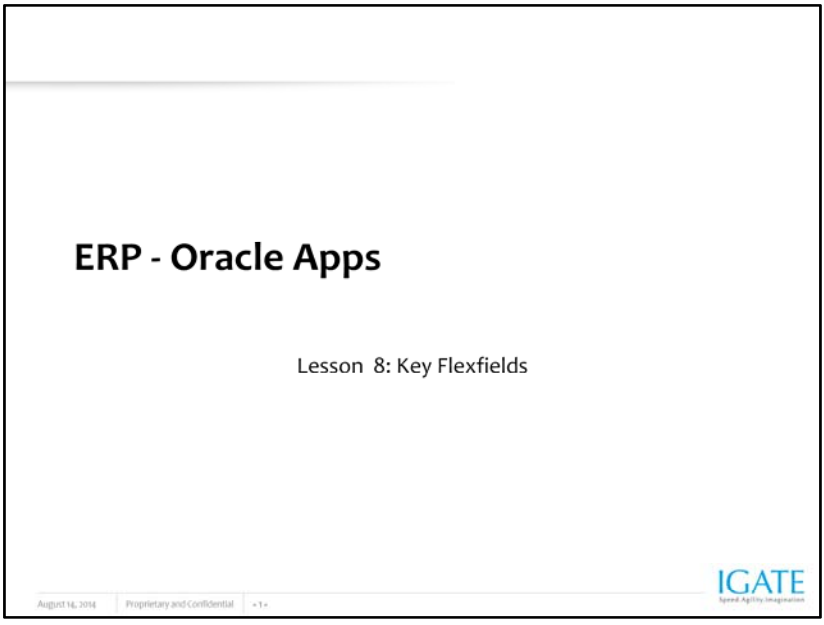
ERP - Oracle Apps
Lesson 8: Key Flexfields
August 14, 2014
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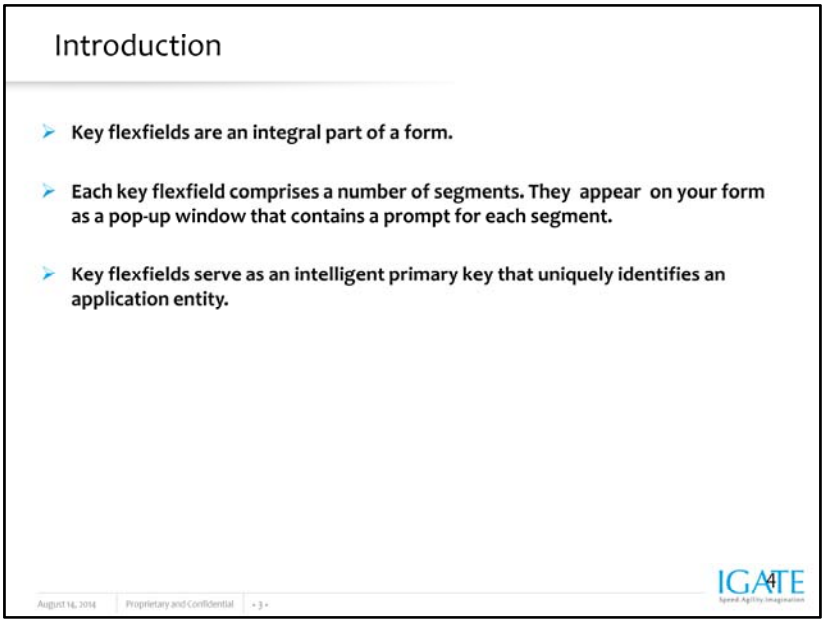
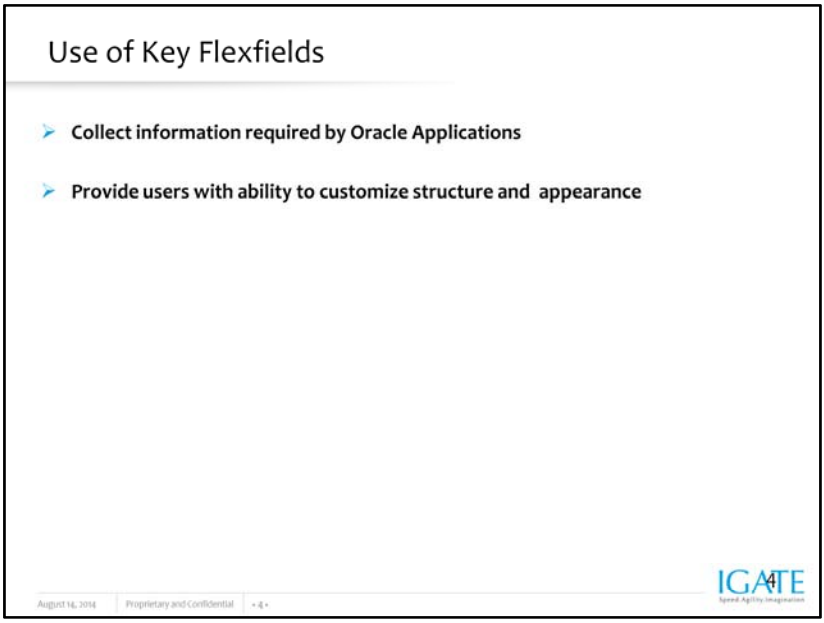
Lesson Objectives

- **After completing this lesson, you should be able to do the following:**
  - Explain intelligent keys and provide examples
  - Identify key flexfields that are required by Oracle Applications
  - Explain the purpose of flexfield qualifiers and optional key flexfield features
  - Design a key flexfield structure
  - Define the key flexfield structure and segment attributes
  - Define flexfield qualifiers and segment qualifiers
  - Implement optional features as needed



A key flexfield lets you provide your users with a flexible "code" data structure that users can setup, the way they like using key flexfield segments. That is, key flexfields let your users customize the application to design their codes the way they want.

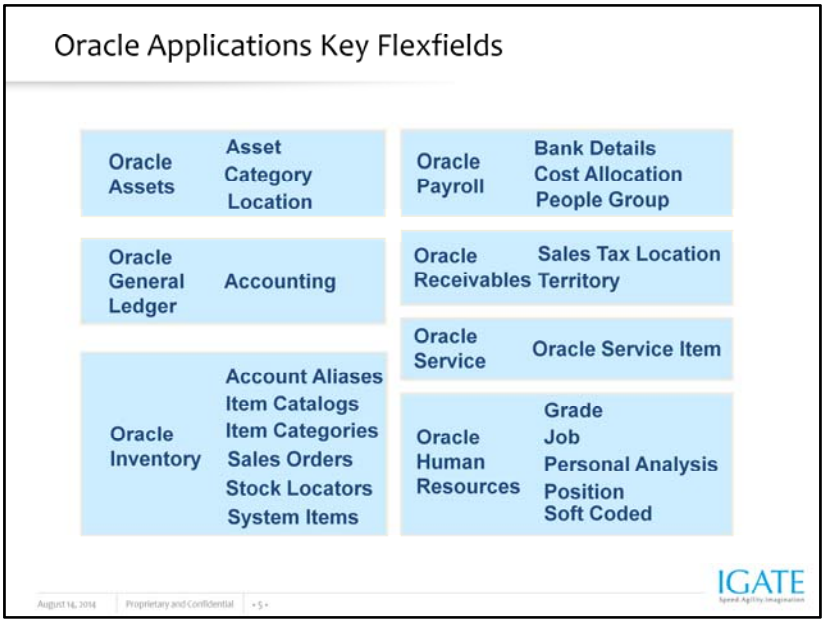
Key flexfields let you satisfy different customers without having to reprogram your applications.



