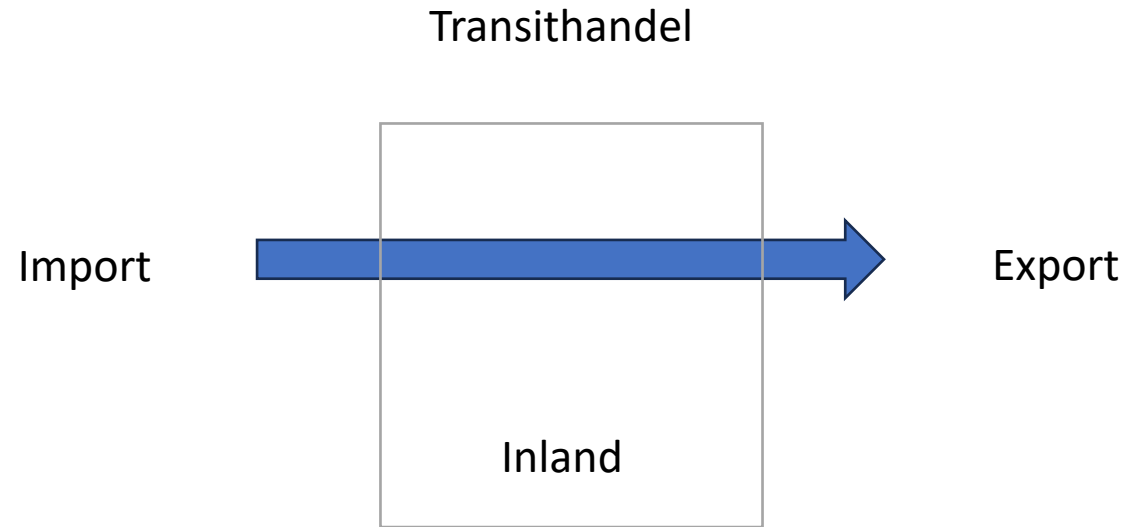


ABAP – Die erfolgreiche Basis für KI.

Wir sind ein Team von SAP S/4HANA Experten die seit 2009 SAP S/4HANA GTM einführen.



ADventas ist die führende Beratung für das Thema Außenhandel mit SAP S/4HANA.

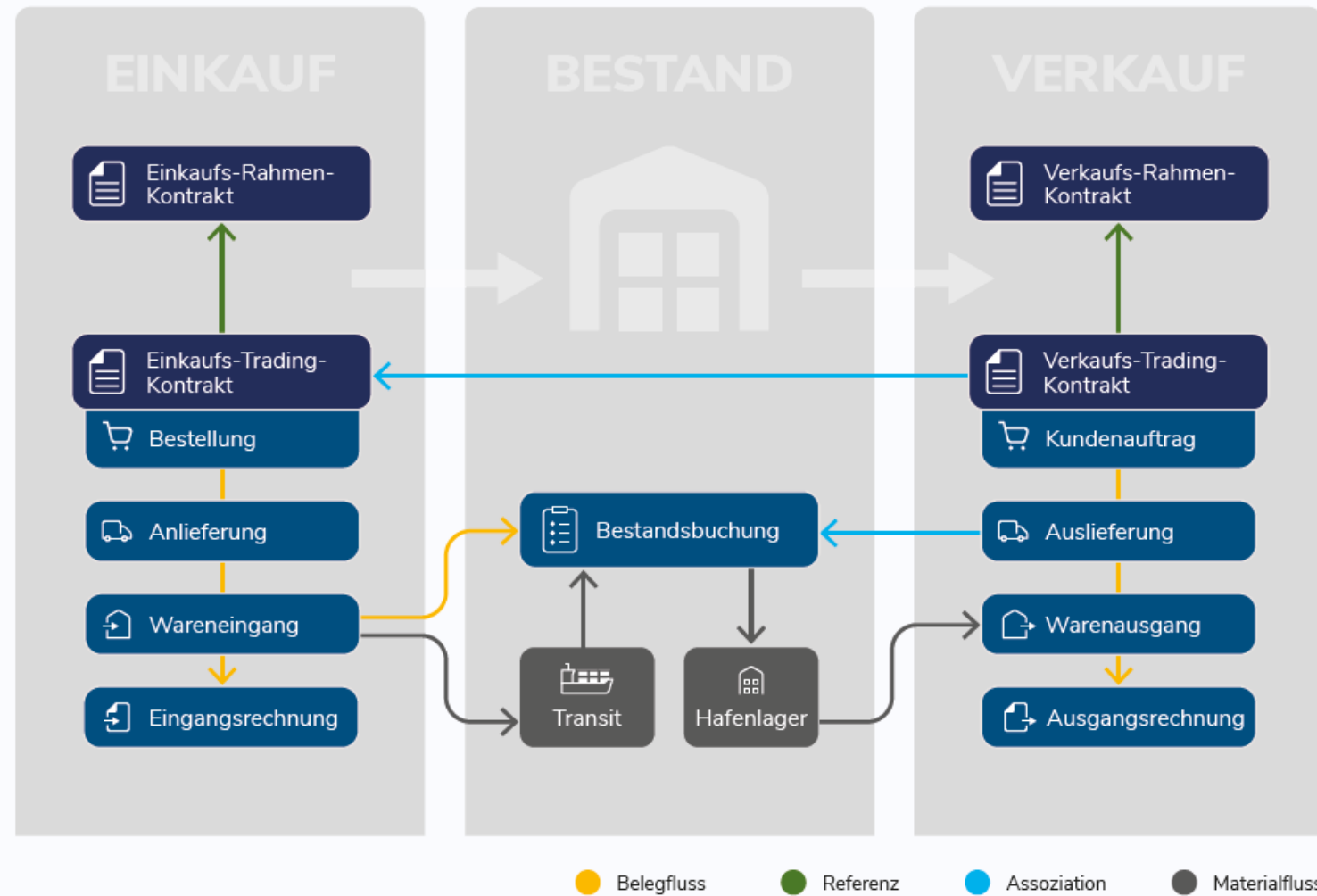


SAP S/4HANA Global Trade Management
Disposition und Kalkulation von Außenhandelsgeschäften

