QuantityWare
SAP QCI in a Nutshell

Explaining SAP QCI

Why “explain” an SAP product?

- **The QCI is an integral, and the most critical, part of the SAP Oil & Gas platform** – without it, bulk goods movements cannot be executed, and these bulk goods movements are the ‘life blood’ of your business.
- **Detailed knowledge of the SAP QCI and its architecture is rare** – we want to explain a very important, and often underestimated, topic.
- **In all business processes**, from exploration and production, through midstream and downstream supply chain handling, to service station delivery, quantity values in several units of measures at standard conditions (which may vary from country-to-country, or even state-to-state) need to be calculated and cross-checked for various movement documents.

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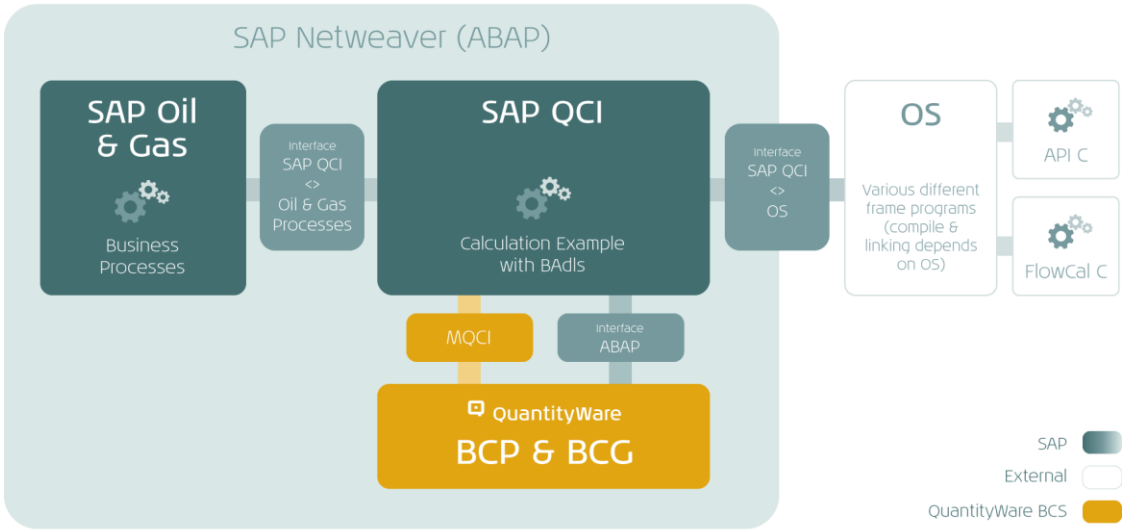
SAP QCI Components

- The following slides describe all commercially available building blocks, which can be used for the definition of your SAP Oil & Gas quantity conversion.
- QuantityWare BCS delivers BCP (Bulk Calculations – Petroleum) and BCG (Bulk Calculations – Gas).
- Three key use cases will be described:
  A. Legacy
  B. Legacy + BCP / BCG
  C. BCP / BCG only



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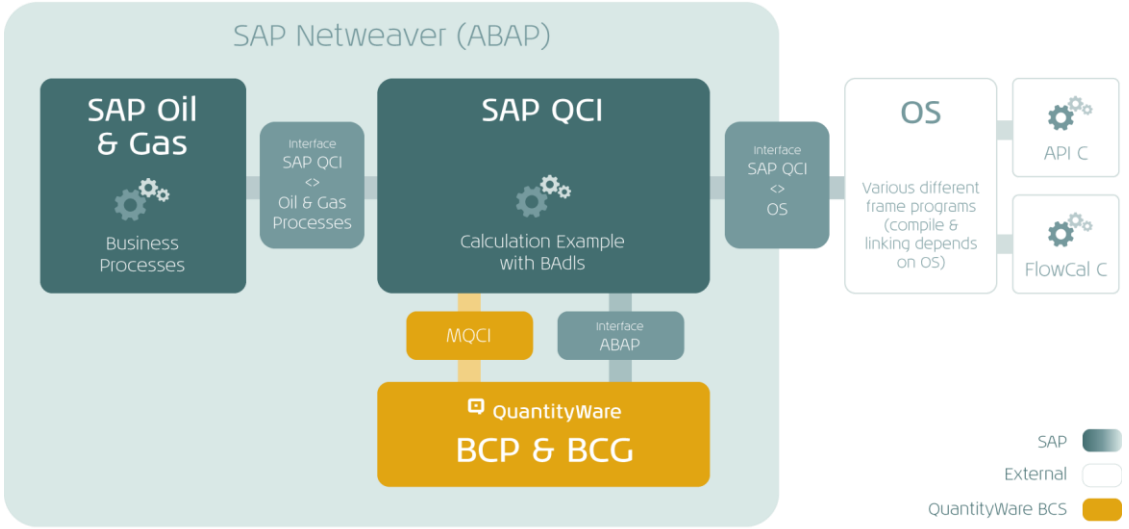
All Possible Components