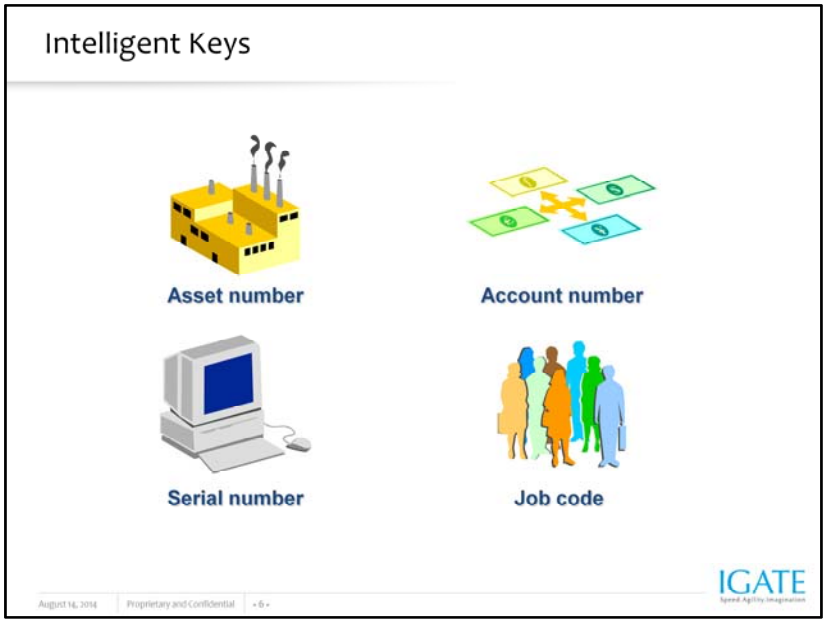
Requirements for Key Flexfields
Key flexfields have a dual purpose. They must collect information required by Oracle Applications and still allow for user customization.
Provide Required Information
Provide information needed for reports and processing. For some applications, particular items of information must be identified within the flexfield. For example, Oracle General Ledger requires the balancing segment of the Accounting Flexfield.
Build unique IDs for use by the applications while giving users meaningful codes.

Provide Customization Capability
Tailor the flexfield to the company's business practice instead of changing the practice to fit the flexfield.

Retain the information the company already keeps.



Key Flexfields Used by Oracle Applications
The slide shows the key flexfields used by Oracle Applications. The number of key flexfields is significantly smaller than the number of descriptive flexfields.

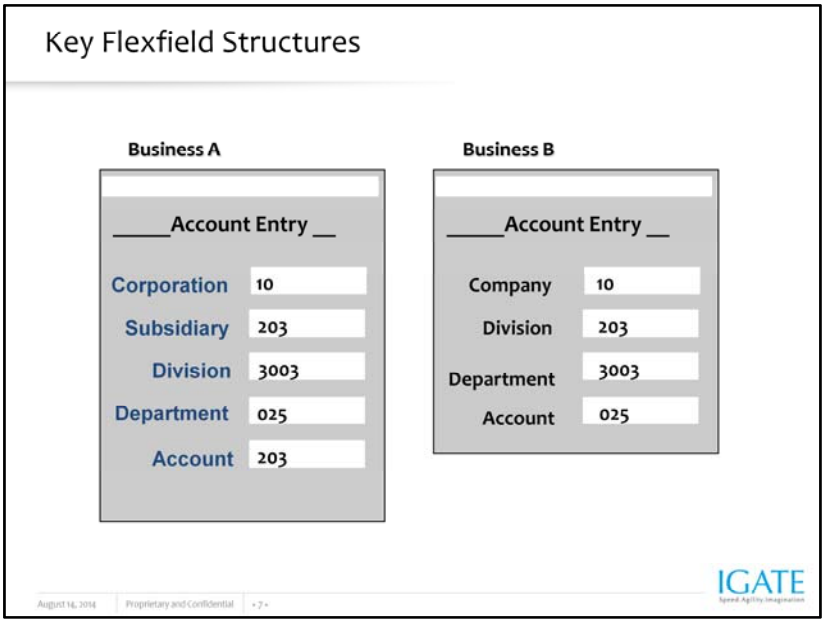


Key flexfields uniquely identify an important business entity. These often contain one or more values, (value sets), which may individually qualify to be a primary key of a table. Thus the combination, used to identify objects are called intelligent keys. These can be customized to meet individual needs without requiring programming skills. The structure of intelligent fields can be made to change depending upon the data in the form.

Building Intelligent Keys for Oracle Applications

Intelligent keys are multipart key values in which each part of the key contains meaningful information. You use key flexfields to build the intelligent keys required by Oracle Applications.

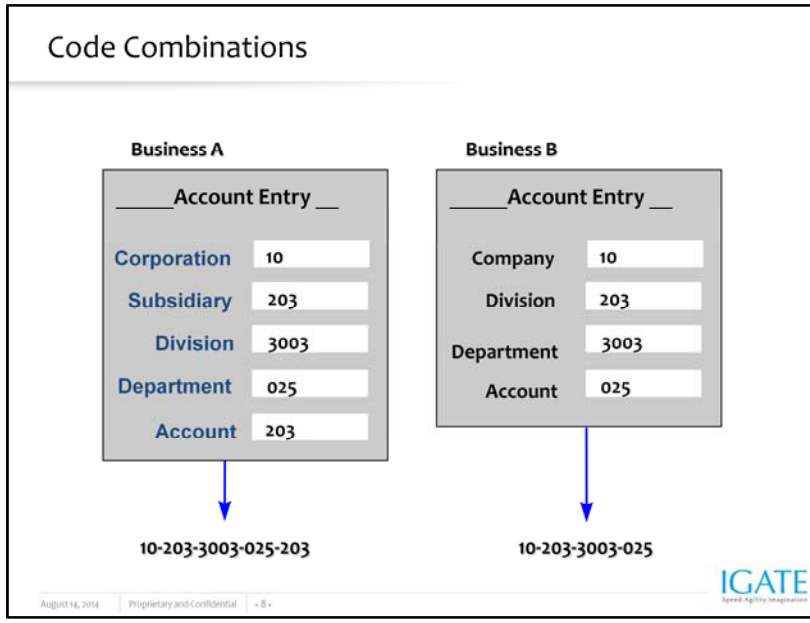
Because key flexfields are integrated with the internal processing of Oracle Applications, there are more requirements for the structure and content of key flexfields than was the case with descriptive flexfields.



