

# Week 3 Unit 1: Recent Open SQL Enhancements – Part 1





# Recent Open SQL Enhancements – Part 1

## Outline

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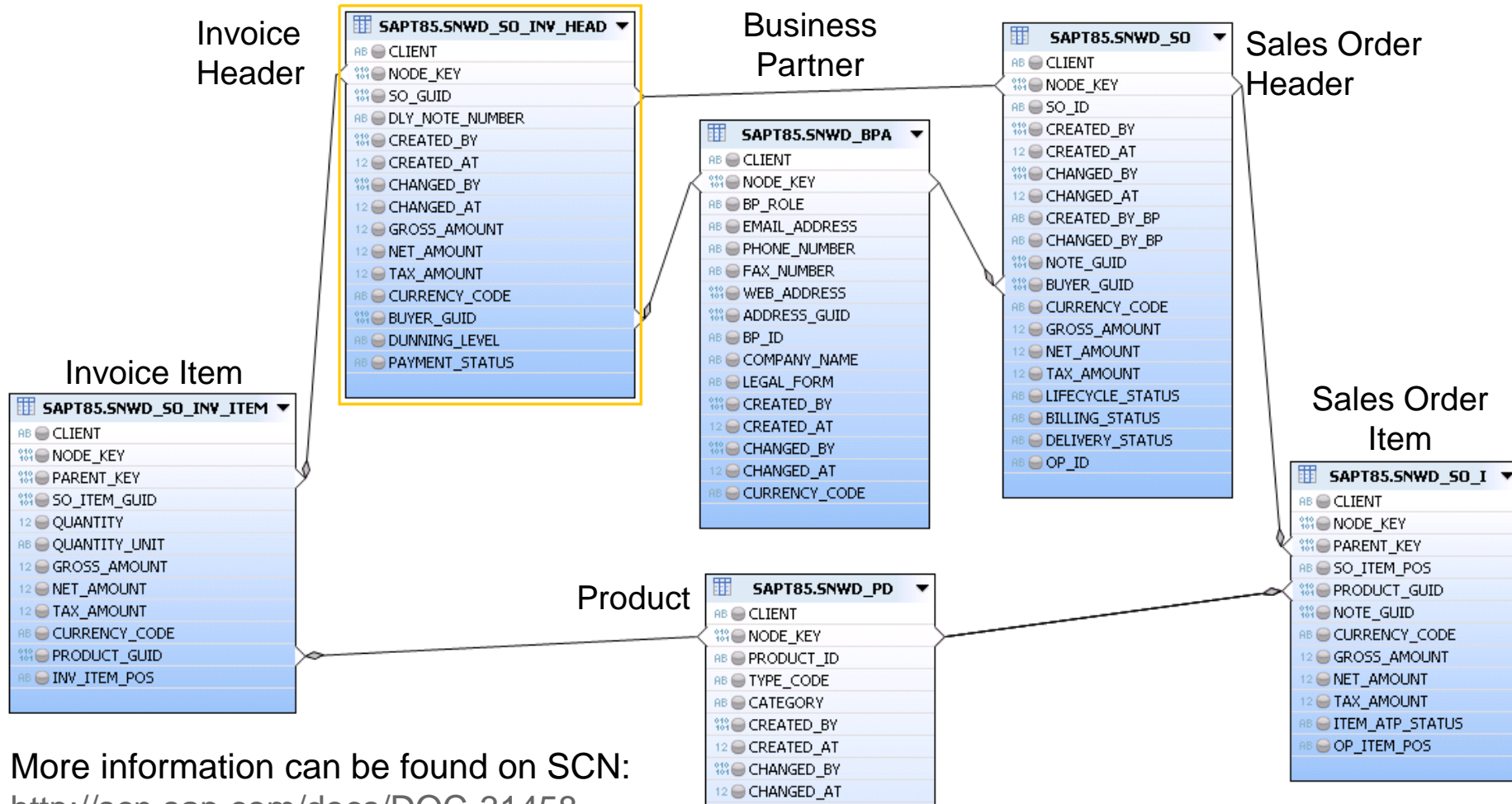
### Content

