



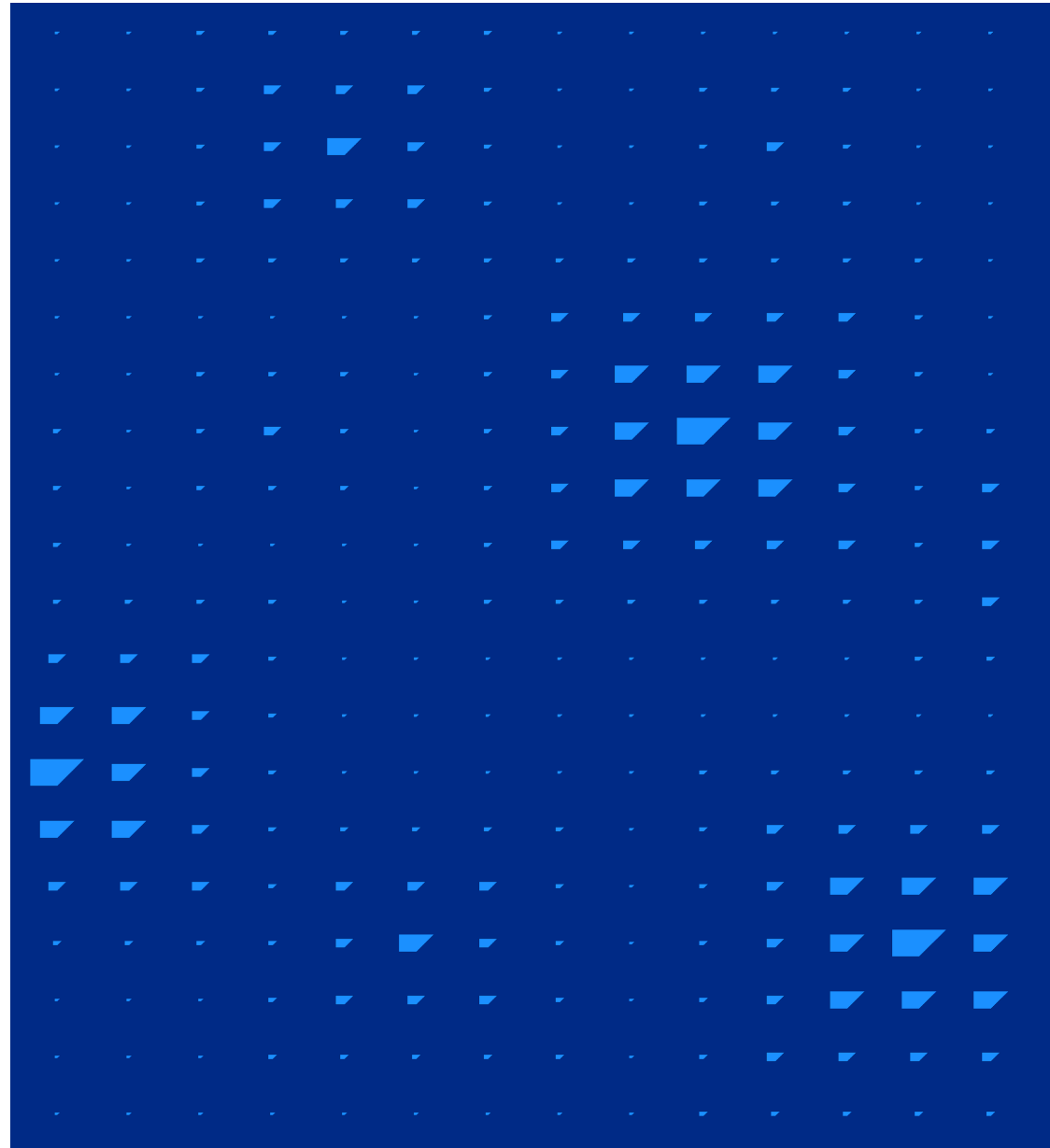
Unified, virtually transparent, enterprise ready technical connectivity on SAP BTP

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October 1, 2026



Unified Connectivity

INTERNAL – SAP and External Parties under NDA Only



Agenda

01 Introduction and SAP Context

What is Unified Connectivity?

