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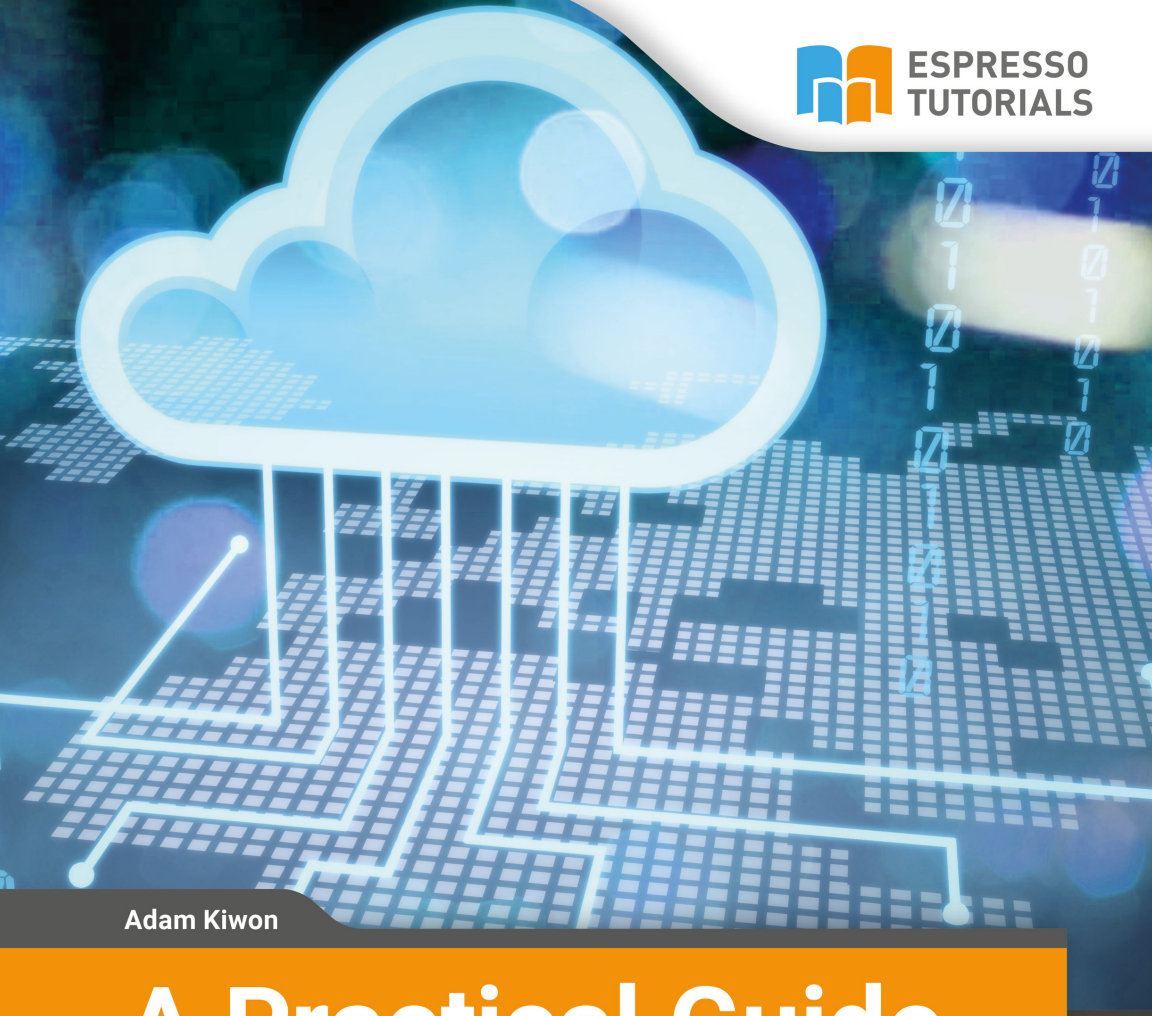

Adam Kiwon

A Practical Guide to SAP® Cloud Integration

- Understand SAP's Cloud Middleware and the Integration Suite
- Quality aspects for a robust design
- Configure standard integration content
- Reference guide for integration patterns

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2 SAP Business Technology Platform

This chapter provides an overview of the main functions of the SAP Business Technology Platform with regard to integration, and explains basic concepts of management and commissioning.