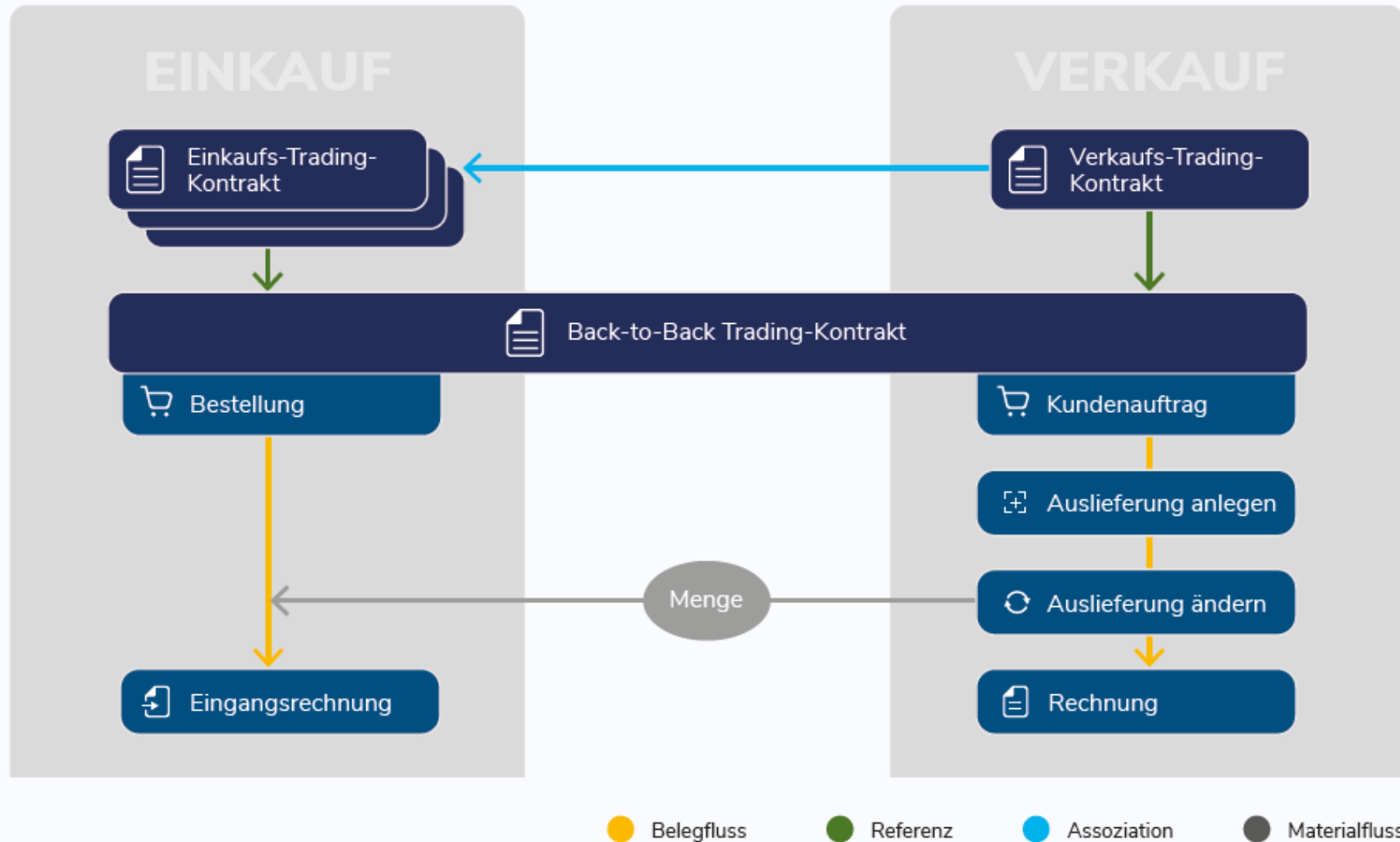
HANDELSSTUFEN



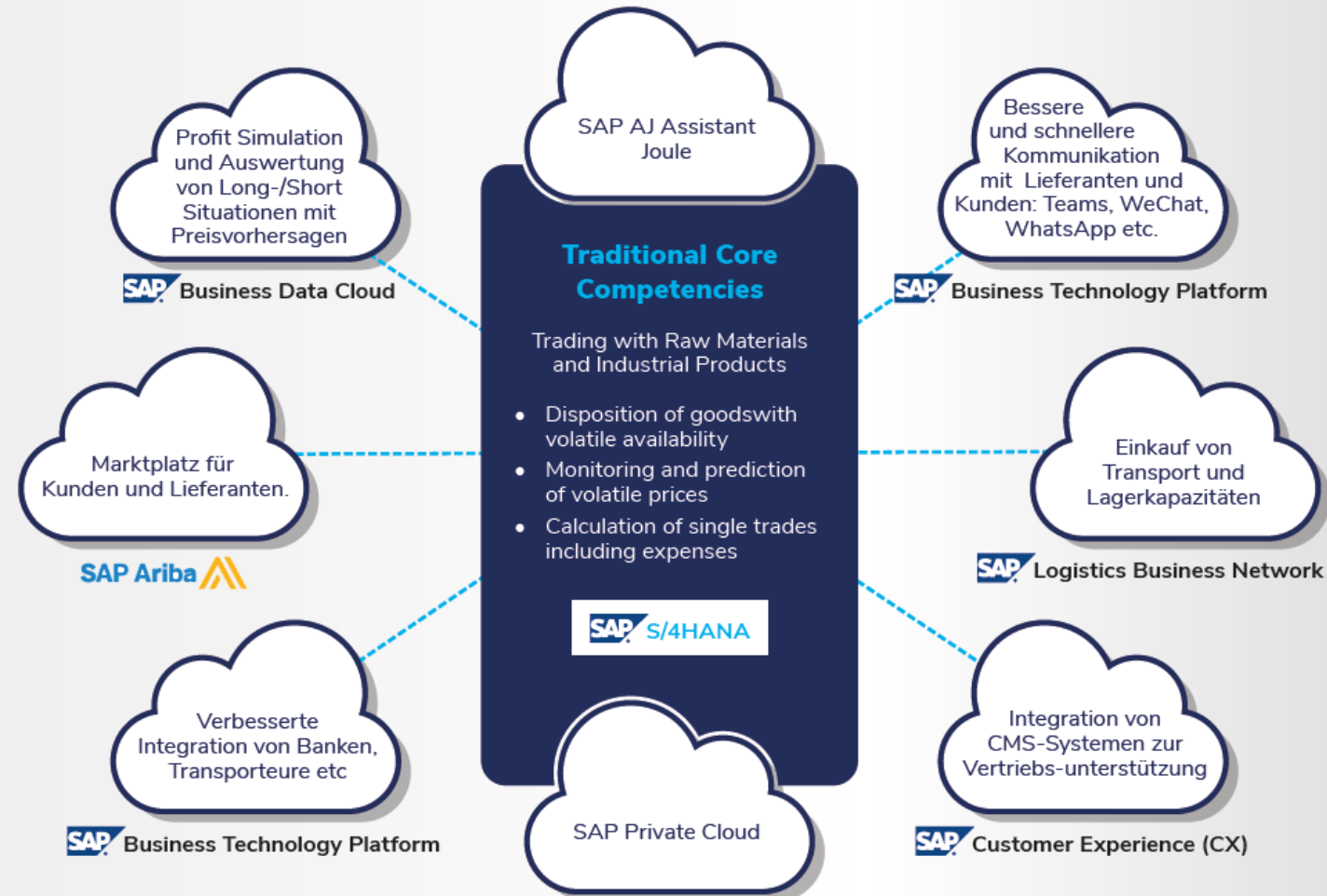
LONG-/SHORT-GESCHÄFTE



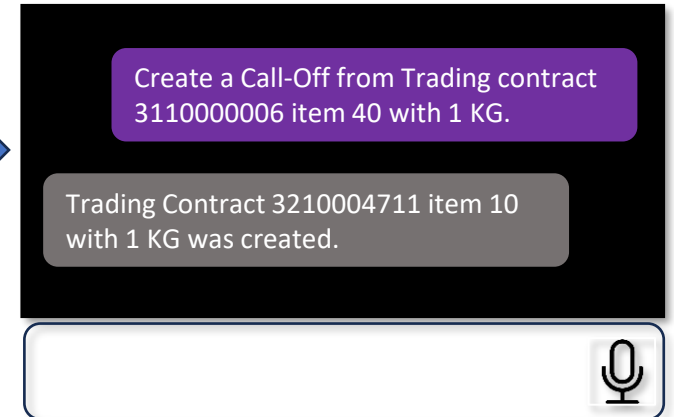
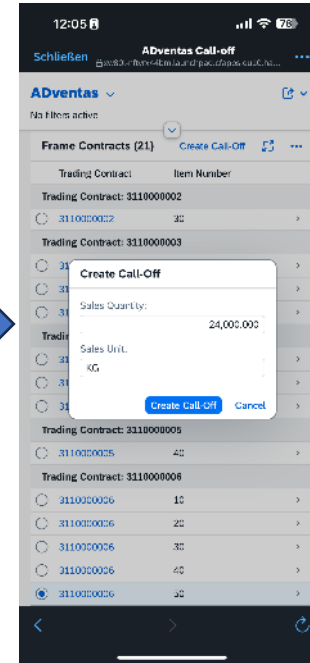
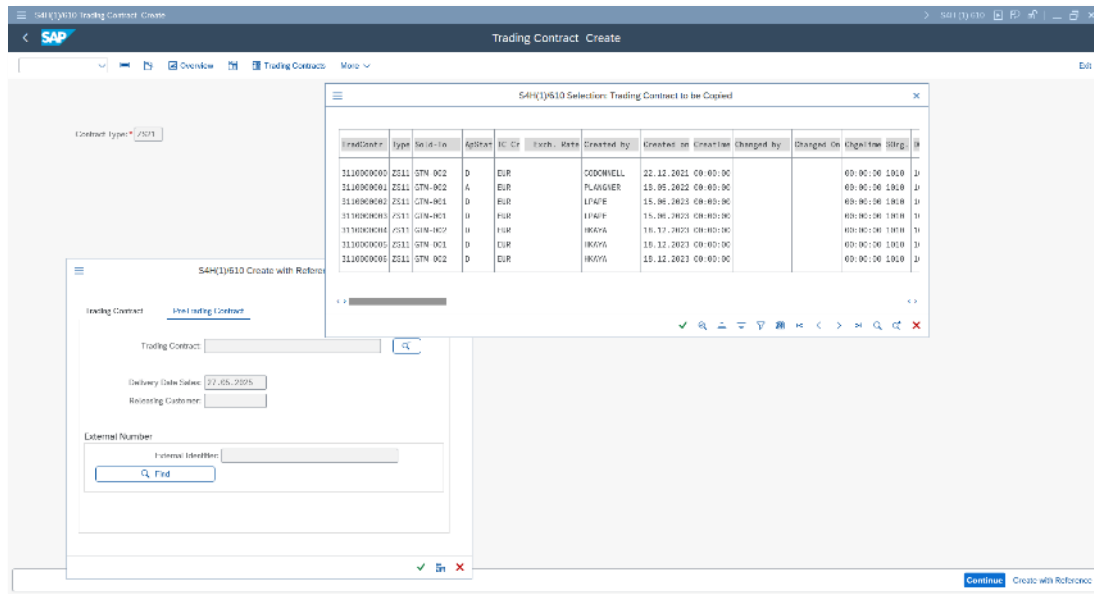
BACK-TO-BACK-GESCHÄFT



THE FUTURE GLOBAL TRADING COMPANY



SAPPHIRE 2025 - KI als neue Benutzungsoberfläche.



ABAP & ?





< 2017



~2017 – 2024

ADventas
Consulting



ABAP & Horizon

- ABAP & Friends werden durch KI erstellt
- ABAP & Friends rufen KI auf
- ABAP & Friends wird von KI genutzt



ABAP & Horizon



- **ABAP & Friends werden durch KI erstellt**
- ABAP & Friends rufen KI auf
- ABAP & Friends wird von KI genutzt



The screenshot displays the SAP IDE interface. The main editor shows the ABAP class `ZMB_BUSINESS_PARTNER` with the following code:

```
12 VALUE #( iv_business_partner_name ).
13 PROTECTED SECTION.
14 PRIVATE SECTION.
15 ENDClass.
16
17
18 CLASS zmb_business_partner IMPLEMENTATION.
19
20 METHOD name_of_business_partner_by_id.
21 " Use RAP/EML to read businesspartner field FullName from I_businesspartner_tp3
22 READ ENTITIES OF I_BusinessPartnerTP_3
23 ENTITY BusinessPartner
24 ALL FIELDS WITH VALUE #( ( %key-BusinessPartner = iv_business_partner_id ) )
25 RESULT DATA(lt_result)
26 FAILED DATA(lt_failed)
27 REPORTED DATA(lt_reported).
28 rv_business_partner_name = VALUE #( lt_result[ 1 ]-FullName OPTIONAL ).
29 ENDMETHOD.
30
```

The workspace log at the bottom shows several UI freeze messages from the `org.eclipse.ui.monitoring` plug-in, indicating performance issues during development.