02 Problem To Solve

Interoperability, Simplification, Unification – the three pillars of the solution

03 Underlying services and components

Deep dive into the building blocks of Unified Connectivity

04 Virtually transparent unified connectivity

Practical low level technical examples

05 Upcoming deep-dives in our series

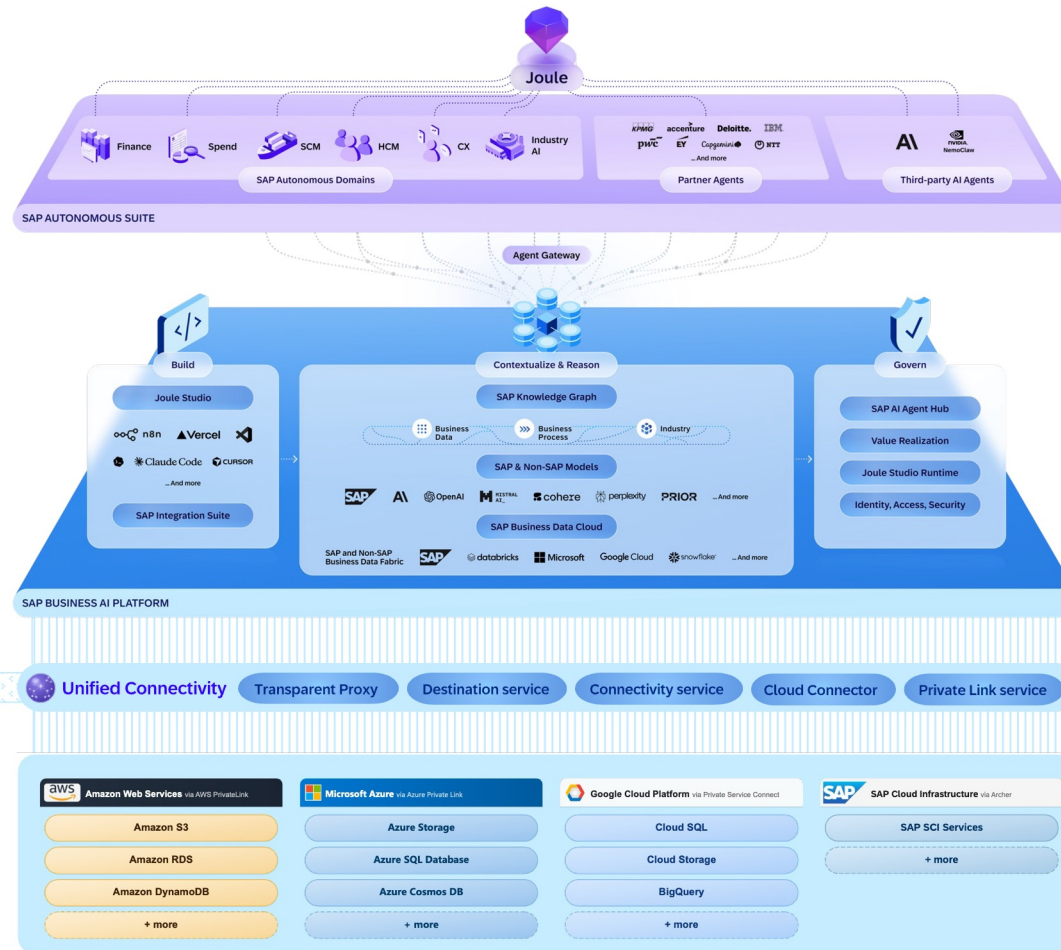
Preview of what is next to come in this series of sessions



Unified Connectivity – Introduction and SAP Context



[SAP Business AI Platform](#) as the next evolution of SAP's unified platform, bringing together the capabilities of SAP BTP, the AI Foundation, SAP Business Data Cloud (BDC), and select process-tracking tools from the SAP Business Transformation Management (BTM) portfolio.



Problem Area

Hybrid Technical Connectivity

- *Connection Configuration Management*
- *Hyperscaler-Agnostic Private Connectivity* (OSI Layers 4-7 encrypted)
- *Hyperscaler-Native Private Connectivity* (OSI Layer 4)
- *Unified Experience*

Problem To Solve: Interoperability, Simplification, Unification

Centralized Configuration

- Technical connection settings managed centrally via **SAP Destination service**
- Built-in automation for multiple authentication flows supporting public and private applications and systems
- Reduces configuration duplication and enforces consistent, secure connectivity across landscapes



[SAP Destination service](#)
[SAP BTP Connectivity](#)

Private Connectivity

SAP Connectivity service

- Runtime and hyperscaler-agnostic Layer 7 private connectivity, native to SAP BTP
- Secure access to on-premise and VPC-hosted systems via **SAP Cloud Connector**