Key Flexfield Structures

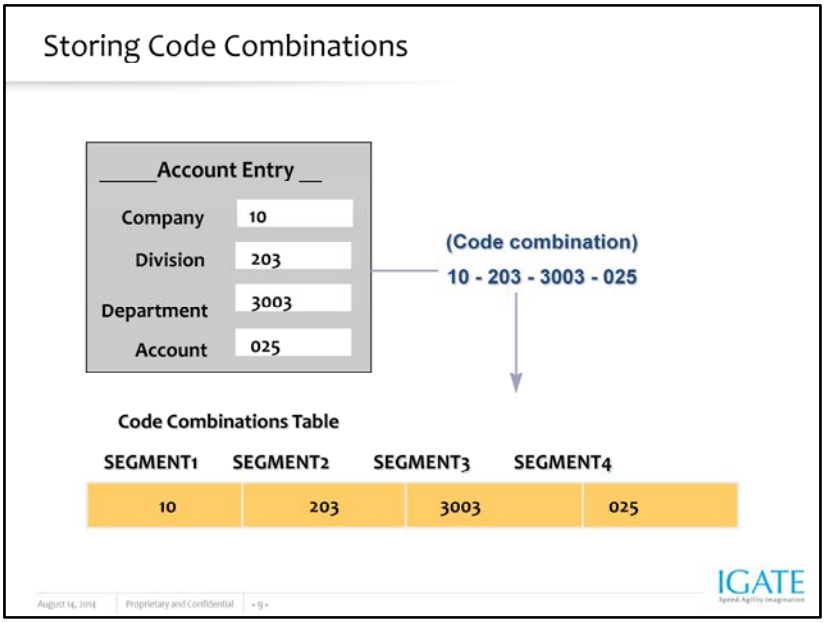
Although it is possible for a key flexfield to use multiple structures, it is much less typical than with descriptive flexfields. Most key flexfields use only one structure. However, key flexfields still allow the user to control the structure of the flexfield. For example, the slide shows two different accounting flexfield structures defined by two different businesses. Each business defines an accounting flexfield that reflects its operating structure

While in many cases the user has control over which descriptive flexfield structure is used, with key flexfields the application usually determines the correct structure with which to function. For example, Oracle General Ledger determines which accounting flexfield structure to use from the profile option Set of Books.



Key Flexfield Code Combinations

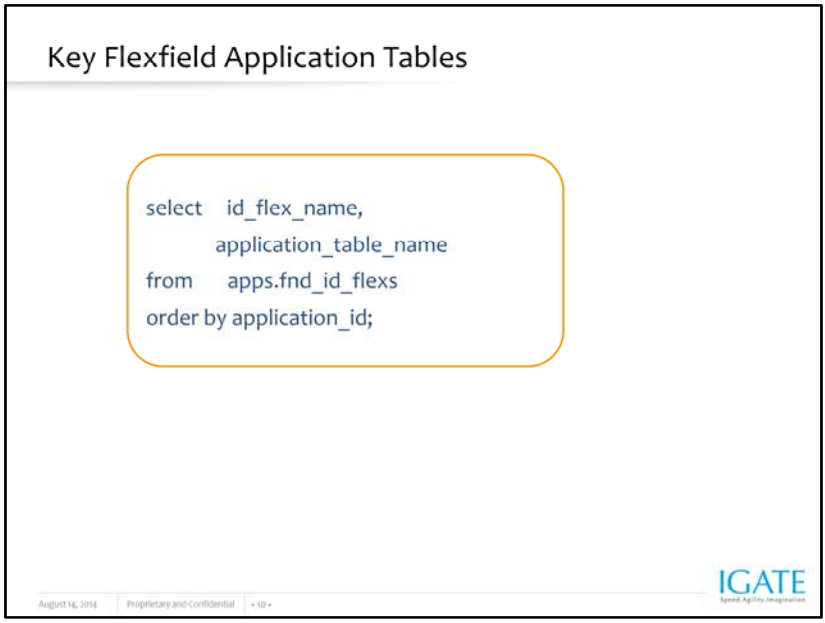
Key flexfields typically consist of several segments. The values provided by these segments make up the code combinations that function as intelligent keys for use by Oracle Applications.



Storing Code Combinations

Each flexfield stores its code combinations in a database table called a code combinations table. In the combinations table, there is one column for every key flexfield segment. These columns are usually named SEGMENTn, where n is a number. There is a set number of SEGMENT columns available for each key flexfield. You assign a key flexfield segment to a particular SEGMENT column when you define the key flexfield.

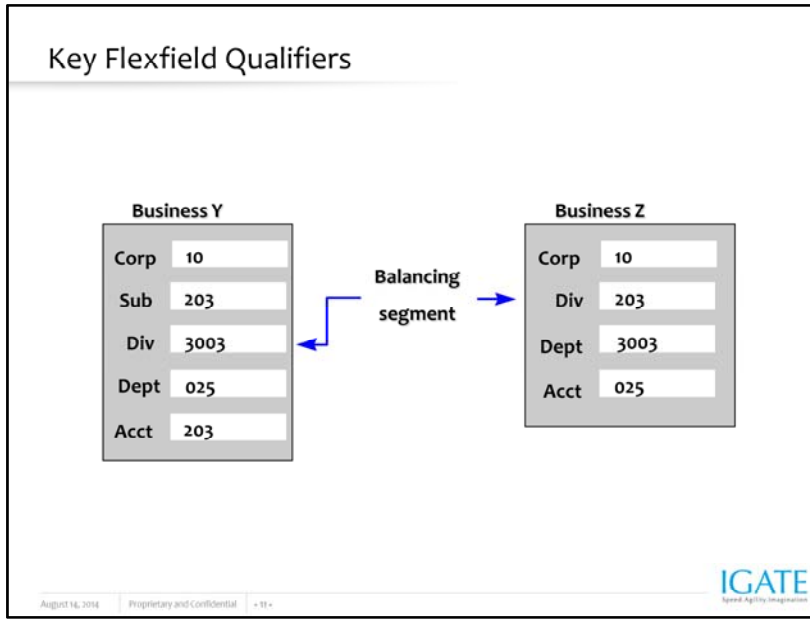
Each row in the combinations table (that is, each unique combination of segment values) is identified by a unique ID value stored in a unique ID column. This column functions as the primary key for the combinations table. For key flexfields that have multiple structures, there is also a structure ID column.



Key Flexfield Application Tables

This SQL*Plus query can be used to show Oracle Applications key flexfields and the tables in which they store their code combinations.

ID_FLEX_NAME	APPLICATION_TABLE_NAME
Accounting Flexfield	GL_CODE_COMBINATIONS
Category Flexfield	FA_CATEGORIES_B
Asset Key Flexfield	FA_ASSET_KEYWORDS
Location Flexfield	FA_LOCATIONS
Oracle Service Item Flexfield	MTL_SYSTEM_ITEMS_B
Territory Flexfield	RA_TERRITORIES
Sales Tax Location Flexfield	AR_LOCATION_COMBINATIONS
Item Categories	MTL_CATEGORIES_B
Account Aliases	MTL_GENERIC_DISPOSITIONS
Item Catalogs	MTL_ITEM_CATALOG_GROUPS
Sales Orders	MTL_SALES_ORDERS
System Items	MTL_SYSTEM_ITEMS_B
Stock Locators	MTL_ITEM_LOCATIONS
Grade Flexfield	PER_GRADE_DEFINITIONS

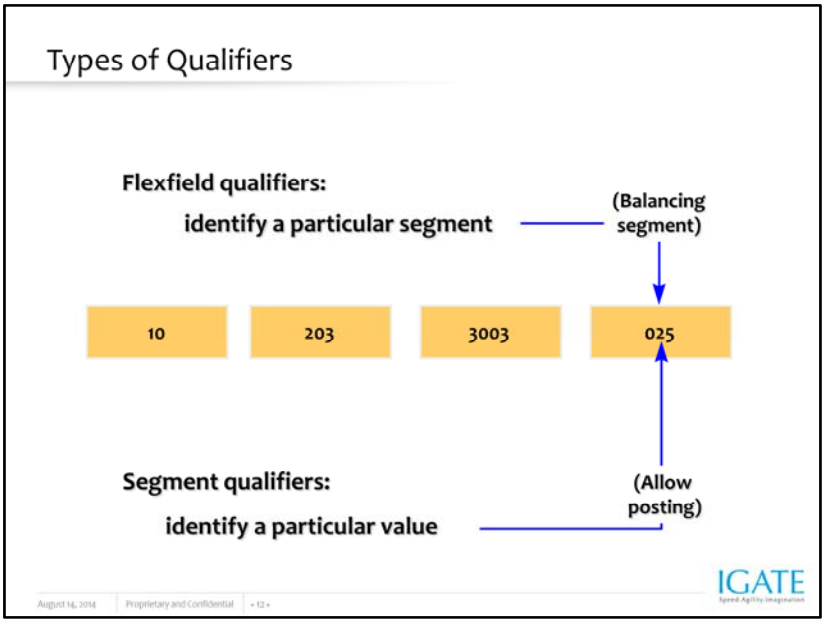


Key Flexfield Qualifiers

Both descriptive flexfields and key flexfields allow the user to design the flexfield structures and their segments. With descriptive flexfields, neither the information gathered nor the way the information is structured is used internally by Oracle Applications. Key flexfields, however, are different.