Message	Plug-in	Date
UI freeze of 1.1s at 09:09:10.445	org.eclipse.ui.monitoring	11/19/24, 9:09 AM
Sample at 09:09:11.458 (+0.346s)	org.eclipse.ui.monitoring	11/19/24, 9:09 AM
Sample at 09:09:11.112 (+0.332s)	org.eclipse.ui.monitoring	11/19/24, 9:09 AM
Sample at 09:09:10.780 (+0.335s)	org.eclipse.ui.monitoring	11/19/24, 9:09 AM
UI freeze of 3.8s at 09:04:22.182	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
UI freeze of 1.4s at 09:04:20.459	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
UI freeze of 1.6s at 09:04:15.996	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
Sample at 09:04:17.010 (+0.339s)	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
Sample at 09:04:16.671 (+0.228s)	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
Sample at 09:04:16.443 (+0.447s)	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
UI freeze of 1.1s at 09:04:13.951	org.eclipse.ui.monitoring	11/19/24, 9:04 AM
Sample at 09:04:14.953 (+0.331s)	org.eclipse.ui.monitoring	11/19/24, 9:04 AM

```
8   private section.  
9     methods name_of_business_partner_by_id.  
0 endclass.  
1  
2  
3  
4 class zt_demo_sd_api implementation.  
5  
6 method name_of_business_partner_by_id.  
7 endmethod.  
8  
9  
0  
1 endclass.
```



```
8 private section.  
9     "! <p class="shorttext synchronized" lang="en">fetches name of business partner by ID </p>  
10     "! uses RAP/EML to read from I_businesspartner_tp3.  
11     methods name_of_business_partner_by_id.  
12 endclass.  
13  
14  
15  
16 class zt_demo_sd_api implementation.  
17  
18 method name_of_business_partner_by_id.  
19 endmethod.  
20  
21  
22  
23 endclass.
```

```

3 private section.
4 " uses RAP / EML fetch entities to read field FullName from C_BusinessPartnerTP_2.
5 methods name_of_business_partner_by_id
6     importing iv_business_partner_id type C_BusinessPartnerTP_2-BusinessPartner
7         RETURNING
8             VALUE(r_result) TYPE c_businesspartnertp_2-fullname.
9 METHODS lastname_business_partner.
10 endclass.
11
12
13 class zt_demo_sd_api implementation.
14 method name_of_business_partner_by_id.
15     read entity C_BusinessPartnerTP_2
16         all fields with value #( ( %key-BusinessPartner = iv_business_partner_id ) )
17         result data(lt_resut).
18
19     r_result = lt_resut[ 1 ]-fullname.
20 endmethod.
21
22 method lastname_business_partner.
23 endmethod.
24
25
26 endclass.

```

```

8  private section.
9  "I use RAP/EML to read businesspartner field FullName from I_businesspartner_tp3.
10  methods name_of_business_partner_by_id.
11  endclass.
12
13
14
15= class zt_demo_sd_api implementation.
16
17= method name_of_business_partner_by_id.
18  data: lv_full_name type string,
19  lo_business_partner type ref to if_businesspartner_tp3.
20
21  " Create an instance of the business partner
22  create object lo_business_partner.
23
24  " Read the full name of the business partner by ID
25  lo_business_partner->get_full_name( exporting iv_id = '12345678' " replace with actual ID
26  importing ev_full_name = lv_full_name ).
27
28  " Output the full name
29  write: / 'Full Name of Business Partner:', lv_full_name.
30  endmethod.
31

```



TimoJohn

use RAP/EML to read businesspartner field FullName from I_businesspartner_tp3.

To read the `FullName` field from the `I_BusinessPartner_TP3` entity using RAP/EML in ABAP, use the EML `READ ENTITIES` statement. Here is an example implementation for your method:

```
method name_of_business_partner_by_id.  
  data lt_businesspartner type table of i_businesspartner_tp3.  
  data lt_key             type table of /bobf/s_frw_key.  
  data lv_fullname        type i_businesspartner_tp3-fullname.  
  
  " Example: fill lt_key with the business partner ID(s) you want to read  
  append value #( key = 'YOUR_BUSINESSPARTNER_ID' ) to lt_key.  
  
  read entities of i_businesspartner_tp3  
    entity businesspartner  
    with key lt_key  
    result data(lt_result).  
  
  if lt_result is not initial.  
    lv_fullname = lt_result[ 1 ]-fullname.  
    " Do something with lv_fullname  
  endif.  
endmethod.
```

This code reads the `FullName` field for a given business partner ID using EML. Replace `'YOUR_BUSINESSPARTNER_ID'` with the actual ID as needed.

ABAP KI (Tools)

- Eher älteres ABAP mit Präfixen
- WIR müssen verstehen, was im Code passiert!
- Hilft langweiliges Coding zu übernehmen
- ABAP Cleaner räumt auf
- Einarbeitung



TimoJohn

Was für Aufgaben erfüllt die Klasse?

Die Klasse `zt_demo_sd_api` erfüllt folgende Aufgaben:

1. Lesen von Daten mit RAP/EML:

2. Sie verwendet RAP/EML, um Daten aus der Entität `C_BusinessPartnerTP_2` zu lesen.

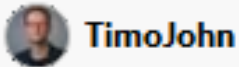
3. Bereitstellung spezifischer Felder:

4. Methode `name_of_business_partner_by_id`: Liest das Feld `FullName` eines Geschäftspartners basierend auf der übergebenen `BusinessPartner-ID`.

5. Methode `lastName_business_partner`: Liest das Feld `LastName` eines Geschäftspartners basierend auf der übergebenen `BusinessPartner-ID`.

6. Rückgabe der Ergebnisse:

7. Beide Methoden geben die gelesenen Werte (`FullName` bzw. `LastName`) als Rückgabewert zurück.



TimoJohn

Was für Aufgaben erfüllt die Klasse?