SAP Private Link service

- Hyperscaler-specific network level connectivity
- Ensures that all traffic stays fully within the hyperscaler's internal network



[SAP Connectivity service](#)
[SAP Private Link service](#)
[SAP BTP Connectivity](#)

Unified Connectivity

- **Transparent Proxy** for [SAP BTP Connectivity](#) provides a unified connection experience for local, public and private systems
- Abstracts technical differences between connection types, protocols, and authentication methods. Simplified technical complexities.
- Enables virtual transparency when consuming remote systems, simplifying development, scaling, and operations



[Transparent Proxy for SAP BTP Connectivity](#)
[SAP BTP Connectivity](#)

SAP Destination Service

An integral part of SAP BTP Connectivity

Secure, flexible and centralized **technical connection configuration management** via key entities

- **destinations** – key-value parameters holding information about technically accessing the remote system – protocol, host, port, credentials, etc.
- **destination fragments** – partial configurations
- **certificates** – multiple file and keystore formats

Self-service for issuing **X.509 client certificates** part of **SAP Cloud PKI**.

Multiple storage levels and scopes of visibility.

Administration via BTP cockpit and REST API.

Programatic runtime access via REST API:

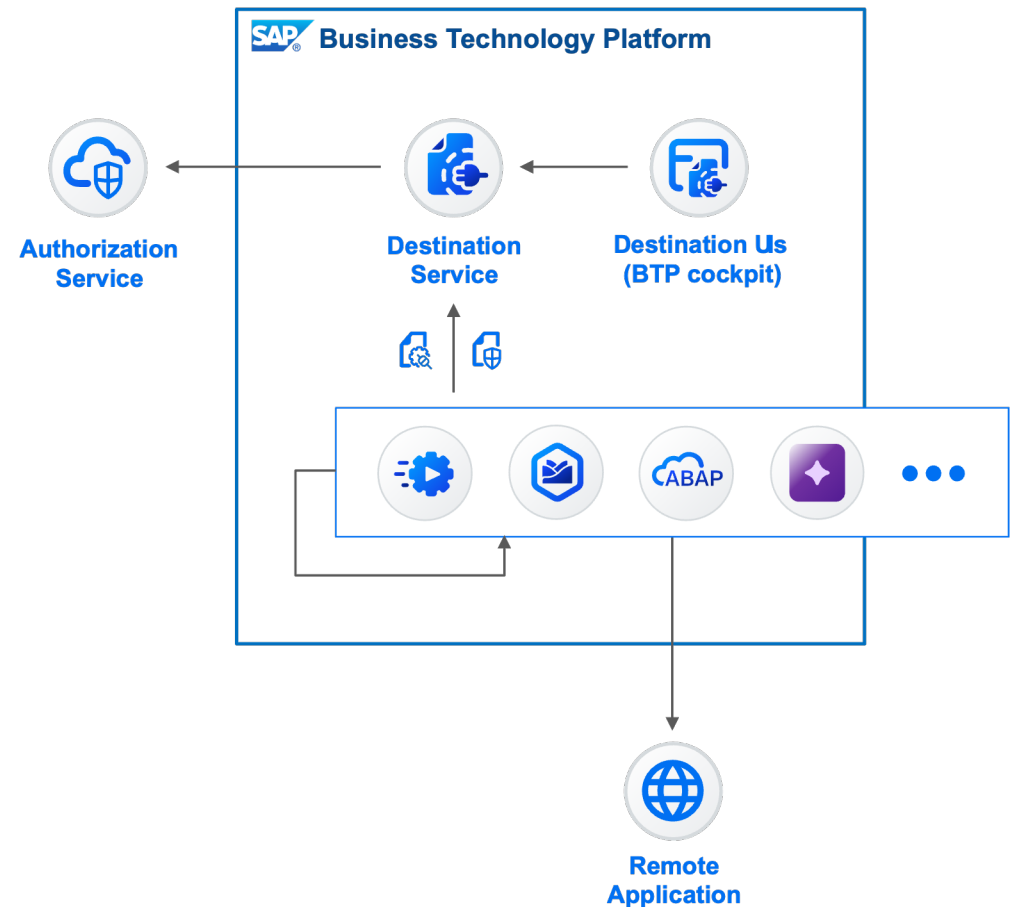
- tenant-specific destination look-up
- automated **access token retrieval**

Multi-tenant, cross-environment service consumption.

Simplified consumption via **Transparent Proxy** and **Cloud SDK**.