- There are **three** major "**areas of responsibility**":
  - **SAP-delivered components** (SAP)
  - **External components** (Customer in-house)
  - **QuantityWare BCP & BCG** (QW)



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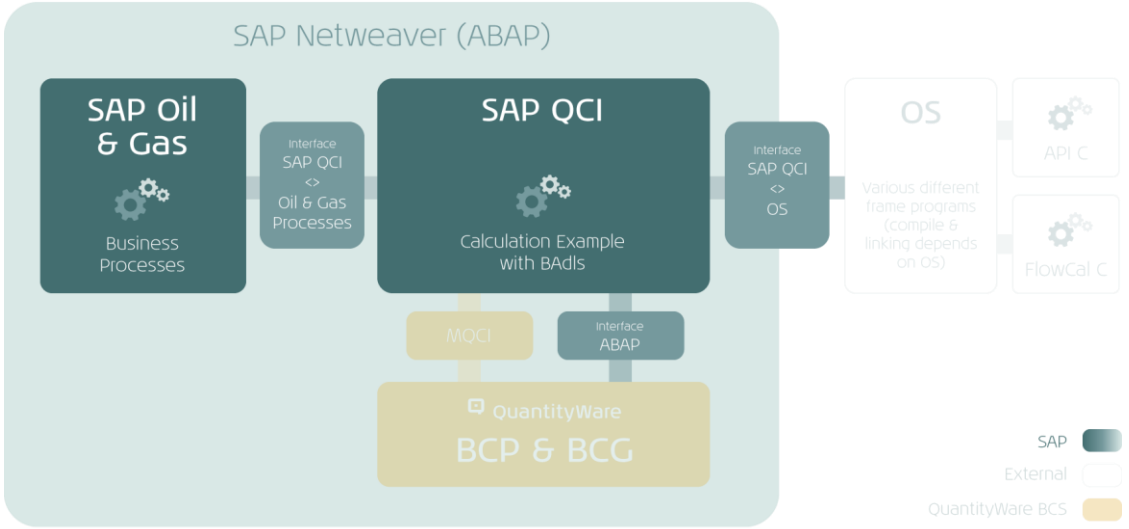
SAP-Delivered Components

- SAP Oil & Gas systems provide the **ABAP** stack.
- The following four SAP QCI components run on the **ABAP stack**:
  - **SAP QCI – Interface to Oil & Gas processes**
  - **SAP QCI – Calculation example** (DIN51650 model w/o rounding,) - can be modified via BAdI technology
  - **SAP QCI – OS Interface (Operating System)**
  - **SAP QCI – ABAP interface**
- (Both interfaces are designed to work only with the **SAP QCI Calculation example**)