The class `zcl_gt_wbs_pool_supplier_wbs` fulfills the following tasks:

1. Data Selection:

2. Method `select_wbs`: Selects WBS supplier data from the database table `zgt_wbs_supplier` based on various criteria such as material, supplier number, purchasing organization, etc.

3. Locking Mechanism:

4. Method `lock_wbs`: Locks WBS supplier data using the enqueue function module `ENQUEUE_EZGTWBSUPPL`.

5. Error Handling:

6. Method `raise_error`: Raises specific errors when conditions are not met, providing detailed information about the issue.

7. Archiving:

8. Method `archive`: Deletes WBS supplier data from the active table and inserts it into the archive table `zgt_wbs_archive`.

9. Supplier Structure Building:

10. Method `build_supplier_structure`: Constructs a structured representation of WBS supplier data.

11. Incoterm Category Computation:

12. Method `compute_inco_category`: Computes the incoterm category based on cached data.





TimoJohn

Schlage ein paar Verbesserungen an der Klasse vor

|

Here are some suggestions for improving the class:

- 1. Encapsulation:** Move the `inco_category_cache` initialization logic from the `class_constructor` to a dedicated private method for better separation of concerns.
- 2. Error Handling:** Use more descriptive exception messages and ensure consistent exception handling across methods.
- 3. Code Reusability:** Refactor repeated calls to `wbs_object->get_*` into a helper method to reduce redundancy.
- 4. Logging:** Add logging for critical operations like database access, locking, and archiving to improve traceability.
- 5. Performance Optimization:** Use `FOR ALL ENTRIES` instead of multiple `SELECT` statements if applicable, to reduce database calls.
- 6. Method Documentation:** Add detailed comments for each method to clarify its purpose and expected behavior.
- 7. Validation:** Add input validation for critical fields before performing operations like database access or locking.
- 8. Unit Testing:** Ensure the class is covered by unit tests to verify its behavior under different scenarios.

Let me know if you want me to implement any of these suggestions.

ABAP KI (Tools) - Erklären & Verbessern

- Auch Echte Beispiele werden gut erkannt.
- Ersetzt Clean Code NICHT!
- Verbesserungen sind teilweise interessant
 - Unittest z.B. vorhanden, wurden nicht erkannt
 - Allgemeine Verbesserungen

ABAP & Horizon



- ABAP & Friends werden durch KI erstellt
- **ABAP & Friends rufen KI auf**
- ABAP & Friends wird von KI genutzt

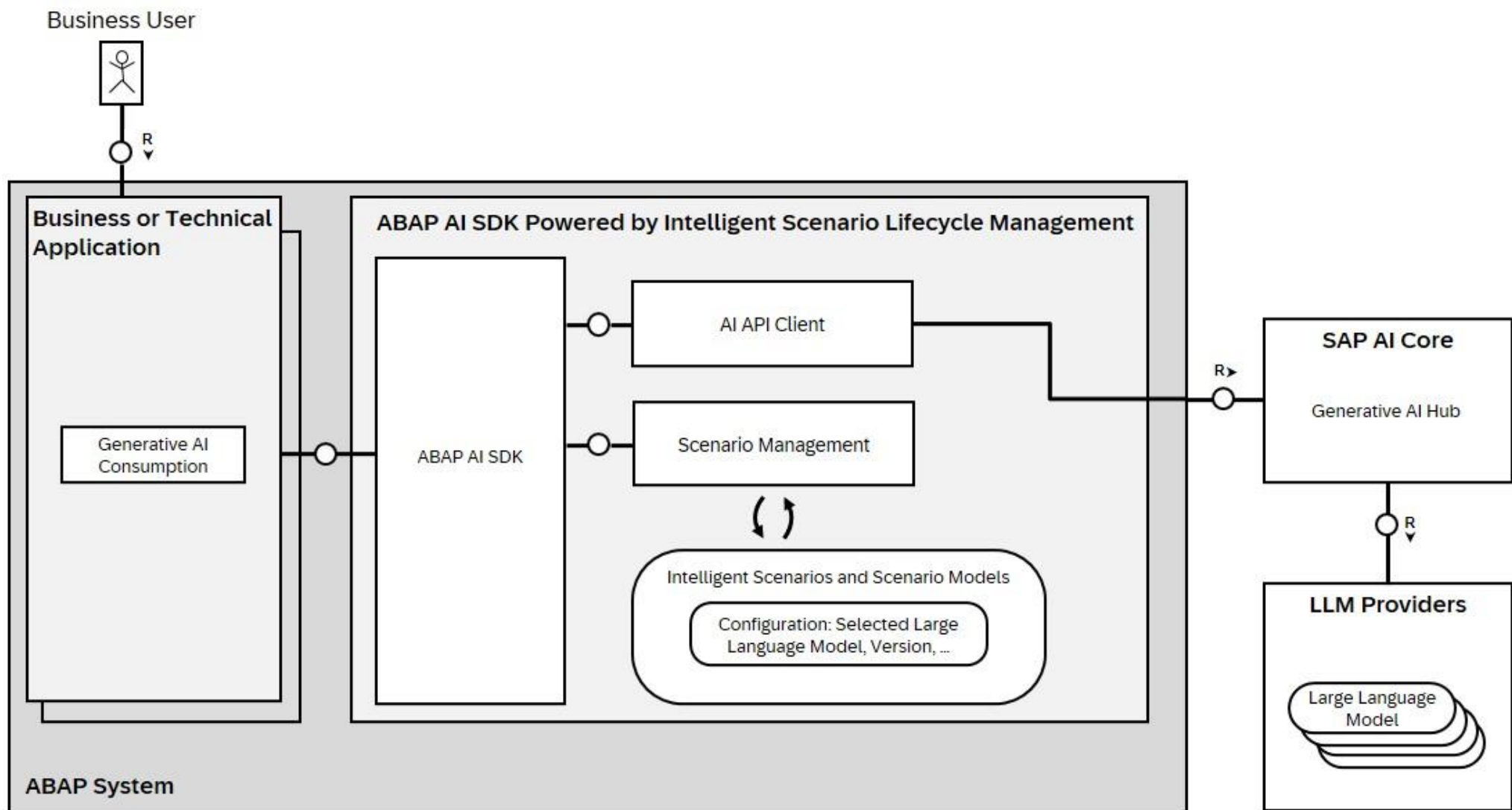


About the ABAP AI SDK powered by Intelligent Scenario Lifecycle Management

The ABAP AI SDK powered by Intelligent Scenario Lifecycle Management makes it easy for you to access and use large language models (LLMs) in your ABAP code, providing convenient features and standardizing the process. With the ABAP AI SDK powered by Intelligent Scenario Lifecycle Management, you can access large language models (LLMs) provided as part of SAP AI Core so that you can integrate GenAI features using ABAP into your apps or services.