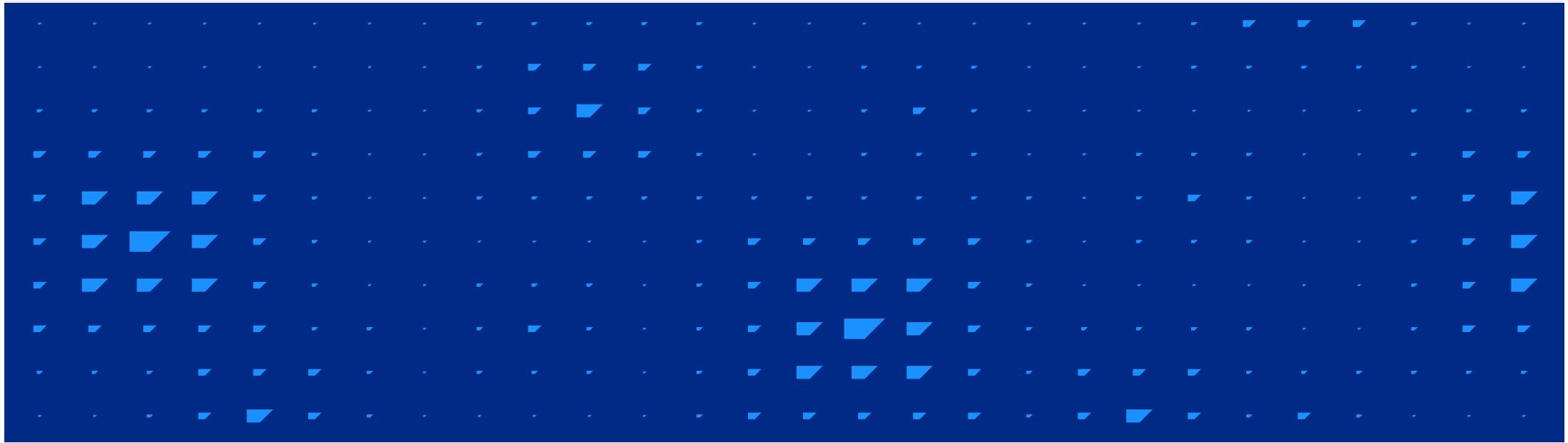
Documentation: https://help.sap.com/docs/CP_CONNECTIVITY

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What is a Destination?

Guided tour of the Destination UI



SAP Connectivity Service

An integral part of SAP BTP Connectivity

Secure technical connectivity between cloud applications and such hosted in private, fenced network environments.

BTP environment-native and Hyperscaler-agnostic solution.

Communication protocol-specific processing, enforcement of access controls, auditing and monitoring.

Multiple communication protocols:

- **HTTP, RFC, LDAP** – protocol-specific processing
- **TCP** – generic data transfer of any TCP-based protocol

BTP-native runtime consumption via

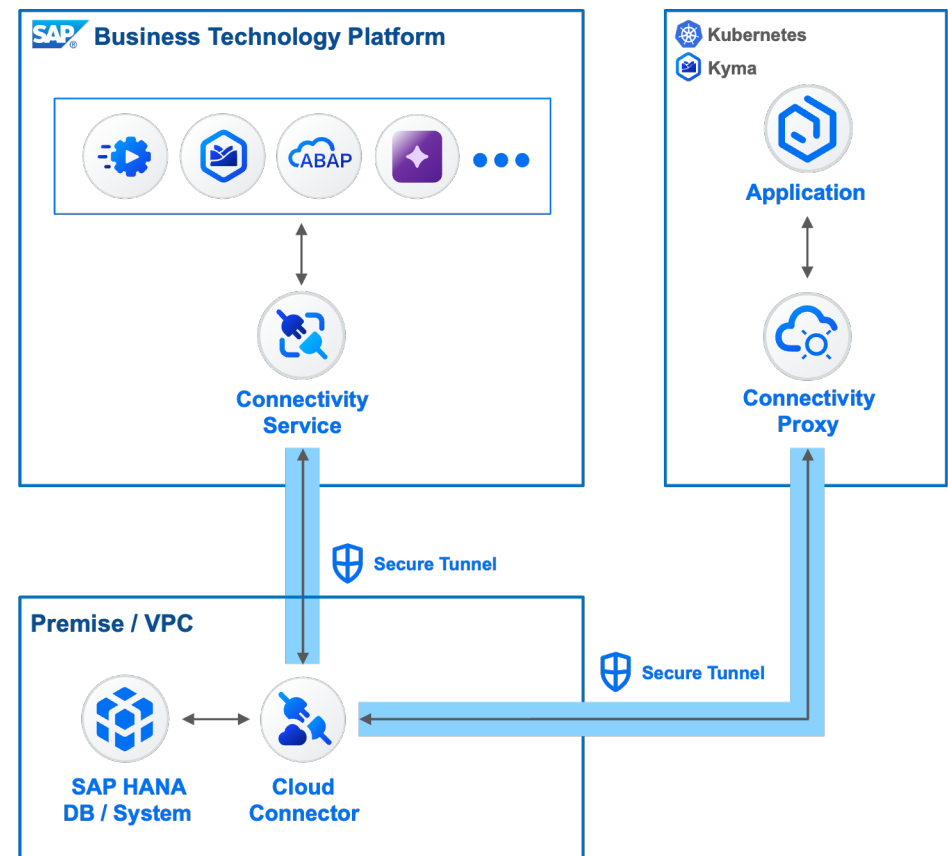
- **destinations** with ProxyType=On-Premise
- **Transparent Proxy** as main entry point for virtually transparent, unified connectivity experience