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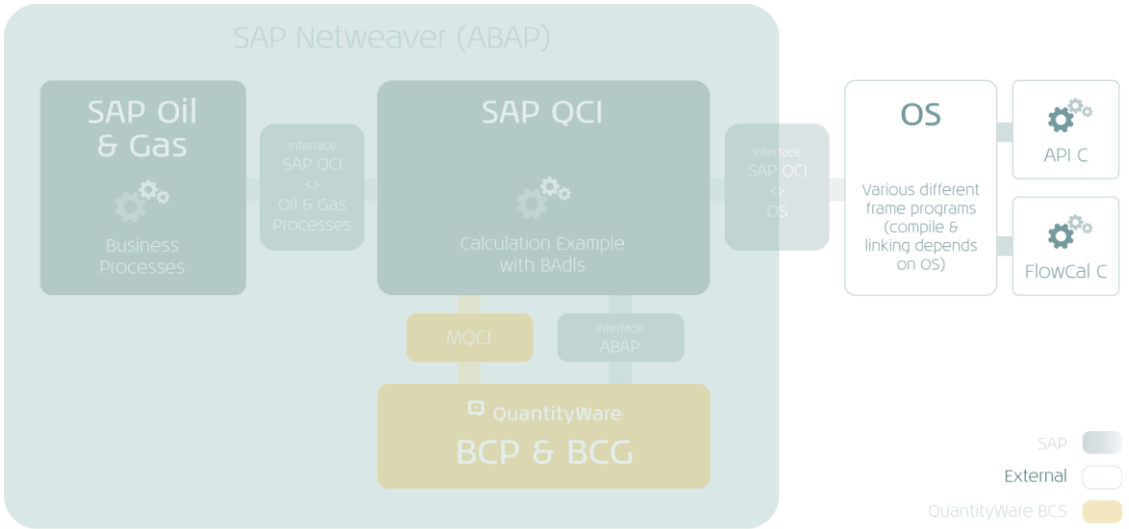
External Components

- “C” executables and frame programs are displayed at the operating system (OS) level*



*Note: For ‘C’ codes, SAP delivers “example” (usage at customer risk) frame programs for a limited number of Operating Systems / Technologies (64- / 32-bit).

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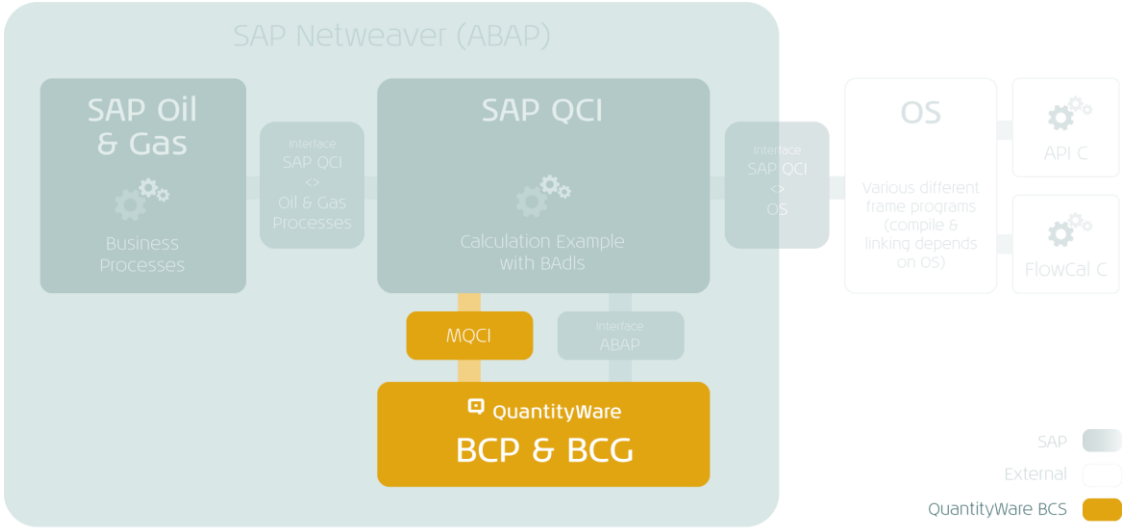
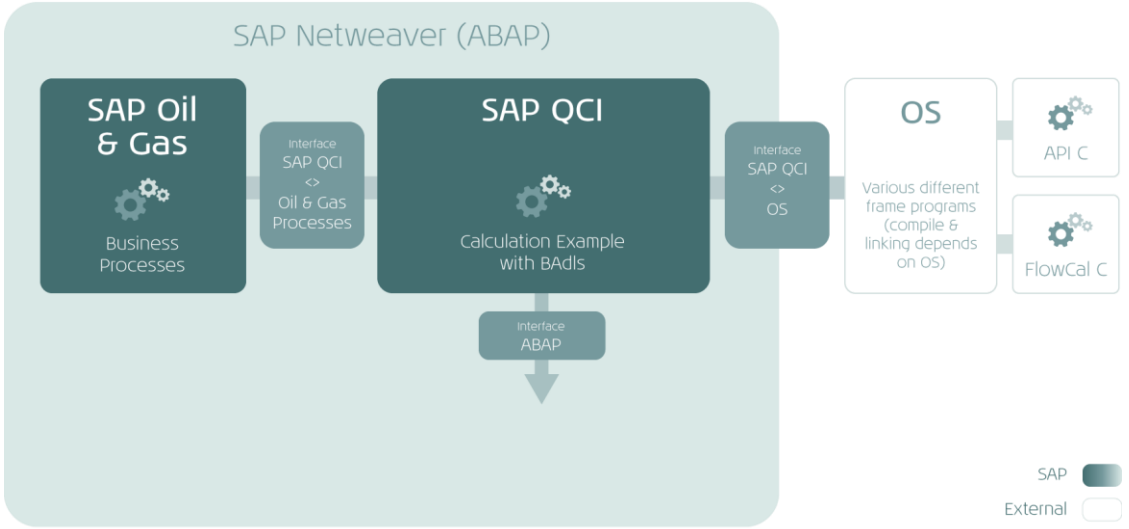
QuantityWare Components