- Enterprise Procurement Model
- Reminder: What is Open SQL?
- Open SQL evolution
- Open SQL enhancements
  - Syntax
  - SELECT list



# Recent Open SQL Enhancements – Part 1

## Enterprise Procurement Model (EPM)



More information can be found on SCN:  
<http://scn.sap.com/docs/DOC-31458>

# Recent Open SQL Enhancements – Part 1

## Migration to SAP HANA

### 1. Detect

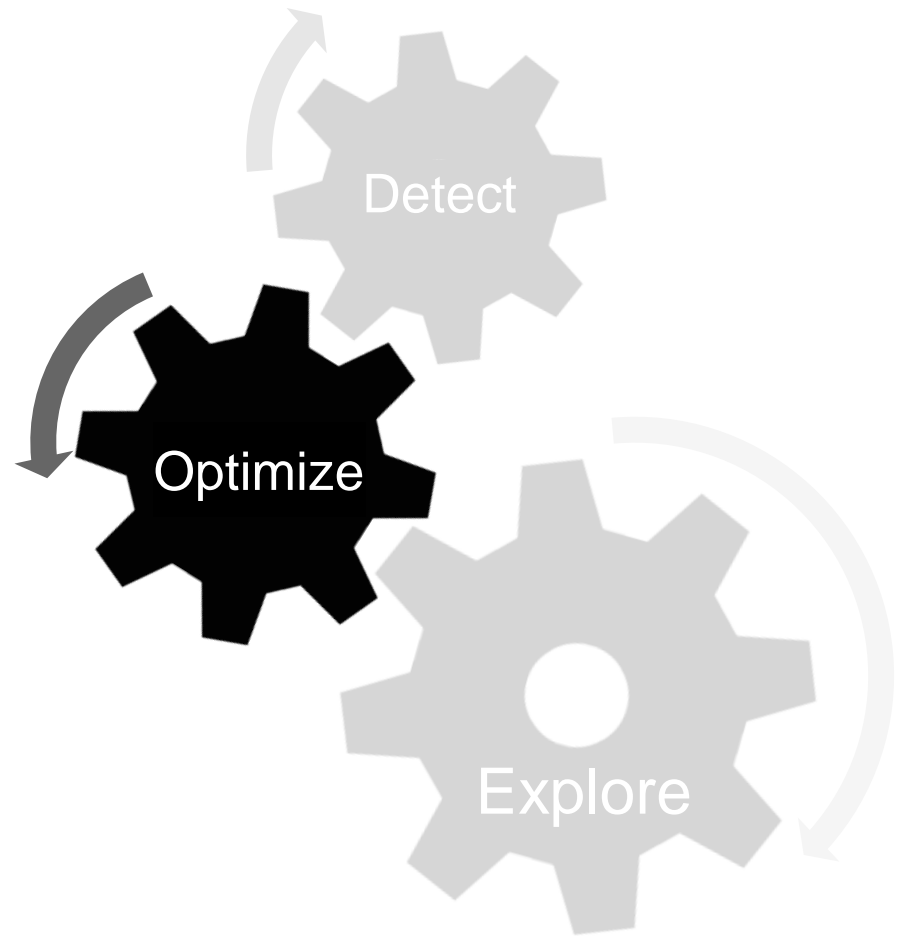
- Functional correctness
- Performance optimization potential