Connectivity Proxy as Kyma Module

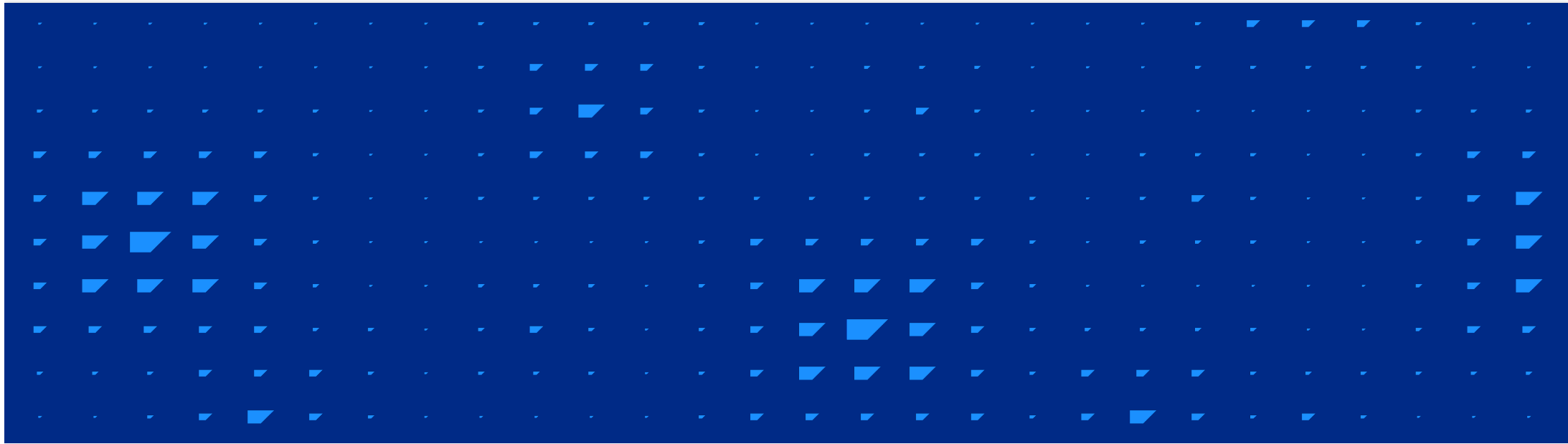
- **enable** → **configure** → **use**. Supportability SLAs by SAP.

Documentation: https://help.sap.com/docs/CP_CONNECTIVITY

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Guided tour of the Connectivity service and Cloud Connector UIs



SAP Private Link Service

An integral part of SAP BTP Connectivity

Establishes a **private channel** between selected SAP BTP services and **selected services in IaaS (Hyperscaler) provider** accounts

Traffic remains within the Hyperscaler's secure network and **does not reach public Internet**