For more information, see [Developing Your Own AI-Enabled Applications](#).





ABAP & Horizon



- ABAP & Friends werden durch KI erstellt
- ABAP & Friends rufen KI auf
- **ABAP & Friends wird von KI genutzt**

18:12

Please, create a call-off for frame contract 3110000001 item 10.

Last read

TC 18:12



What quantity would you like to specify for the call-off? Please provide the number.

18:13

I would like to use 11 tons.

TC 18:13



The call-off for frame contract 3110000001, item 10, with a quantity of 11 tons has been successfully created.

18:14

Also, please, create a call-off for frame contract 3110000002 item 10 for 25 MT.



TC 18:14

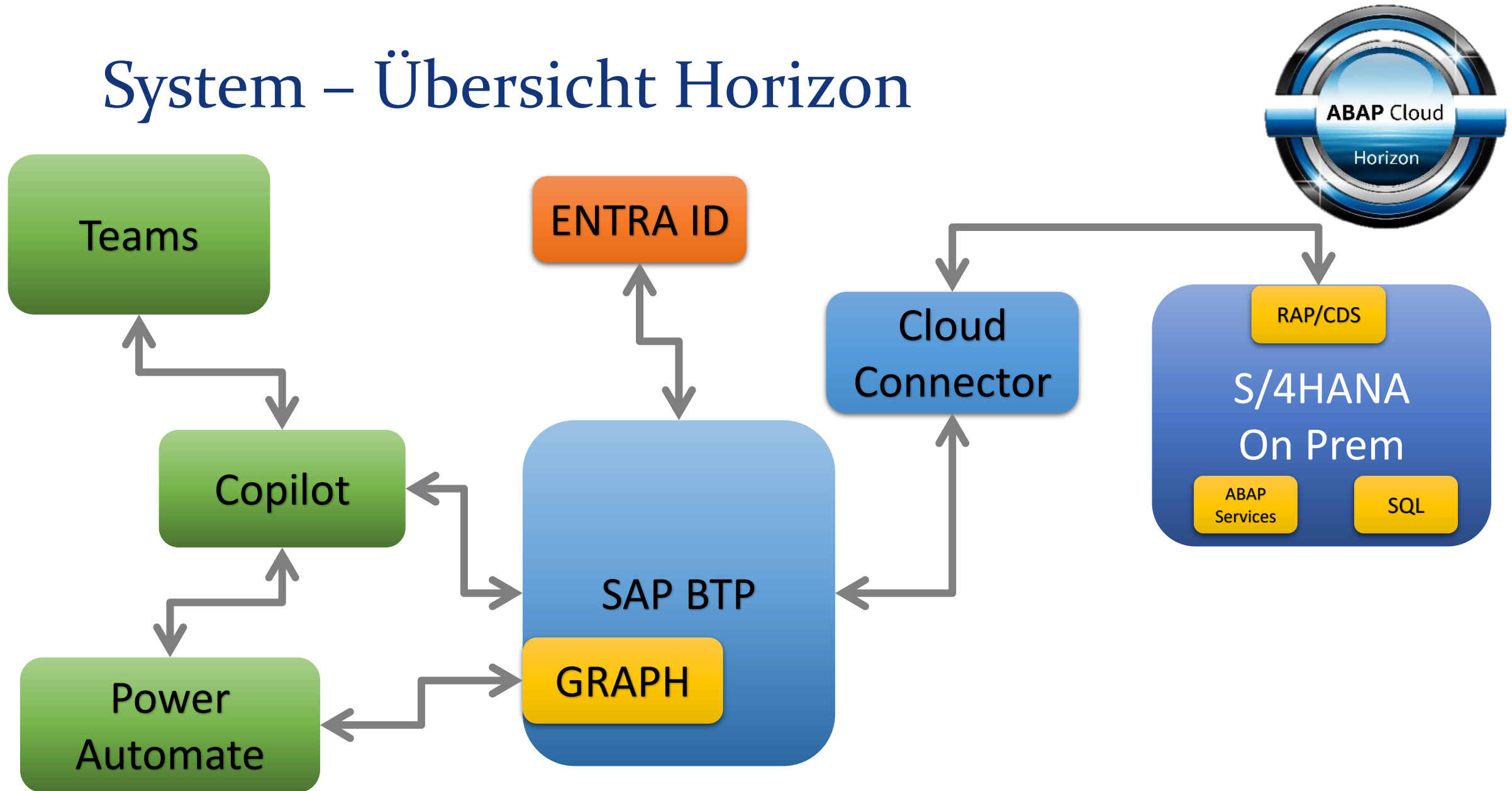


The call-off for frame contract 3110000002, item 10, with a quantity of 25 MT has been successfully created.