- QuantityWare's **BCP & BCG**, non-modifying, SAP-Certified ABAP Add-On
- QW **MQCI** Interface – allowing SAP QCI to support multiple calculation models
- QW Calculation engine
- Support of **all** crude oil and product measurement standards
- QW Petroleum / Gas Measurement cockpit and extensive tools



Case A: “Legacy”

- A customer has purchased e.g., the **API C** (1980) source; has compiled and linked it successfully with an SAP example frame program (or with a customer-developed frame program if no example available, or the risk of using unsupported code was considered too great).
- The result is called via the **SAP QCI - Operating system** Interface (see left)
  - **Flow-Cal C** (2004) works in the same way.
- “C” executables run on the OS and are connected via “Call system” or “RFC server” technology, with the known technical issues (e.g., SAP Note 23697) which need to be solved and/or safeguarded against.



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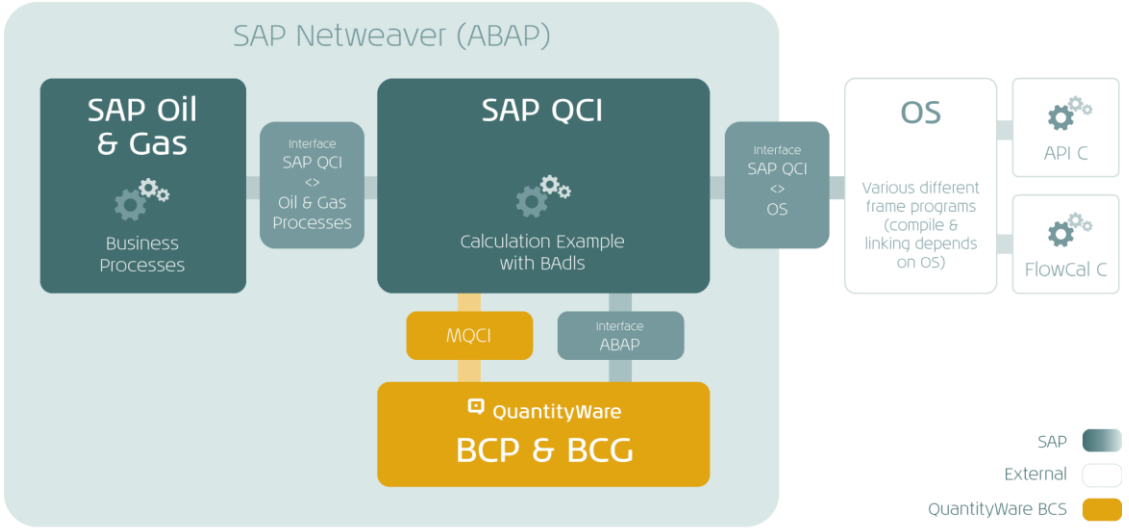
Case B: “Legacy” + BCP / BCG