### 2. Optimize

- Database-oriented programming

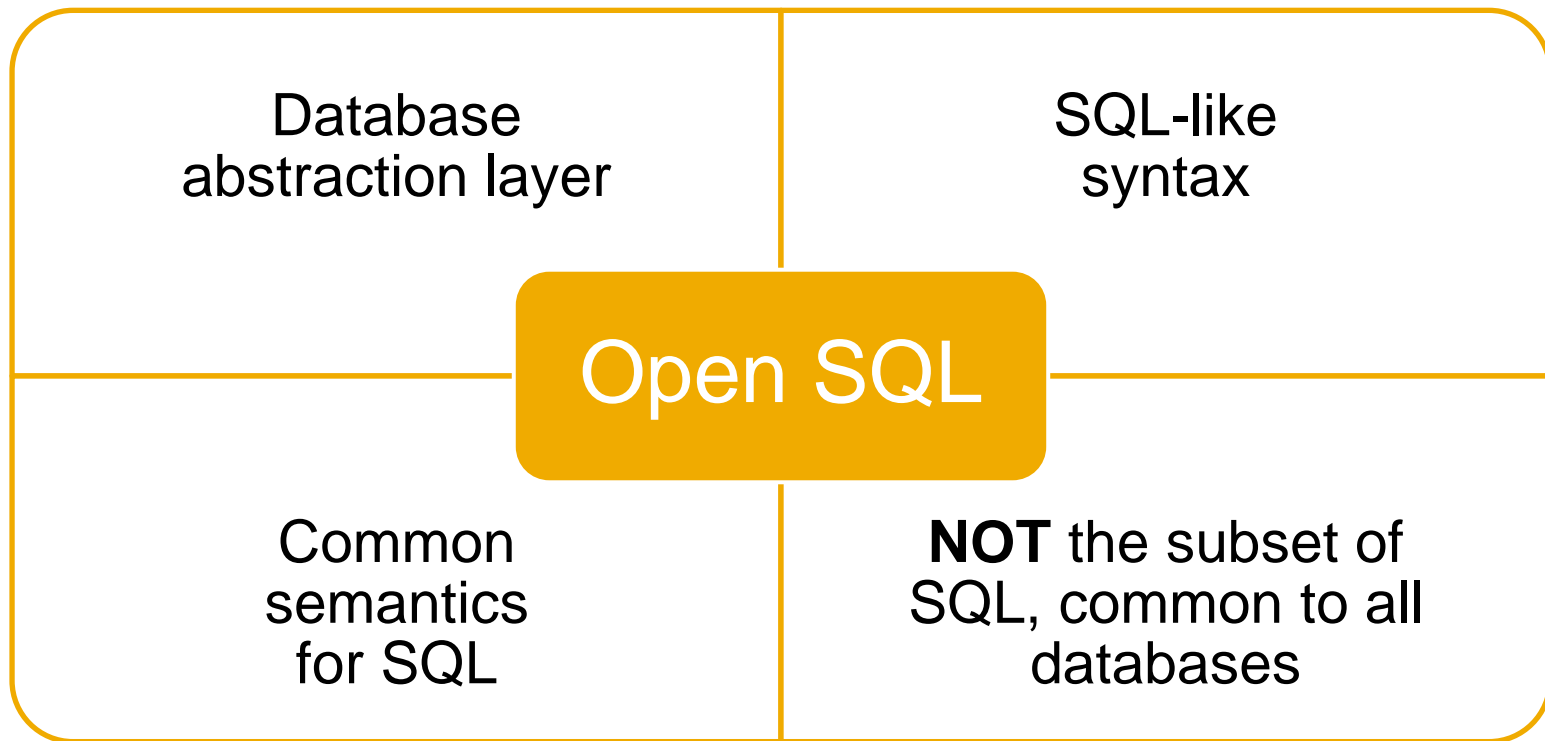
### 3. Explore

- Use SAP HANA-specific features
- Rethink & innovate



# Recent Open SQL Enhancements – Part 1

Reminder: What Is Open SQL?



Open SQL is the only DB **abstraction layer** that defines a **common semantic** for all SAP-supported databases!