SAP Business Technology Platform (SAP BTP)—previously known as SAP Cloud Platform until January 2021—represents SAP's *Platform as a Service (PaaS)*. This term is used to describe cloud services that enable the creation and operation of web applications. The various services offered are diverse and each takes on a specific task; for example, databases, development environments, document management, user interfaces (UIs) and integration functions. Services that are part of the integration functionality of a platform are called *Integration Platform as a Service (iPaaS)*.

! Name change

SAP Cloud Platform was renamed to SAP Business Technology Platform in January 2021. Note that several images in this book refer to SAP Cloud Platform. You will also find that a significant amount of documentation on the web still uses this product name.

2.1 Integration Platform as a Service

SAP's iPaaS currently includes the following services (and the offering is continuously evolving):

- API Management
- Cloud Integration (CPI)
- Connectivity Service
- Event Mesh (Enterprise Messaging)
- Integration Advisor
- Open Connectors
- SAP Data Intelligence
- SAP Edge Services
- SAP IoT

Overview of SAP Business Technology Platform services

For further information about current services and their costs, please refer to: *https://discovery-center.cloud.sap/*.

Two different editions of SAP CPI are currently available: the Process Integration (PI) edition and the more comprehensive enterprise edition. The PI version includes three connections and ten gigabytes of bandwidth per production environment. One connection is an application, typically an IP address, through which messages are exchanged. Additional connections can be licensed, with additional costs. The enterprise edition, on the other hand, includes additional services (e.g., B2B adapter, covered in Section 8.1, and Enterprise Messaging, see Section 8.6) and is not limited in the number of connections.

Since 2019, SAP has been bundling these rather self-sufficient services under the term SAP Integration Suite (see Figure 2.1). The aim is to improve their coexistence and interaction and to make them easier to market.

SAP Integration Suite is currently licensed in three different editions, each providing a different number of environments:

- Basic—SAP CPI
- Standard—contains the Basic scope including:
  - JMS (see Section 4.2.20),
  - API Management (see Section 8.5),
  - Open Connectors (see Section 8.7)
  - Integration Advisor (see Section 8.3)
- Premium—contains the Standard edition including:
  - Alert Notification Service (see Section 3.3.3)
  - Transport Management Service (see Section 3.6.2)

SAP CPI editions

An overview of the available editions can be found in the following SAP blog: *https://bit.ly/3fx5CND*.

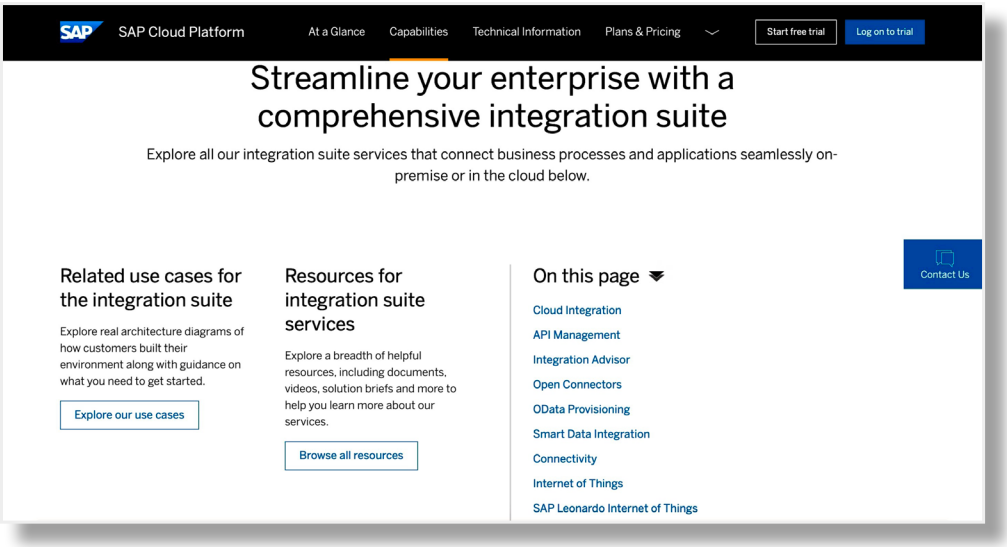

Figure 2.1: SAP Integration Suite

2.2 Deployment options

SAP currently differentiates between two types of data centers in which the iPaaS services are operated:

- *Neo*—SAP-owned data centers with proprietary provision and management
- *Cloud Foundry*—via the data centers of hyperscalers

Cloud Foundry is an open source PaaS used by various software vendors (e.g., SAP) and provided by infrastructure vendors (hyperscalers).