Oracle Applications use certain pieces of information collected by some key flexfield segments internally. For example, Oracle General Ledger needs to know which segment in the Accounting flexfield to use for balancing operations. But since the location of the balancing segment in the accounting flexfield can be customized, the application must have a way of locating the segment it needs within any accounting flexfield structure.

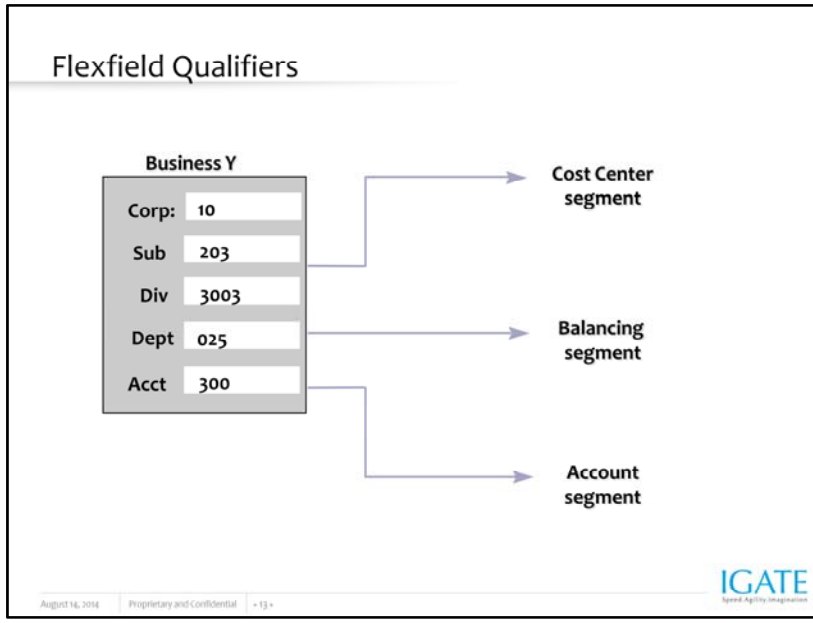
Being able to locate particular segments in a key flexfield structure is the purpose for qualifiers. A qualifier is a label attached to a particular key flexfield segment so it can be located by the application requiring its information.



Types of Key Flexfield Qualifiers

Qualifiers allow the user to retain the ability to customize the structure of the flexfield while still allowing the Oracle Application to find the information it needs to process.

There are two types of qualifiers:
Flexfield qualifiers identify a segment in a flexfield.
Segment qualifiers identify a value in a segment.
The slide shows both types of qualifiers assign to an accounting flexfield combination.



Flexfield Qualifiers Identify Key Flexfield Segments

The flexfield asks each segment a yes/no question.

Flexfield qualifiers may be unique, global, and required:

Unique: "Is this the segment that this flexfield can have only one of?"

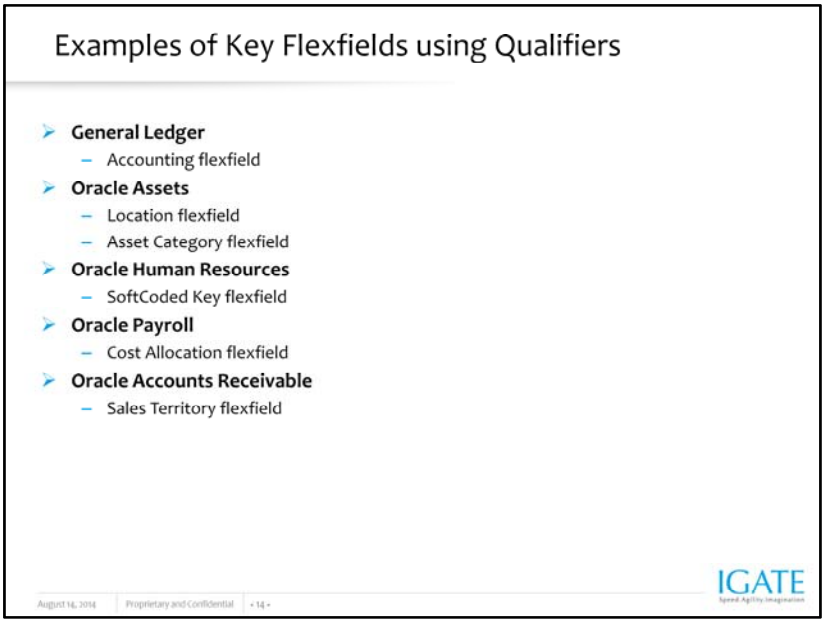
Required: "Is this the segment this flexfield must have to do its work?"

Global: "Is this a segment?" Global qualifiers exist as "carriers" for segment qualifiers.

Assigning Flexfield Qualifiers to Segments

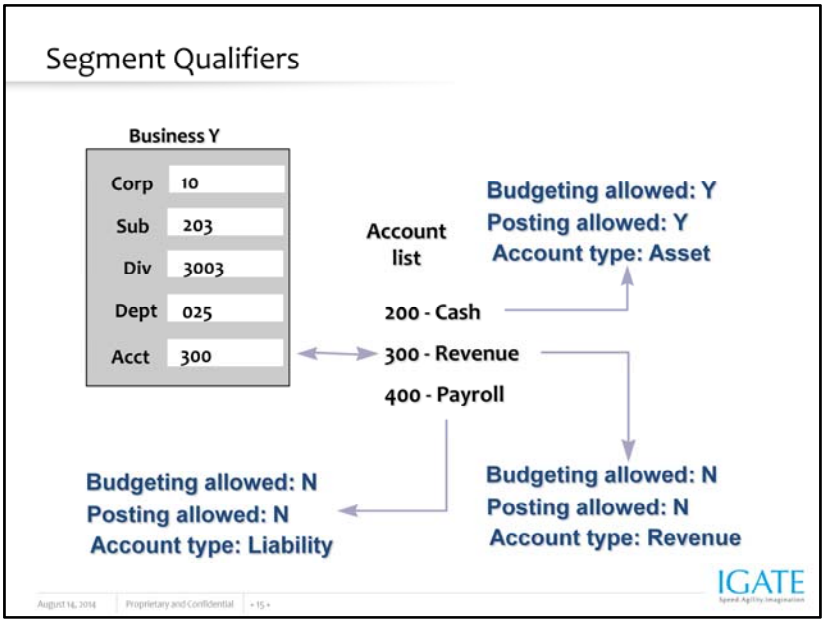
Global qualifiers need not be assigned since they apply automatically to every segment in the flexfield.

Assign flexfield qualifiers while defining segments.



Key Flexfields Using Qualifiers

The slide shows the key flexfields that use qualifiers and the Oracle application that uses each key flexfield.