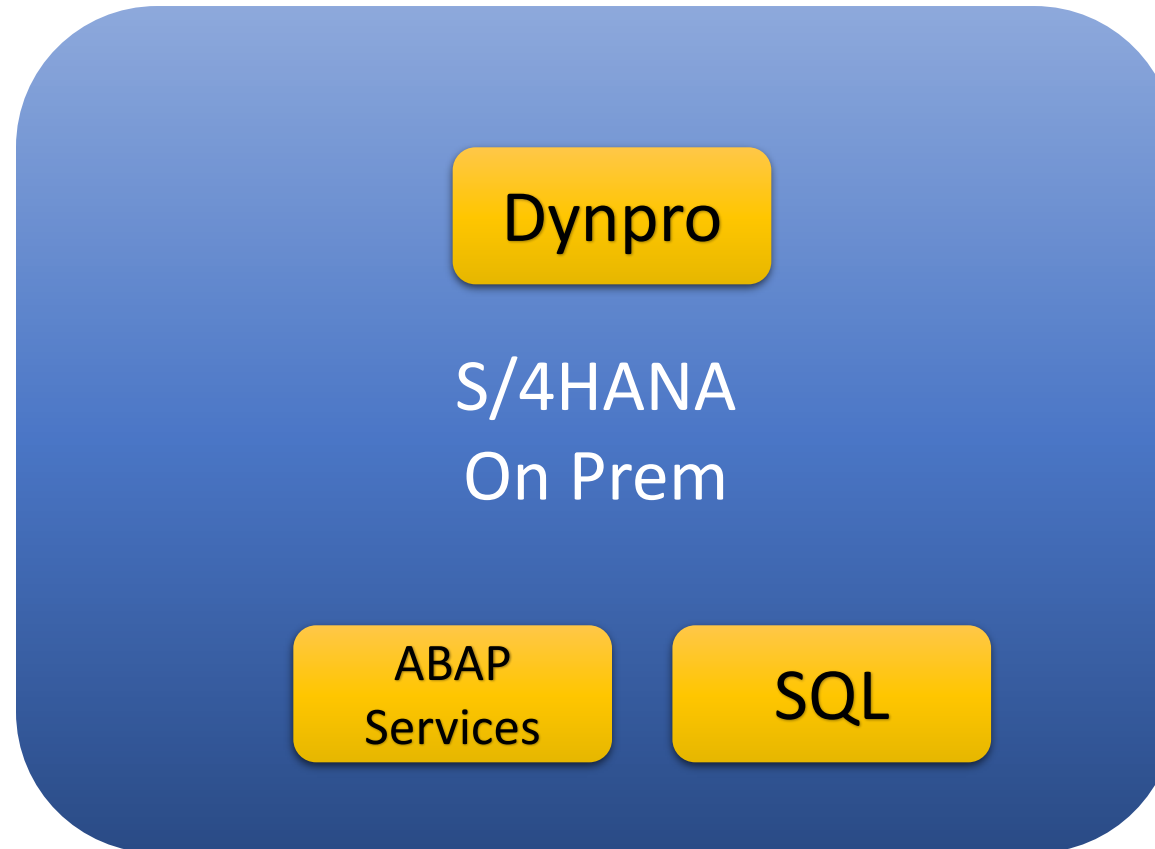
Features

- Lesen von Daten
 - Antwort auf Fragen (CDS)
 - Rückfragen
- Aufrufen von Aktionen im SAP (RAP Actions)

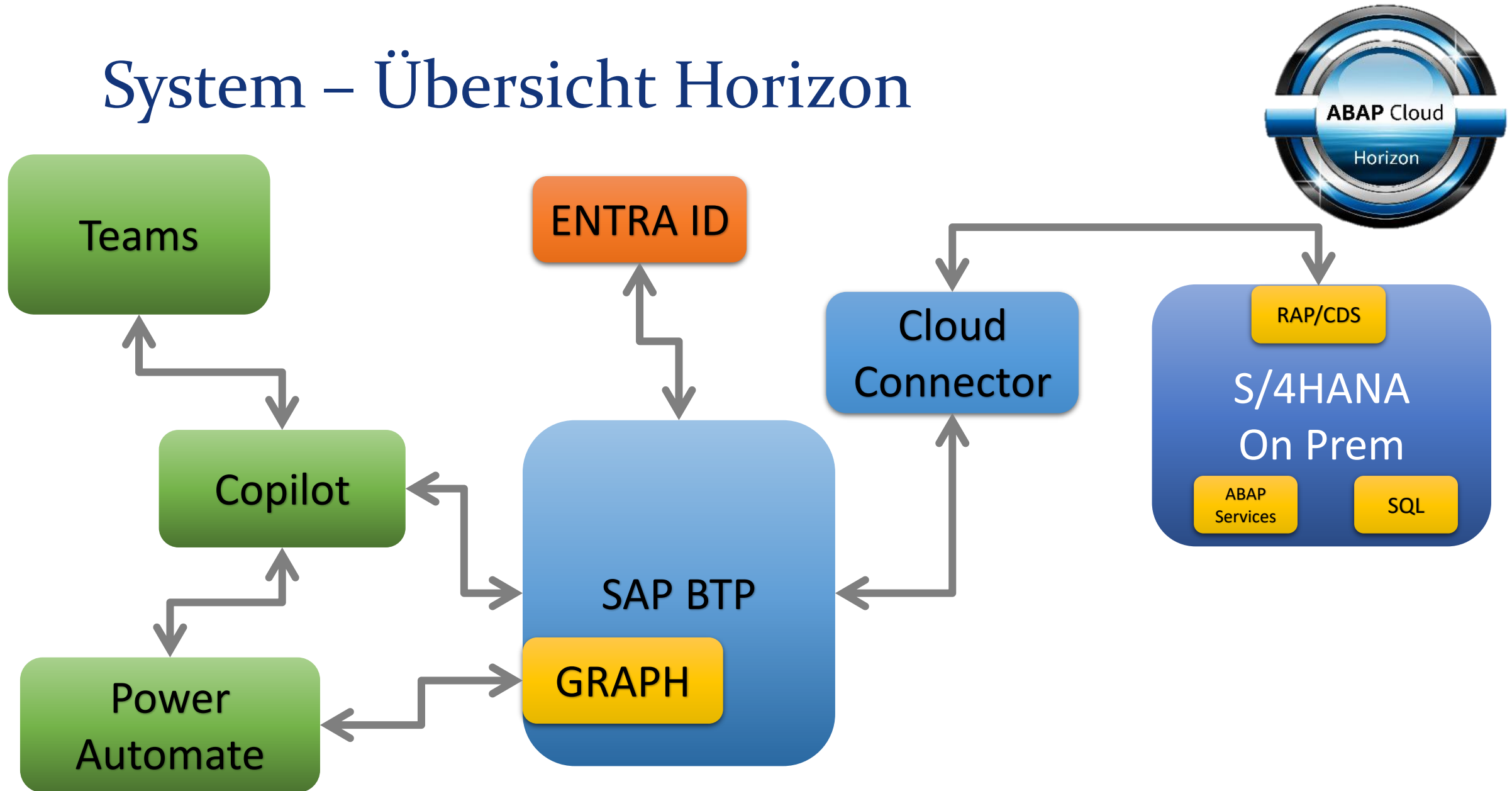
System – Übersicht Horizon



System - Übersicht & Family



System – Übersicht Horizon



17:41

Good, I want to create a call-off for frame contract 3110000001 item 10 with quantity 8MT.