Available on  and  SAP BTP runtimes

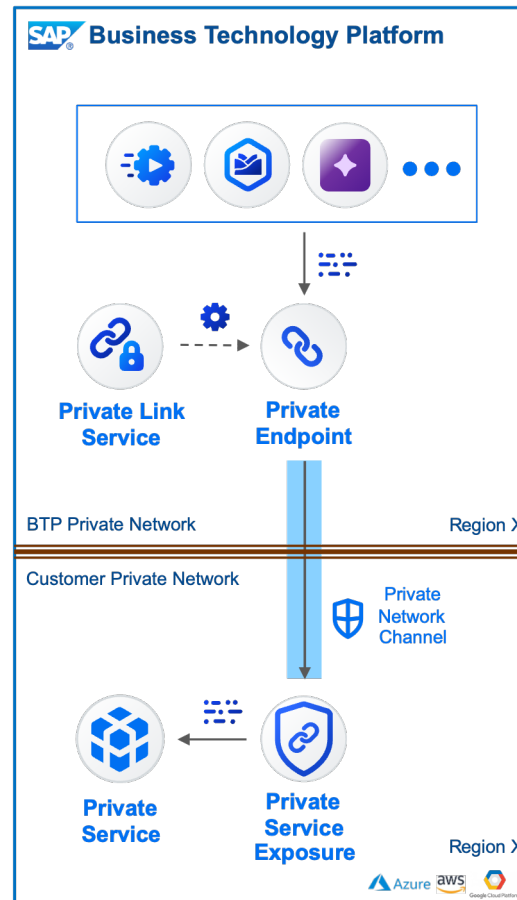
Supported IaaS providers:



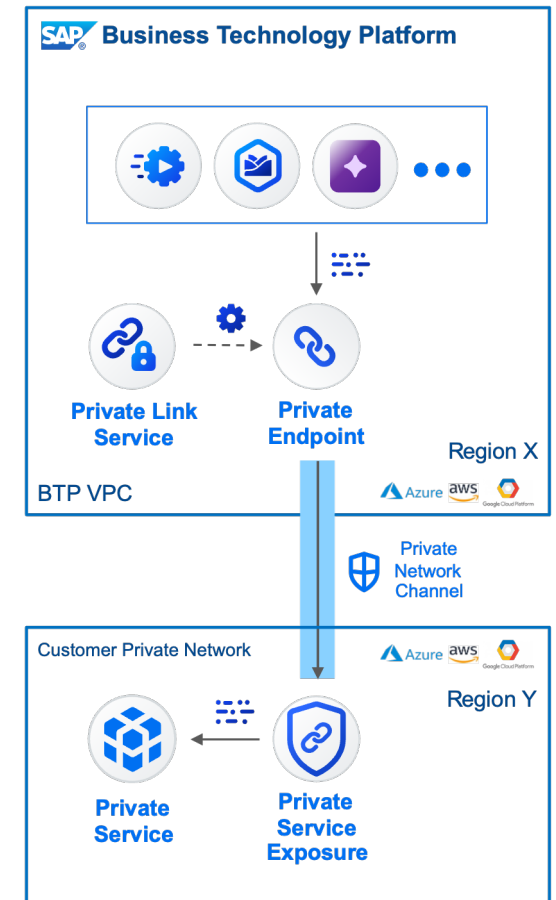
Documentation: <https://help.sap.com/docs/private-link>

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Same Hyperscaler Region



Cross-Hyperscaler Regions



Transparent Proxy

An integral part of SAP BTP Connectivity

The **entry point** at runtime for **applications** and **services** to leverage the features and capabilities of **SAP BTP Connectivity**

Virtually transparent, unified connectivity to any remote target application modelled as a **destination** in **SAP Destination Service**

- **Local access** to the **remote applications** via Kubernetes Services
- **Transparent Proxy takes care** of client authorization, mTLS, SOCKS5, principal propagation, etc.

Native integration with **SAP Destination service** and **SAP Connectivity service**

- Auto-wiring with **Connectivity Proxy** Kyma Module
- Automated SOCKS5 handshake with **Connectivity Proxy**