Identifying Values in Flexfield Segments with Segment Qualifiers

A segment qualifier is similar to the segment asking each value the question, "What type of value are you?"

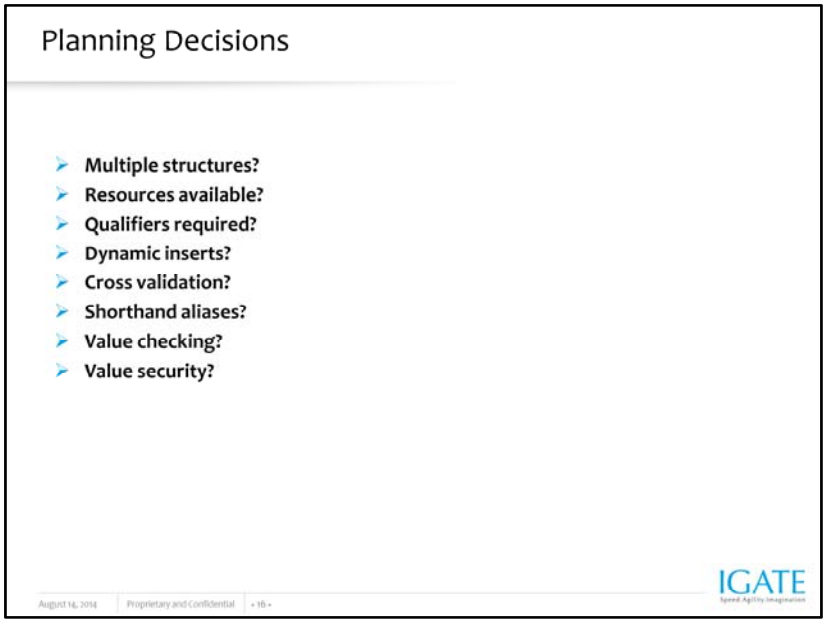
For example, the account number 300 may be used within a company as a revenue account.

Use the following segment qualifiers with the accounting flexfield:

Allow Budgeting

Allow Posting

Account Type: Asset, Expense, Liability, Ownership/Stockholder's Equity, or Revenue


Planning Decisions
Multiple structures?
Resources available?
Qualifiers required?
Dynamic inserts?
Cross validation?
Shorthand aliases?
Value checking?
Value security?
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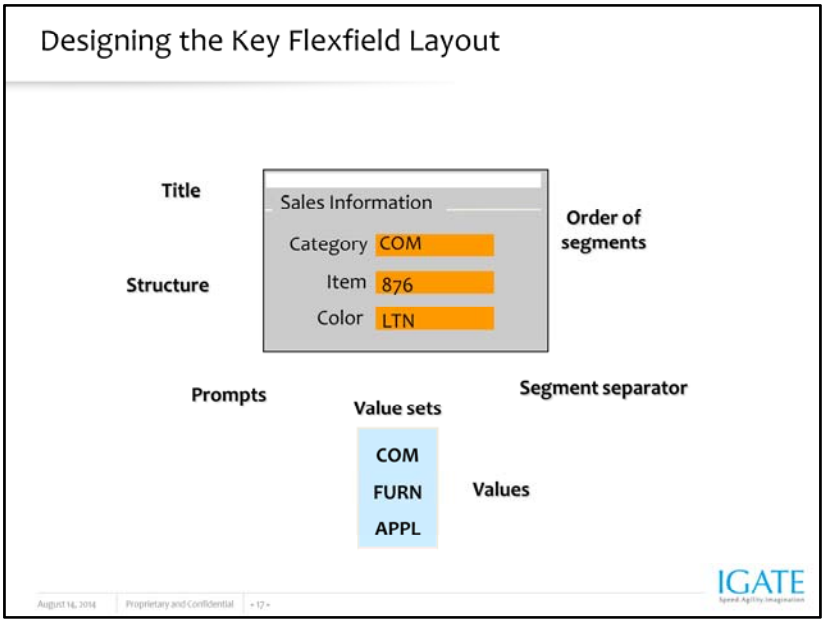
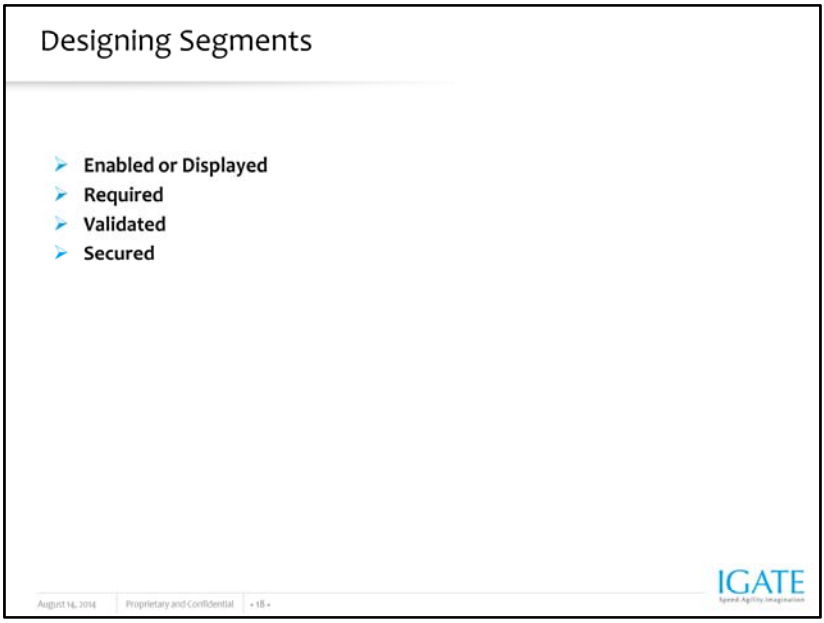


Designing Key Flexfield Layout

\Design the structures needed and the segments for each structure:

Identify the structure titles.
Plan the number and order of segments.
Identify the segment separator.
Determine the value sets and values to be used.
Plan the window prompts.



Designing Key Flexfield Segments

Decide how each segment of the key flexfield should behave and what values to allow in each segment.

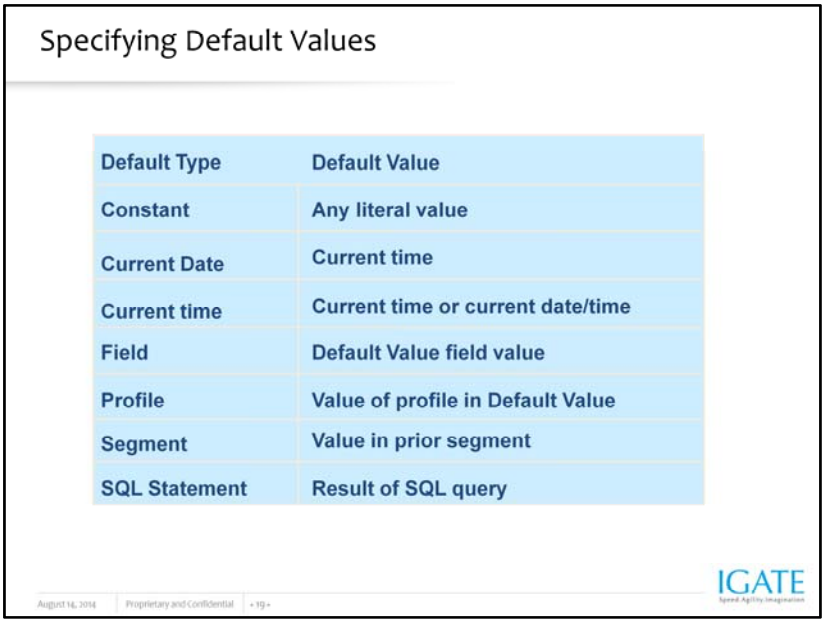
Enabled or Displayed - Can users see this segment? Disabled segments are not displayed. If the segment does not display, use a default value to populate it.