# Recent Open SQL Enhancements – Part 1

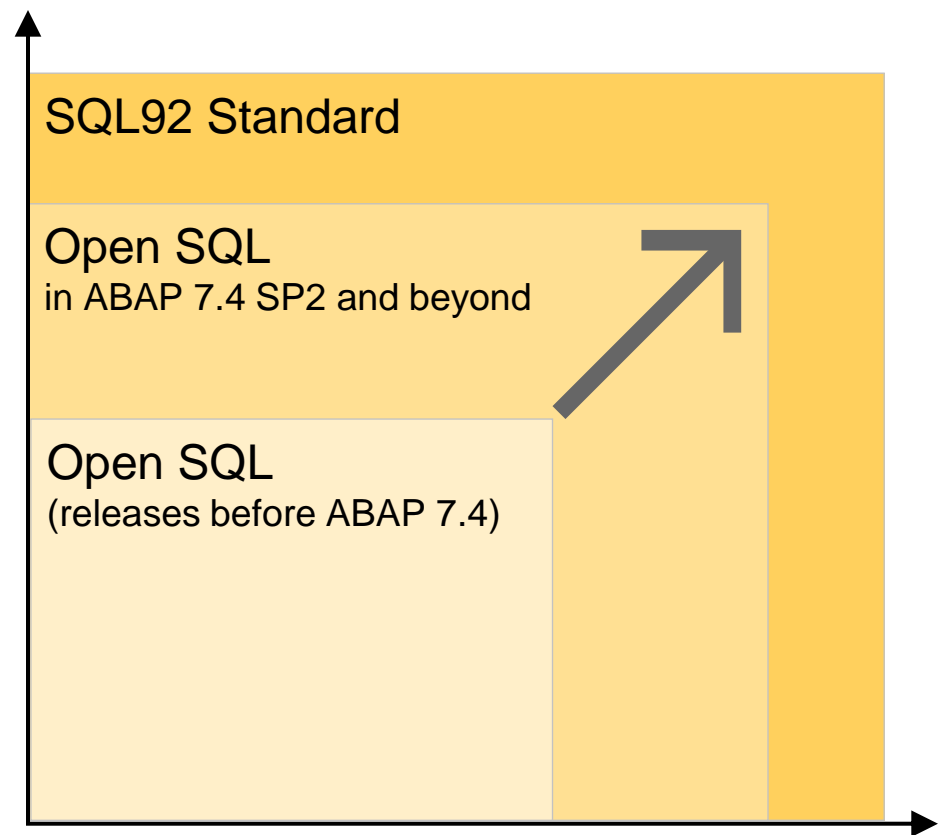
## Open SQL in ABAP 7.4 SP2 and Beyond

### Open SQL aspires to

- enable the application of the Code-to-Data paradigm
- provide (more) standard SQL features
- enable the consumption of SAP HANA-specific features