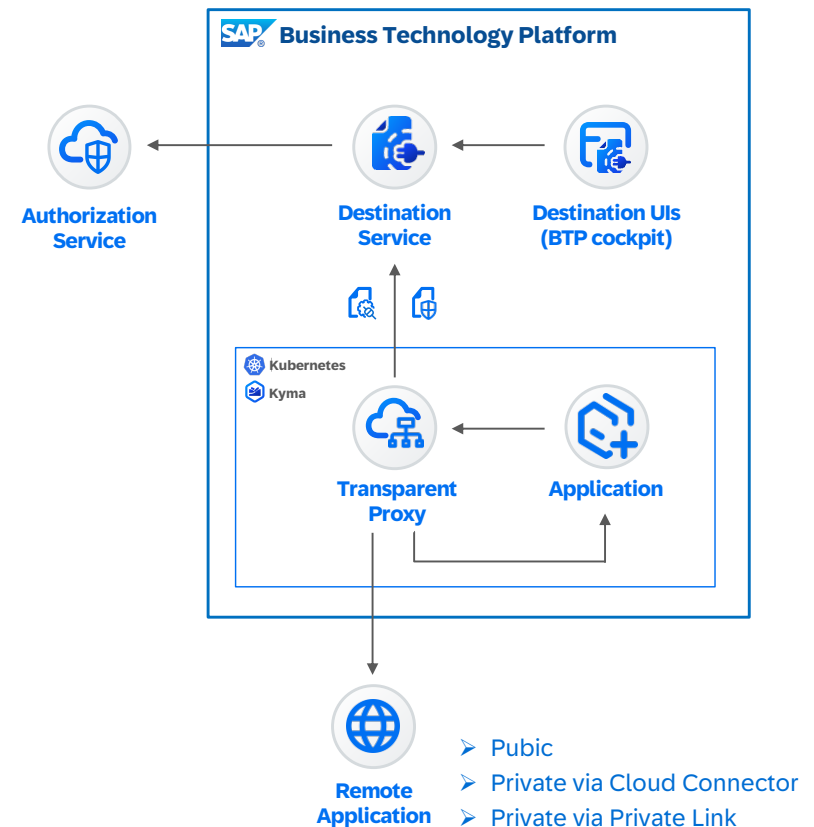
Transparent Proxy as Kyma Module

- **enable** → **configure** → **use**. Supportability SLAs by SAP

Custom deployment on Kubernetes. Lifecycle management via **Operator** and **Helm**.

Enterprise readiness – multi-tenant, resilient, highly available

Automated scaling based on Kubernetes HPA



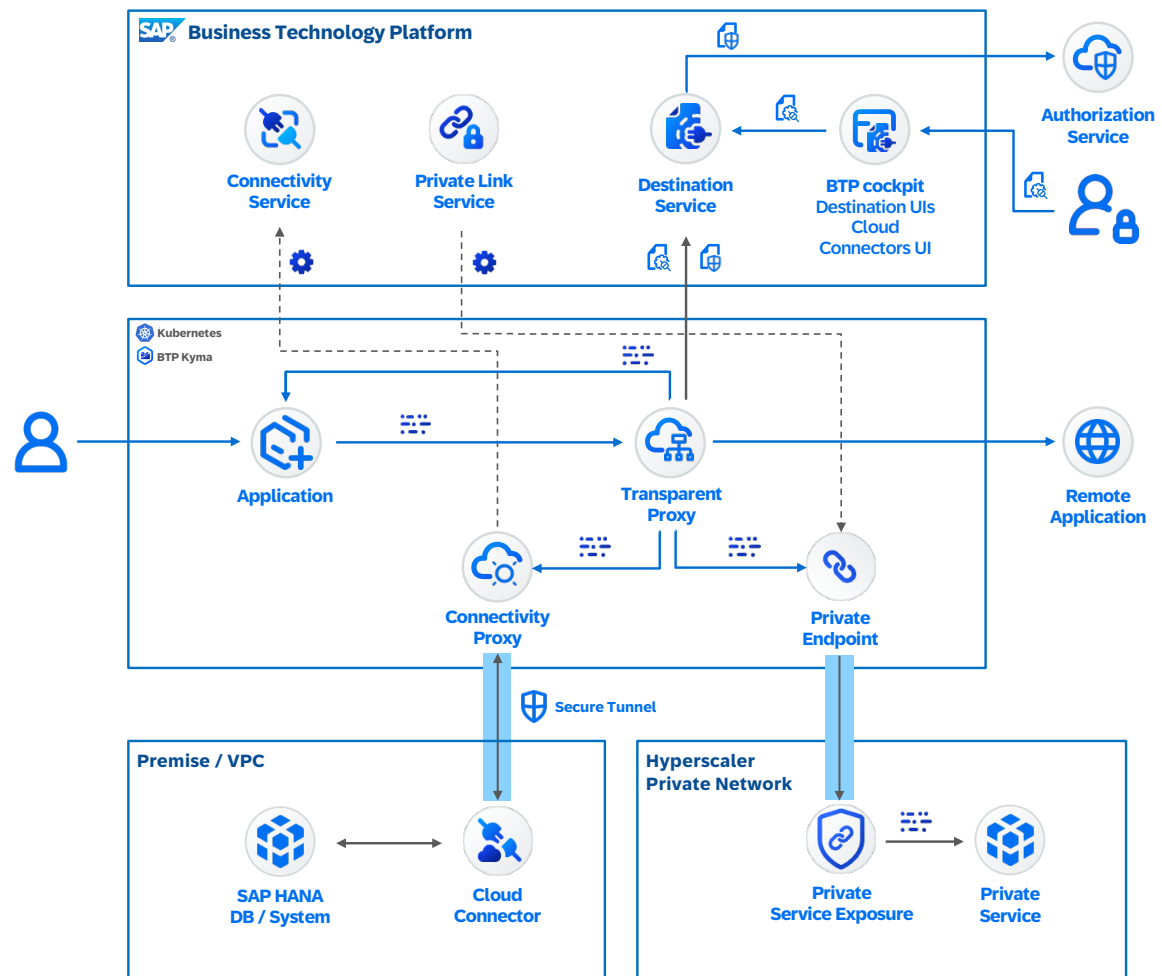
Unified, virtually transparent, enterprise technical connectivity on SAP BTP