Required - Can users leave the segment without entering a value? Most key flexfield segments require a value.

Validation - Most key flexfield segments provide a list of values. Use a predefined value set, or design a new one for this segment. Not using a value set is equivalent to using a validation type of None, character format, width same as underlying segment column, uppercase allowed, and no right justification or zero fill.

Value Security - Should security rules for the value set apply to this segment?

Related Segments - Link segments with ranges of Low and High to enforce a relationship between them.



Specifying Segment Defaults - Examples

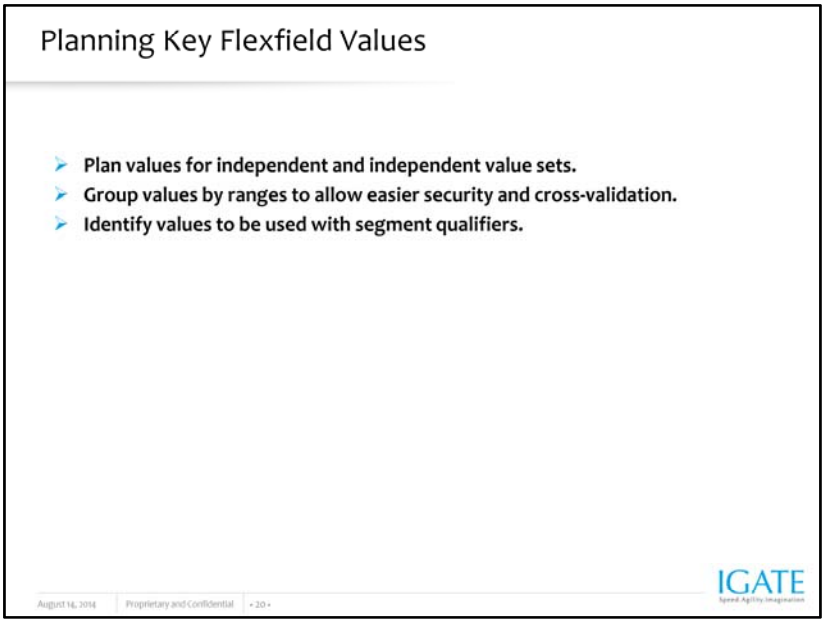
Default Type: Constant
Default Value: The constant specified.
Example: USA
Result: USA

Default Type: Current Date
Default Value: The date at the time of entry.
Example:
Result: MAY 01, 2000

Default Type: Current Time
Default Value: The Date/Time at the time of entry.
Example:
Result: 14:30:00 MAY 01, 2000

Default Type: Field
Default Value: The value in the specified field. Use the format block:field
Example: ORDER:LINE
Result: 3

Default Type: Profile
Default Value: The value of the specified profile option. Use the application name of the profile option.
Example: GL_SET_OF_BOOKS_ID
Result: 101



Planning Values for Use with Key Flexfields

Plan the values for the independent and dependent value sets created for this key flexfield. Choose values logically and systematically. Grouping values together logically makes defining security and validation rules much easier.

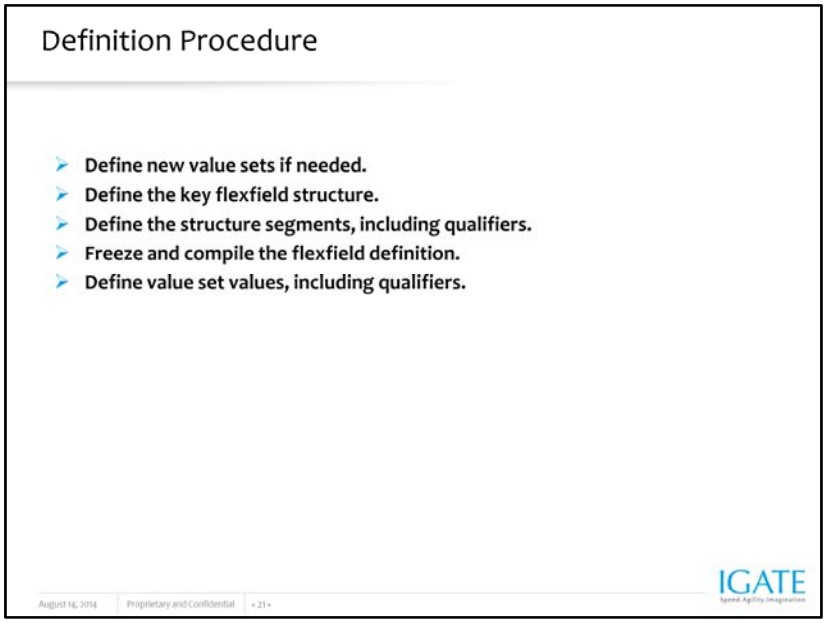
Oracle General Ledger Values Information

Certain applications (especially Oracle General Ledger) require special handling of values:

Oracle General Ledger applications require that segment qualifiers be assigned to some values used by the Accounting Flexfield.

Oracle General Ledger applications can create hierarchies of values using rollup groups and parent-child relationships for processing and reporting.

The Oracle General Ledger courses provide more details.