TC 17:43



An error has occurred. Error code: FlowActionTimedOut Conversation Id: a:1I4QcuGhNIO05IajY15WRmMz_O8_2MXjYgjGW4vZ2S8TK7jec78bdVm2s-UC-_eciWMr1Saqfbt7_wQa7fofCX6imkQabUloiHak9s-DmQzRjiBj18Z5LQRqwKqz6ECT2 Time (UTC): 2025-06-02T15:43:12.584Z.

17:46

Please, create a call of for 3110000001/10 with quantity 8 MT.

TC 17:48



An error has occurred. Error code: FlowActionTimedOut Conversation Id: a:1I4QcuGhNIO05IajY15WRmMz_O8_2MXjYgjGW4vZ2S8TK7jec78bdVm2s-UC-_eciWMr1Saqfbt7_wQa7fofCX6imkQabUloiHak9s-DmQzRjiBj18Z5LQRqwKqz6ECT2 Time (UTC): 2025-06-02T15:48:37.305Z.

17:49

lease, create a call of for 3110000001/10 with quantity 8 MT.

lease, create a call of for 3110000001 item 10 with quantity 8 MT.



Last read

TC 17:51



An error has occurred. Error code: FlowActionTimedOut Conversation Id: a:1I4QcuGhNIO05IajY15WRmMz_O8_2MXjYgjGW4vZ2S8TK7jec78bdVm2s-UC-_eciWMr1Saqfbt7_wQa7fofCX6imkQabUloiHak9s-DmQzRjiBj18Z5LQRqwKqz6ECT2 Time (UTC): 2025-06-02T15:51:10.815Z.



HTTP - Create Call-Off

Parameters Settings Code view About

URI *

https://[redacted]
[redacted]_gtcf_FrameContract/
TradingDocument × / Item × /mys4.createCalloff

Method *

POST

Headers

Authorization

Bearer {v} Body access_tok... ×

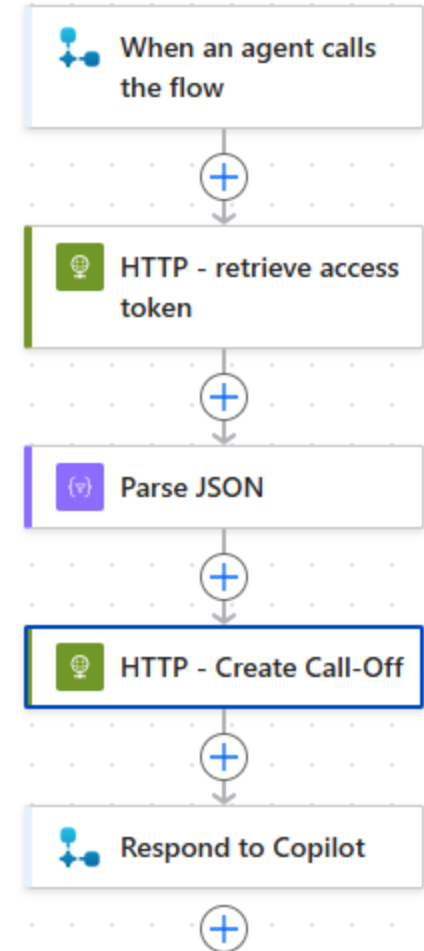
Queries

Content-Type

application/json

Body

```
{  
  "TrdgDocSalesQuantity": "[redacted] Quantity × ",  
  "TrdgDocSlsQuantityUnit": "[redacted] Unit × "  
}
```



ABAP für KI

- KI Modelle sollen verstehen welche Daten sie erhalten
- Ergebnisse & Metadaten werden auf KI Verständlichkeit optimiert
- Zusätzliche Views / Daten bereitstellen, um KI bei der Verständlichkeit zu helfen
 - Kontrakt -> Positionen



ABAP & Roadmap

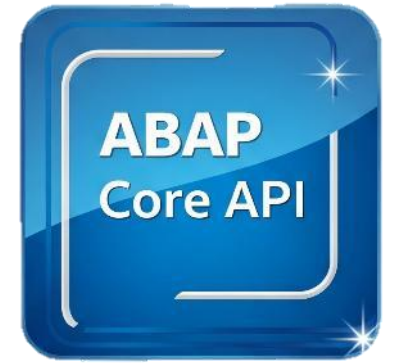


- SAP hat eine ABAP Roadmap
- Was ist unsere – interne – ABAP Roadmap?
- Was brauchen wir / unsere Kunden?



SAP CORE API

Am Beispiel SD



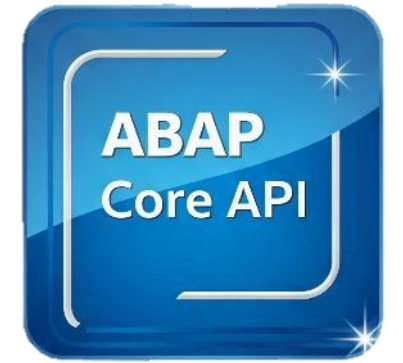
method main.

"demo program how to use the SD API to post a sales document.

```
data(sd_document_factory) = zcl_sd_factory=>get_instance( config ).  
data(sd_document) = sd_document_factory->Load( sd_document_number ).  
sd_document->set_quantity( quantity ).
```

```
zcl_posting_api=>post_documents( ).
```

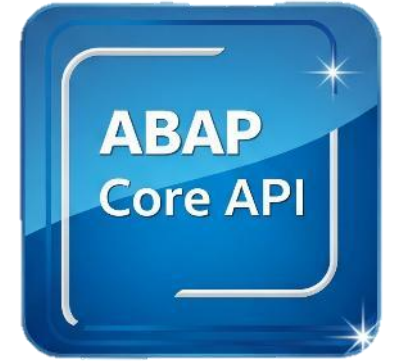
endmethod.



Wer hat so eine API?

```
method main.  
"demo program how to use the SD API to post a sales document.  
data(sd_document_factory)=zcl_sd_factory=>get_instance( config ).  
data(sd_document) = sd_document_factory->Load( sd_document_number )  
sd_document->set_quantity( quantity ).  
  
zcl_posting_api=>post_documents( ).  
endmethod.
```

SAP CORE API



- in ABAP Cloud
- Durch automatische Tests abgesichert
- Folgt Prinzipien und Regel der OOP
 - Konsequente Nutzung der SOLID Regeln
 - Paketkonzept, Nur Interfaces und Factories freigeben
- Clean ABAP folgen

