure-synapse-analytics/

› (Azure) SQL Server https://helpcenter.theobald-software.com/xtract-universal/documentation/destinations/microsoft-sql-server/

› Power BI https://helpcenter.theobald-software.com/xtract-universal/documentation/destinations/Power-BI-Connector/

› Integration with Azure Data Factory https://helpcenter.theobald-software.com/xtract-universal/documentation/execute-and-automate/call-via-etl/#integration-via-azure-data-factory

› Guidance on SAP Note 3255746 about SAP ODP https://theobald-software.com/en/products-technology-en/guidance-on-sap-note-3255746-for-theobald-software-xtract-products/

› Alternatives for the ODP Extraction Type https://helpcenter.theobald-software.com/xtract-universal/knowledge-base/alternatives-for-odp/?h=odp