Definition Procedure
Define new value sets if needed.
Define the key flexfield structure.
Define the structure segments, including qualifiers.
Freeze and compile the flexfield definition.
Define value set values, including qualifiers.
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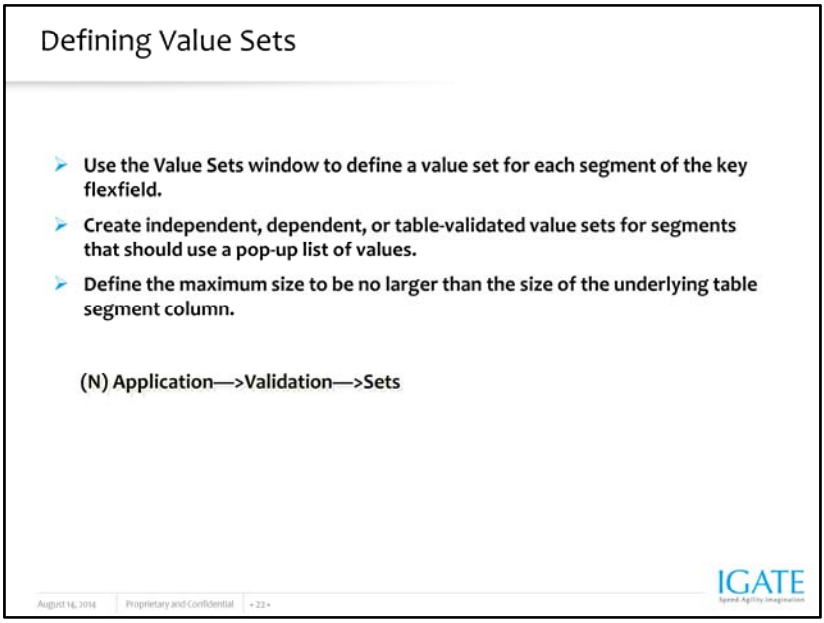
Defining Value Sets
Use the Value Sets window to define a value set for each segment of the key flexfield.
Create independent, dependent, or table-validated value sets for segments that should use a pop-up list of values.
Define the maximum size to be no larger than the size of the underlying table segment column.
(N) Application—>Validation—>Sets
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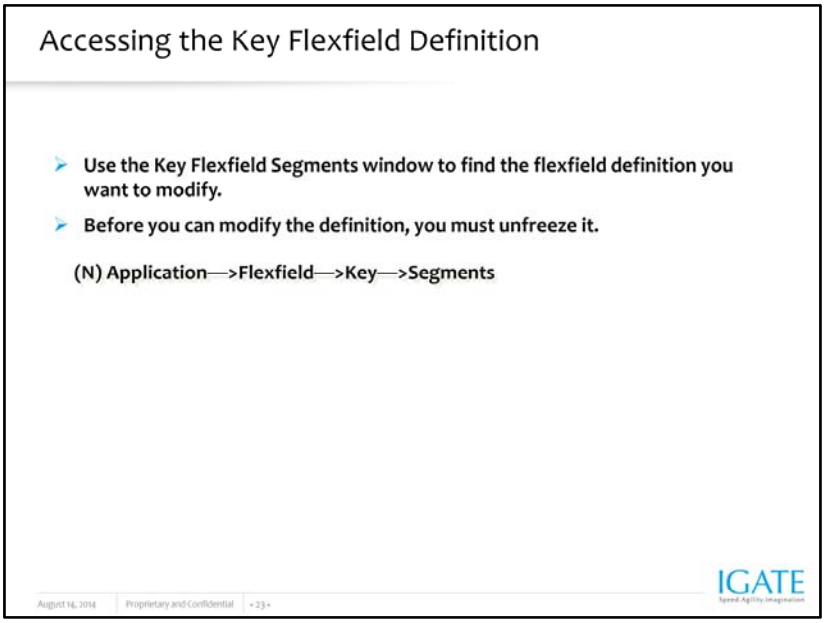
Accessing the Key Flexfield Definition
Use the Key Flexfield Segments window to find the flexfield definition you want to modify.
Before you can modify the definition, you must unfreeze it.
(N) Application—>Flexfield—>Key—>Segments
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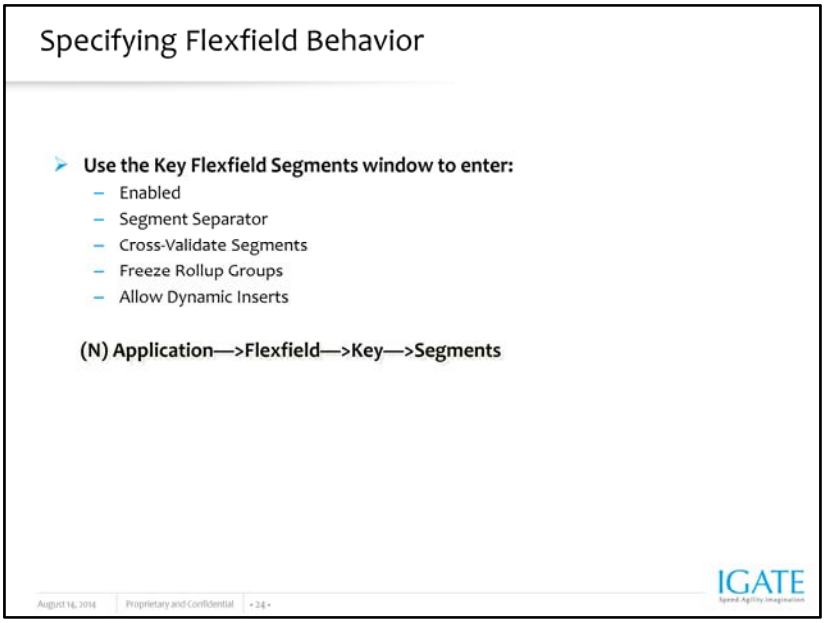


Specifying the Key Flexfield Behavior

Enabled - This enables shorthand entry of frequently used value combinations.

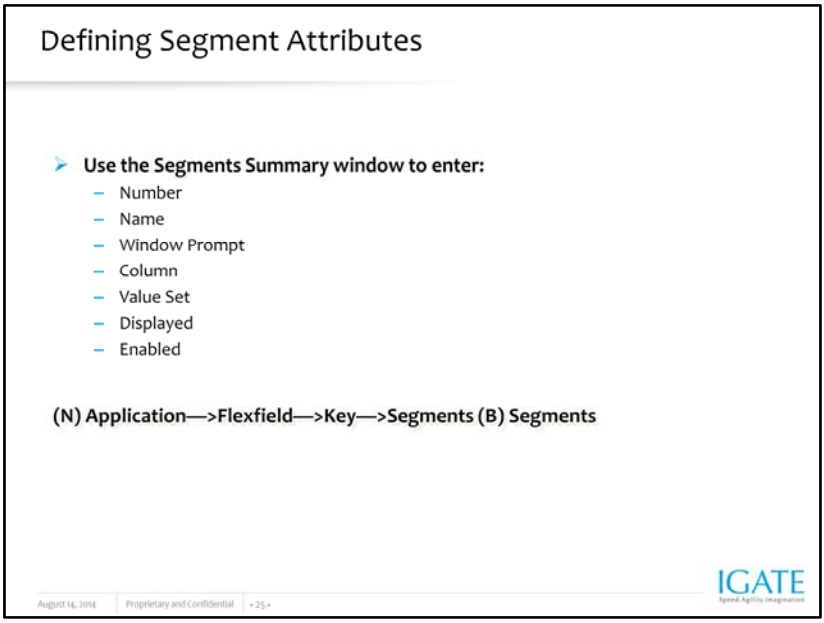
Segment Separator - Specify a segment separator character. Segment separators are especially important for key flexfields since their values are often displayed concatenated.

Cross-Validate Segments - This enables cross-checking of segment value combinations.

Freeze Rollup Groups - Rollup groups are used by the Accounting flexfield.

Allow Dynamic Inserts - This allows new key value combinations to be dynamically created and inserted into the table.

When you have defined the flexfield level attributes, click the Segments button to continue defining individual segments for this structure.



Defining Segment Attributes

Use the Segments Summary window to define most of the segment attributes.

Number - This specifies the sequence in which the fields will appear on the window.

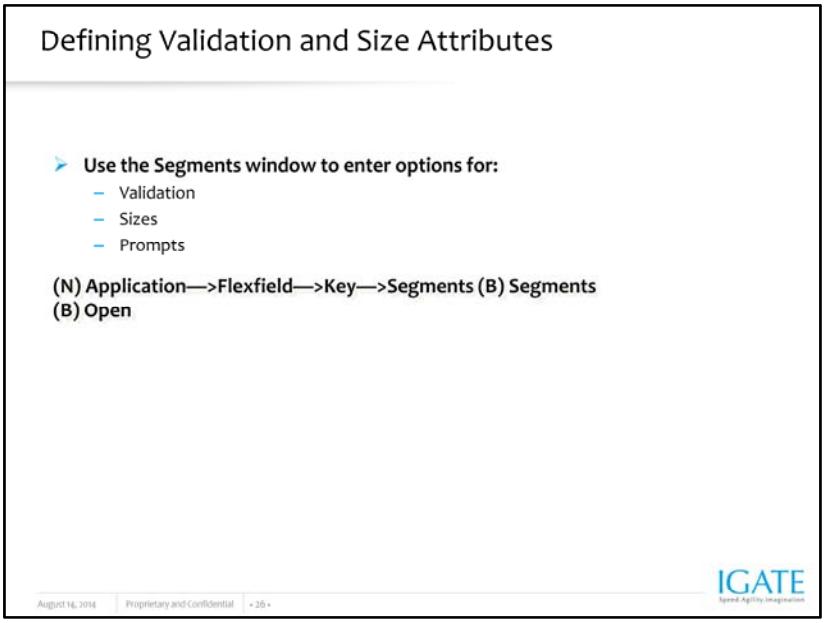
Name - The name by which this segment is know within Oracle Applications. Name the segment intuitively. Other segments may refer to this one for validation information. Also, the view generated uses the segment names for its column names.