Virtually transparent, unified connectivity to any remote target application, configurations are centrally modelled and managed as destinations in SAP Destination service

BTP environment-native and Hyperscaler-agnostic private connectivity via SAP Connectivity service

Hyperscaler-native private connectivity via SAP Private Link service

Unified user experience,
any destination — same code.



Destination config controls the routing – app code stays the same.

— **Internet** – Google (everyone knows this one) —————
Destination: **google** | ProxyType: **Internet** | Auth: **None**

curl google/

→ HTTP/1.1 200 OK (Google responds – routed transparently via TP)

— **BTP Native Service** – SAP Authorization & Trust Management (XSUAA) —————
Destination: **xsuaa-api** | ProxyType: **Internet** | Auth: **OAuth2ClientCredentials**
TP auto-injects the OAuth2 token – no credentials passed in the request

curl xsuaa-api/sap/rest/authorization/v2/apps | jq .[0].appid

→ "app123!b13"

— **On-Premise – SAP S/4HANA via Cloud Connector tunnel** —————
Destination: **s4-anywhere** | ProxyType: **OnPremise** | Auth: **OAuth2ClientCredentials**

**curl s4-anywhere/sap/opu/odata/sap/api_business_partner/A_BusinessPartner **
**-s '?sap-client=400&\$top=3&\$select=BusinessPartnerFullName&\$format=json' **
| jq .d.results[].BusinessPartnerFullName

→ "US Apparel DC" / "US Grocery DC" / "Philadelphia Store"

— **Private Link – service in customer IaaS (never touches public internet)** ———
Destination: **my-private-svc** | ProxyType: **PrivateLink** | Auth: **OAuth2ClientCredentials**

curl my-private-svc/api/resource | jq .

→ { ... service in customer AWS / Azure / GCP account responds ... }

```
Name: s4-anywhere
Type: HTTP
URL: http://s4hana-virtual.internal:8000
ProxyType: OnPremise
Authentication: OAuth2ClientCredentials
clientId: sb-xsuaa-s4hana-ext!t29874
clientSecret: ..... (managed by DS)
tokenServiceURL: https://d1234567.authentication.eu10.hana.ondemand.com/oauth/token
tokenServiceURLType: Dedicated
scope: uaa.resource
HTML5.DynamicDestination: true
sap-client: 400
```

Thank you.

Public documentation links:

- [SAP Destination service](#)
- [SAP Connectivity Service](#); [SAP Cloud Connector](#); [Connectivity Proxy](#)
- [SAP Private Link service](#)
- [Transparent Proxy](#)



Have an idea?
[Open an influence request](#)

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SAP Bring out your best.

Upcoming deep-dives in our series

Your Cloud Future Starts Here: Core Capabilities of SAP BTP Explained

[Find more information here.](#)

- Take Control of Your Cloud Deliveries with SAP Cloud ALM and SAP Cloud Transport Management
- SAP Cloud ALM for SAP BTP Operations: Insights and Strategy Update
- From AI-Driven Insights to Automated Operations with SAP Automation Pilot and SAP Cloud ALM
- SAP BTP: Security overview and best practices for secure development
- SAP Cloud Identity Services: Overview, Strategy and Roadmap
- Doing SAP BTP Platform Automation like a boss ... with Terraform and btp CLI
- ~~SAP BTP Cloud Foundry and Kyma: Runtimes for a complete developer experience~~
- ~~How to consume SAP BTP downtime notification events from SAP Cloud ALM + SAP for Me~~
- Unified, virtually transparent, enterprise ready technical connectivity on SAP BTP

Oct 13 Secure, Compliant, and AI-Ready: The Future of Governance and Compliance on SAP BTP