### Introduction of new features

### Reduction of existing limitations



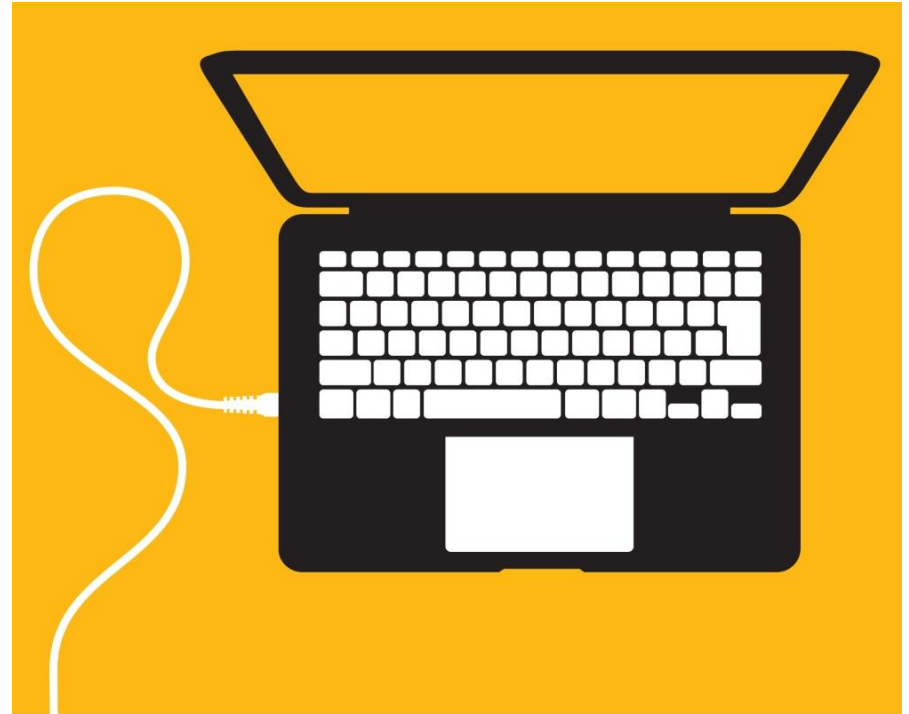
# Recent Open SQL Enhancements – Part 1

## Open SQL: Demo

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### Open SQL enhancements

- Syntax enhancements:
  - Escaping of host variables
  - Comma-separated select list
- SELECT list enhancements:
  - Aggregation functions
  - Literals
  - Arithmetical expressions



# Recent Open SQL Enhancements – Part 1

## What's New in Open SQL?



Additional  
Material

### New Open SQL Syntax

- Escaping of host variables
- Comma separated element list

```
SELECT so_id,  
       currency_code,  
       gross_amount  
FROM   snwd_so  
INTO TABLE @DATA(lt_result).
```

### Target Type Inference

#### New SELECT List Features

- Aggregation functions
- Literal values (next slide)
- Arithmetic expressions (next slide)
- String expression (next slide)

```
SELECT bp_id,  
       company_name,  
       so~currency_code,  
       SUM( so~gross_amount )  
         AS total_gross_amount  
FROM   snwd_so AS so  
INNER JOIN snwd_bpa AS bpa  
         ON so~buyer_guid = bpa~node_key  
INTO TABLE @DATA(lt_result)  
GROUP BY bp_id, company_name,  
         so~currency_code.
```



# Recent Open SQL Enhancements – Part 1

## Literal Values & Generic Existence Check



Additional  
Material

### Literal Values

- Can now be used in the SELECT list
- Allow for a generic implementation of an existence check

```
SELECT so~so_id,  
       'X' AS literal_x,  
       42 AS literal_42  
FROM   snwd_so AS so  
INTO TABLE @DATA(lt_result).
```

```
DATA lv_exists TYPE abap_bool  
      VALUE abap_false.
```

```
SELECT SINGLE @abap_true  
FROM   snwd_so  
INTO @lv_exists.
```

```
IF lv_exists = abap_true.  
    "do some awesome application logic  
ELSE.  
    "no sales order exists  
ENDIF.
```

# Recent Open SQL Enhancements – Part 1

## Expressions



Additional  
Material

### Arithmetic Expressions

- **+, -, \*, DIV, MOD, ABS, FLOOR, CEIL**
- **Remember:** Open SQL defines a semantic for these expressions common to all supported databases
- Refer to the ABAP documentation to see which expression is valid for which types

### String Expressions

- Concatenate character columns with the && operator

```
DATA lv_discount TYPE p LENGTH 1 DECIMALS 1  
VALUE '0.8'.
```

```
SELECT ( 1 + 1 ) AS two,  
       ( @lv_discount * gross_amount )  
       AS red_gross_amount,  
       CEIL( gross_amount )  
       AS ceiled_gross_amount  
FROM   snwd_so  
INTO TABLE @DATA(lt_result).
```

```
SELECT company_name  
       && ' (' && legal_form && ')'  
FROM   snwd_bpa  
INTO TABLE @DATA(lt_result).
```

# Recent Open SQL Enhancements – Part 1

What's Next?

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Week 3 Unit 2

## Recent Open SQL Enhancements – Part 2





# Thank you

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