Legacy functionality still runs, with functional and calculation “gaps” filled by BCP / BCG:

- The customer purchases QuantityWare **BCP / BCG**.
- After Add-On installation, since **BCP / BCG** are non-modifying ABAP Add-Ons, technical parallel usage with legacy calculation methods is guaranteed.
- i.e., customers can still run their legacy **API C** (or **Flow-Cal C**) and use QuantityWare **BCP / BCG** in **parallel**.



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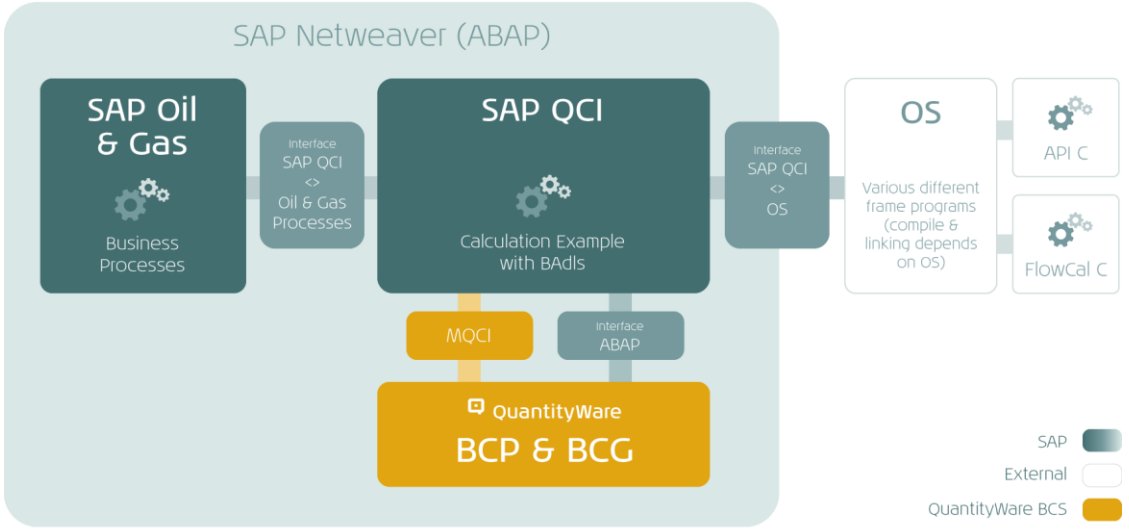
Case B: “Legacy” + BCP / BCG

How is this possible?

- Calculation usage is controlled by the conversion group definition (a customizing setting).
- The customer simply defines **new conversion groups** based on **BCP / BCG** template conversion groups (which are then assigned to the material master) - (the “gold flow”).
- **Nothing changes in the ‘status quo’ of existing materials and their assigned conversion groups** – these are still calculated by the ‘C’ routines (the “blue flow).



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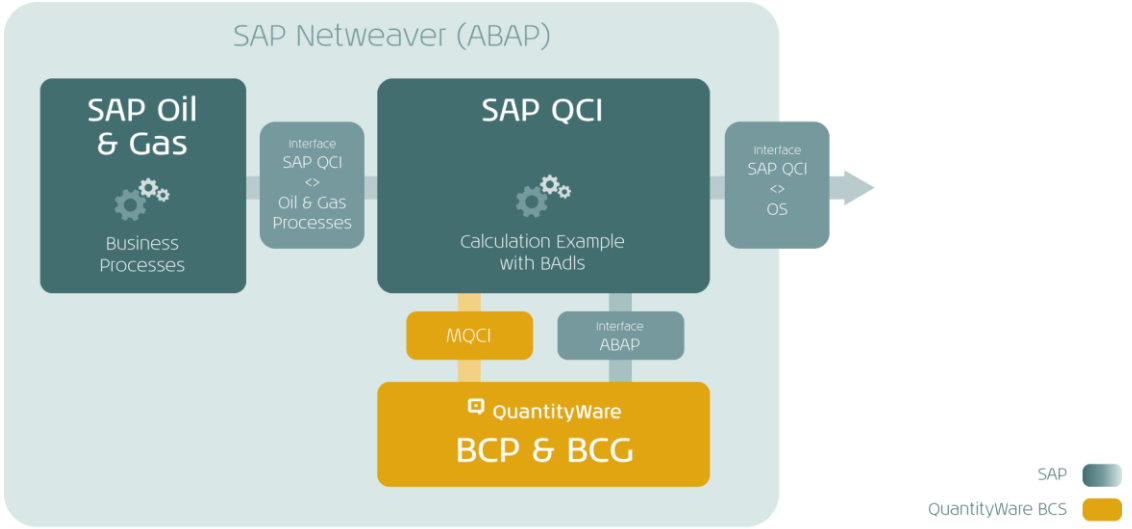
Case C: BCP / BCG Only