Hyperscalers, on the other hand, are service providers in the cloud environment, through which a multitude of systems and entire IT landscapes can be used by connecting thousands of servers in data centers. Among the better known are:

- Microsoft Azure
- Amazon Web Services (AWS)
- Google Cloud Platform
- Alibaba Cloud (Aliyun)

It should be noted that these hyperscalers operate their own platforms, which are often similar in terms of their respective functionality (databases, runtime environments and many other services). However, in the following sections we will only consider them as alternative data centers.

Some SAP Business Technology Platform (BTP) services exist exclusively in only one of the two environments.

While some SAP BTP services have existed in the Cloud Foundry from the very beginning, SAP CPI has only been available in this environment since 2019.

SAP CPI trial in Cloud Foundry

For a free trial of this service, see: *https://www.sap.com/cmp/td/sap-cloud-platform-trial.html*.

However, the functionality of this trial version is still quite limited—certain adapters, transports, and APIs are missing. This is described in detail in SAP Note 2752867, at: *https://launchpad.support.sap.com/#/notes/2752867*.

2.3 Data Services and Process Integration

SAP CPI is offered via two different usage types or characteristics:

- Process Integration (PI)
- Data Services (DS)

CPI-PI is explained in detail in this book. It forms the SAP middleware for message-based and process-oriented integration in the cloud, while the *SAP Cloud Integration for Data Services* version takes the data perspective. The primary focus of Data Services is the replication of data—usually directly from database tables—via an ETL tool (Extract, Transform, Load). Currently, the primary integration scenario used by CPI-DS is SAP Integrated Business Planning (SAP IBP). Data from SAP ECC or SAP S/4HANA is loaded into the cloud via locally installed agents in order to supply the corresponding planning application with data and provide suitable functionalities.

2.4 Account cockpit

The central administration of services takes place in the account cockpit. It is accessed via *https://account.hana.ondemand.com* and you sign in with your S-User ID.

Every company that enters into a contract with SAP (e.g., buys or subscribes to an SAP CPI license) is assigned a global account. This is directly linked to the license and the term. To avoid a large number of global accounts, SAP recommends a consumption-based commercial model (see: *https://wiki.scn.sap.com/wiki/pages/viewpage.action?pageId=489198716*). This includes the Cloud Platform Enterprise Agreement (CPEA)—a subscription procedure using cloud credits—which is obtained to activate individual services without constantly creating new global accounts. Every service that is available under the SAP Business Technology Platform Service Description Guide and Agreement can be selected (see: *https://www.sap.com/about/agreements/policies/cloud-platform.html*). Each global account is assigned to exactly one region and, therefore, to one data center.

Within a global account, several *subaccounts* are created, which are typically assigned to one *tenant*. A tenant typically corresponds to exactly one *virtual machine (VM)* on which the services are deployed and executed at runtime. For each subaccount, you then activate the services that you want to use.

When using SAP CPI, it is recommended to use different tenants. Each environment (development, quality assurance, production) is assigned to one tenant. Figure 2.2 shows the individual tenants of a global account: DEV is the development environment, QA (quality assurance) is the test environment and PRD is the production system. The subaccounts contain their own Java runtime environment within a VM and a schema in a HANA database.

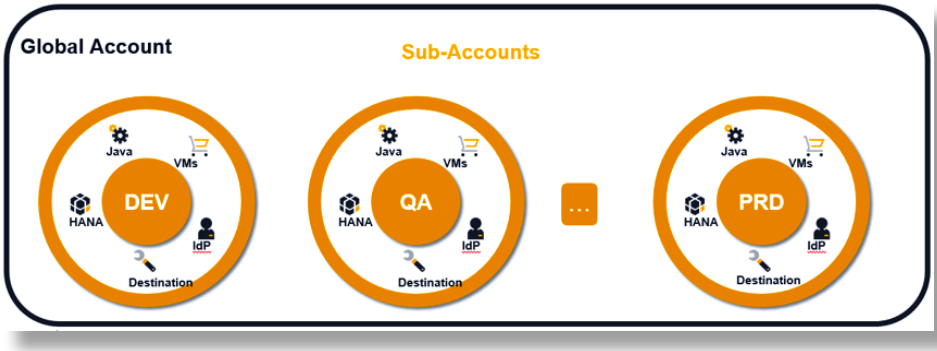

Figure 2.2: Global account and subaccounts

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