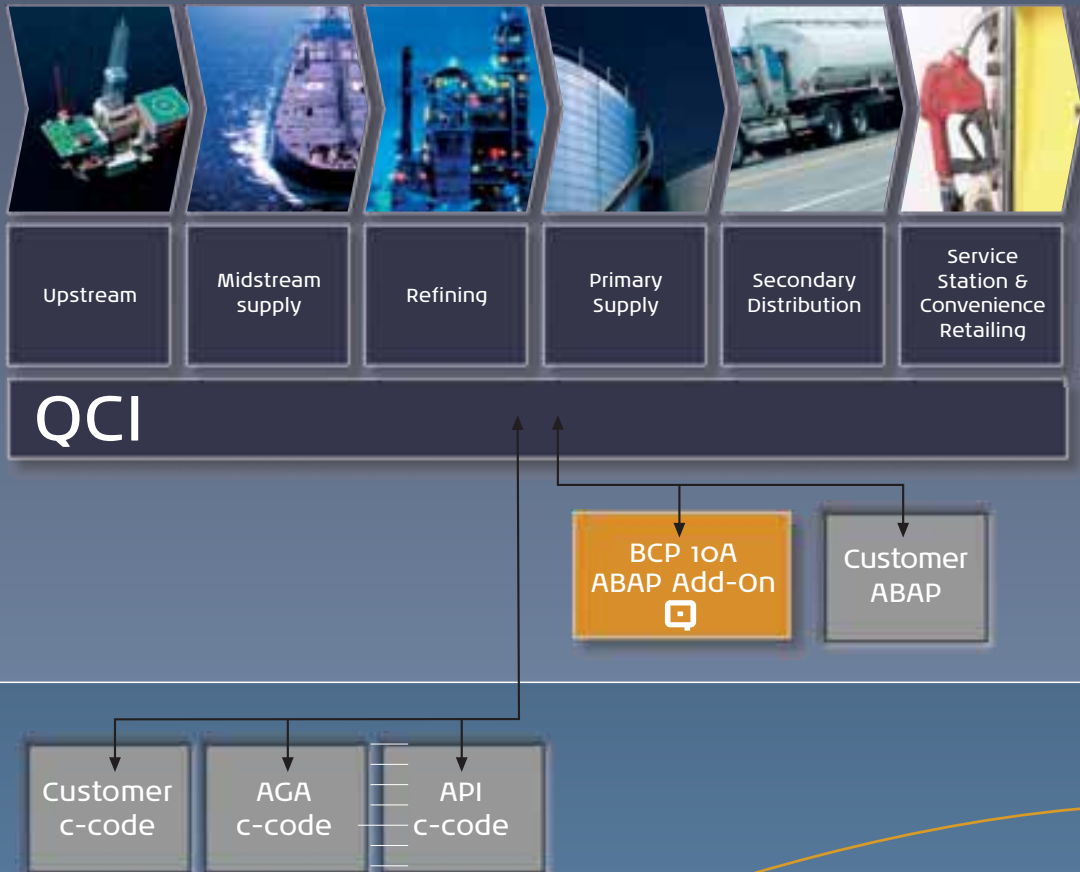


SAP Netweaver Platform with MySAP Oil & Gas



What is the
Quantity Conversion
Interface (QCI)?



What is the Quantity Conversion Interface (QCI)?

The Quantity Conversion Interface (QCI) is a SAP product, and an integral part of the mySAP Oil & Gas solution.

So why are we devoting an entire document to someone else's product?

Quite simply, the QCI is the most critical part of the mySAP Oil&Gas platform required to enable usage of QuantityWare's BCP package. Owing to the fact that the relationship between QCI and BCP is often misunderstood, we hope to clarify the situation with this document.

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) need to be calculated and cross checked for various movement documents. These calculations are performed within the QCI, which is really more of a quantity conversion "engine". The QCI also includes a flexible interface supporting several techniques by which the functionality of "external programs"¹ can be called. (e.g. CALL SYSTEM, Remote Function Call -RFC- and direct ABAP function module call).

This design provides unmatched flexibility for the mySAP Oil&Gas solution, allowing the inclusion of precision software from third party vendors which follow international volume correction/measurement

standards and provide, as an example, correction factors for volumes and density values, i.e. the QuantityWare BCP package.

The main graphic shows how QCI enables the integration of external software packages with mySAP Oil& Gas. The size of the QCI and the external packages is a diagrammatic representation and has no relation to the proportional size of coding.

Note: BCP 10A and the customer functions are installed on the SAP Netweaver platform, resulting in higher performance (time per calculation is dramatically reduced).

To demonstrate the relationship of mySAP Oil&Gas' QCI to non-SAP products, let's apply the relationship to a typical industry calculation.

When a bill of lading is processed within mySAP Oil&Gas, many factors have to be entered, for our exam-

ple, the most important of which are:

- a transaction quantity (e.g. 10000 gallons),
- conditional parameters (e.g. the product density at 58 Fahrenheit),
- and the product temperature (e.g. 42 Fahrenheit - measured at loading)

These factors are then passed to the QCI. . .

The QCI recognises conditional parameters, and passes them to the external programs, which calculate the Volume Correction Factors (VCFs) and the product's base density at 60 Fahrenheit. The VCFs and density are then returned to the QCI from the external programs.

The QCI uses the VCFs and the product's base density to calculate the required transactional quantity values into the units of measure required, e.g. pounds, long tons, gallons at 60 Fahrenheit, or cubic meters at 15 Celsius. In addition, the "externally passed"² additional quantity values are checked for correctness, taking into account tolerances defined in the "conversion groups"³. The calculated quantity values are then passed back to the business process transaction for document posting. Several external programs

can be installed in parallel to one mySAP Oil&Gas system. In the main graphic, API codes, AGA codes (for natural gas calculations), QuantityWare BCP 10A and a customer own function package are installed together.



Since the conversion group of a product material master can always be changed in production systems (see SAP note 308022 FAQ: QCI - Quantity Conversion Interface -), external programs can be installed and taken into production independent of mySAP Oil&Gas upgrades or support package application.

At any time when your business requires a change in the usage of external programs, you are in a position to enable this owing to the flexibility and quality of the mySAP Oil&Gas product QCI.

¹ Executable coding which is NOT a part of the standard mySAPOil&Gas delivery.

² Values determined externally to the mySAP environment e.g. via automatic measurement in a refinery.

³ The customising which links a specific product to a specific external program. The conversion group is linked to a product material master via customisation at the plant level.