Customer removes dependency on “legacy” calculation methods:

- Once BCP / BCG has been implemented in production, customers can decide at any point in time to migrate their legacy conversion groups to BCP / BCG, by redefining the existing API C conversion groups (customizing settings). This is a proven process which can be optimized and tested via the use of QuantityWare tools.
- After this process has been completed, any C executables can be removed as they are not required from SAP side and a major governance issue (security!) has been addressed.



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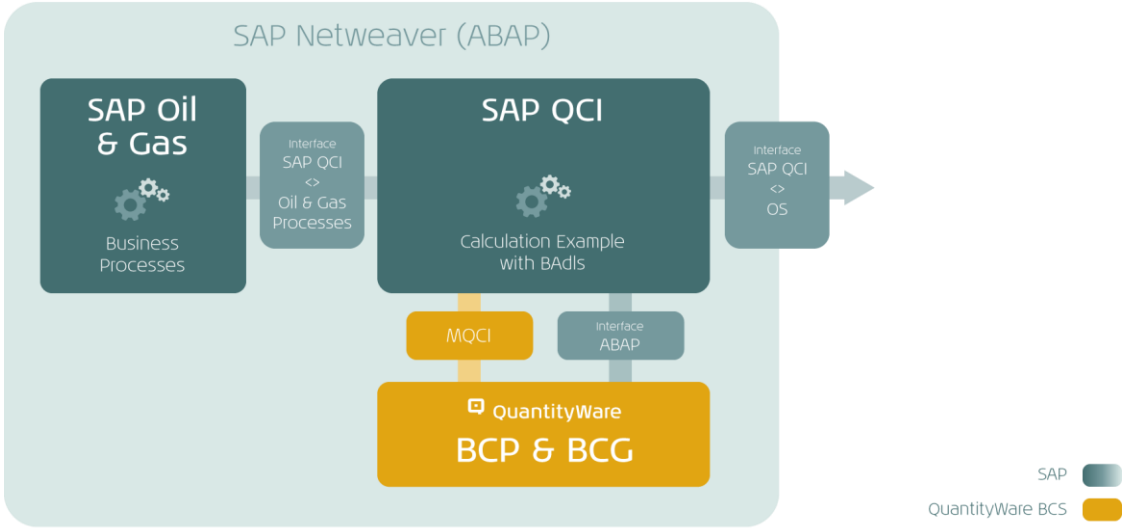
Case C: BCP / BCG Only

How does this work?

- BCP / BCG uses the existing SAP QCI – ABAP Interface to connect the QuantityWare BCP / BCG ABAP solution to Oil & Gas processes; it does not replace the SAP QCI Interface! This is often misunderstood.
- **QuantityWare products are not in competition with any SAP products and do not replace any SAP products.**



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Conclusion

QuantityWare's ABAP solution:

- **Seamlessly connects** into the SAP Oil & Gas solution
- **Reduces** maintenance and usage risk
- **Simplifies** support
- **Increases** reliability
- **Extends** SAP customer's possibilities
- **Enables** increased ROI for your SAP Oil & Gas systems…
- …while **Enhancing** transparency & GRC.

Notes

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