Taler SAP integration

This thesis investigates the theoretical and prototype integration of the GNU Taler Merchant Backend with SAP S/4HANA, demonstrating how privacy-preserving digital-cash payments can be synchronized with SAP's financial and order-management modules to streamline settlement, ensure compliance, and automate reconciliation.

The Initial Situation

Most large companies depend on SAP for their enterprise resource planning (ERP) system. GNU Taler is a free software digital cash payment system. Integration with SAP is crucial for the broad adoption of Taler. Operating separate payment and ERP systems results in inconsistent data, additional manual processes, and compliance issues. This project aims to bridge SAP and Taler. Businesses using SAP should be able to process Taler payments as easily as they can accept cards today. The work serves as a blueprint for integrating Taler with other ERP systems.

The Application

A custom package was developed on the SAP side to enable real-time synchronization between the systems, including an HTML-based web UI in SAP. The package connects Taler's payment flows with SAP's financial and material management modules. To support and track Taler payments, a merchant simply needs to install the package into their SAP system*. Taler integration-specific settings can be entered via our GUI. When a customer wishes to pay with Taler, the merchant creates an order with Taler selected as the payment method. Our SAP package then handles Taler payment processing. The merchant only needs to share the payment link (e.g., via QR code).

The Future

The application has already been tested in a near-production environment. The next steps involve further testing in a controlled environment, followed by potential adoption by companies.
Future improvements could include making the Taler system the primary source of data for the ERP systems.
Additionally, an SAP Fiori application could be developed to provide the same functionality with improved integration, easier maintenance, and a more user-friendly experience.
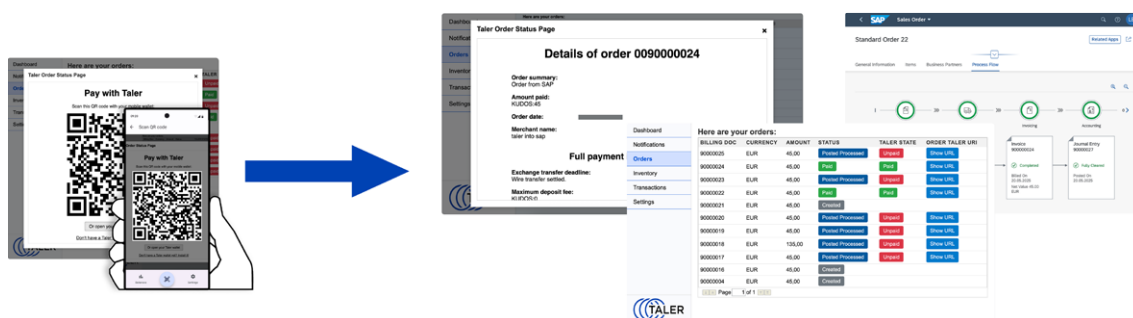
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* In the SAP system, the standard modules SD, MM, and FI might have to be customized, and additional flows as Order-To-Payment, have to be enabled.

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Scan QR code for more information

System overview