Window Prompt - The prompt that will appear on the window. The segment name is the default.

Column - Specify the SEGMENT column in the underlying base table that contains this segment's data. A pop-up list shows the SEGMENT columns that are still available for use.

Displayed - If you choose to not display a segment, specify a default to populate it.

Enabled - This flags the segment as available for use.



Defining Validation and Size Attributes

Validation Information

Use the Validation block fields to specify value set information.

Choose a predefined value set with a list of values or design one for this particular segment with the Value Sets window.

Specify default information if you need to populate the segment with a default value.

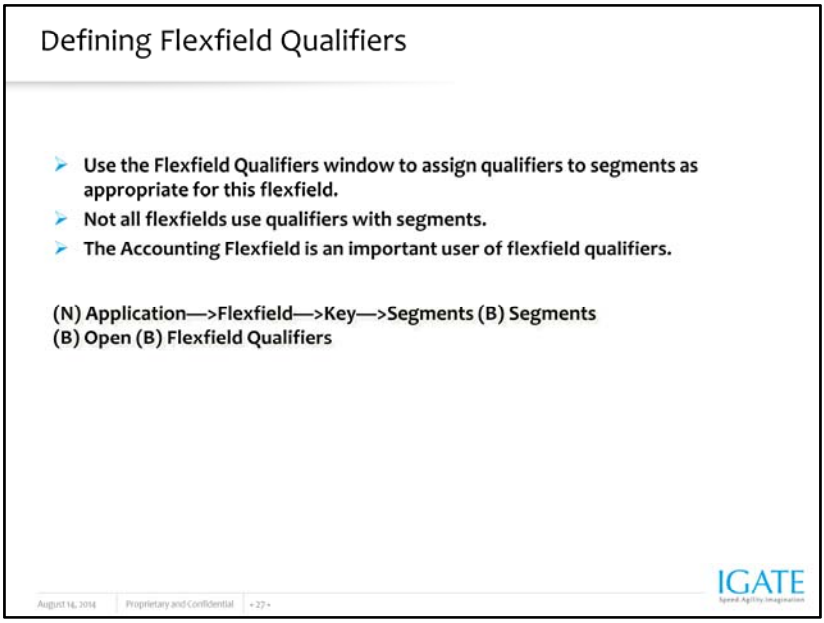
Determine whether security rules should apply to this value set for this segment.

Size Specifications

Display Size determines the field size on the flexfield. Specify a display size the same as the maximum segment size to avoid scrolling.

Keep prompts small for neater reports.

Click the Flexfield Qualifiers button to determine whether this flexfield has any qualifiers to be assigned.


Defining Flexfield Qualifiers
Use the Flexfield Qualifiers window to assign qualifiers to segments as appropriate for this flexfield.
Not all flexfields use qualifiers with segments.
The Accounting Flexfield is an important user of flexfield qualifiers.
(N) Application—>Flexfield—>Key—>Segments (B) Segments
(B) Open (B) Flexfield Qualifiers
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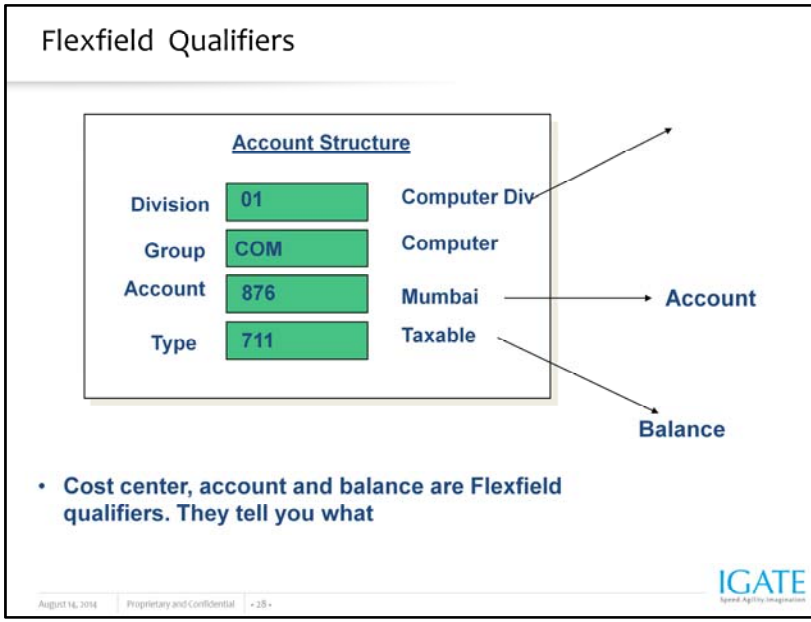
Flexfield Qualifiers
Account Structure
Division
01
Computer Div
Group
COM
Computer
Account
876
Mumbai
Account
Type
711
Taxable
Balance
• Cost center, account and balance are Flexfield qualifiers. They tell you what
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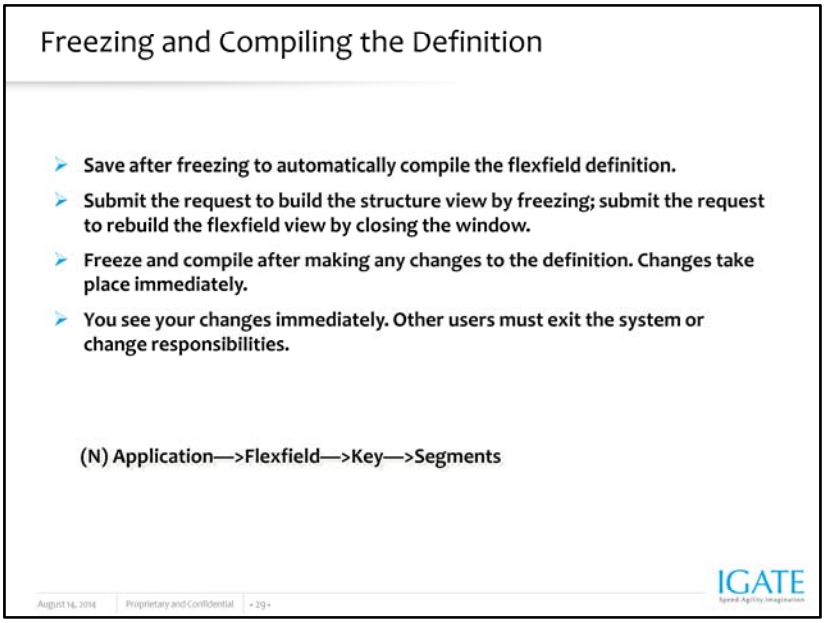
Freezing and Compiling the Definition
Save after freezing to automatically compile the flexfield definition.
Submit the request to build the structure view by freezing; submit the request to rebuild the flexfield view by closing the window.
Freeze and compile after making any changes to the definition. Changes take place immediately.
You see your changes immediately. Other users must exit the system or change responsibilities.
(N) Application—>Flexfield—>Key—>Segments
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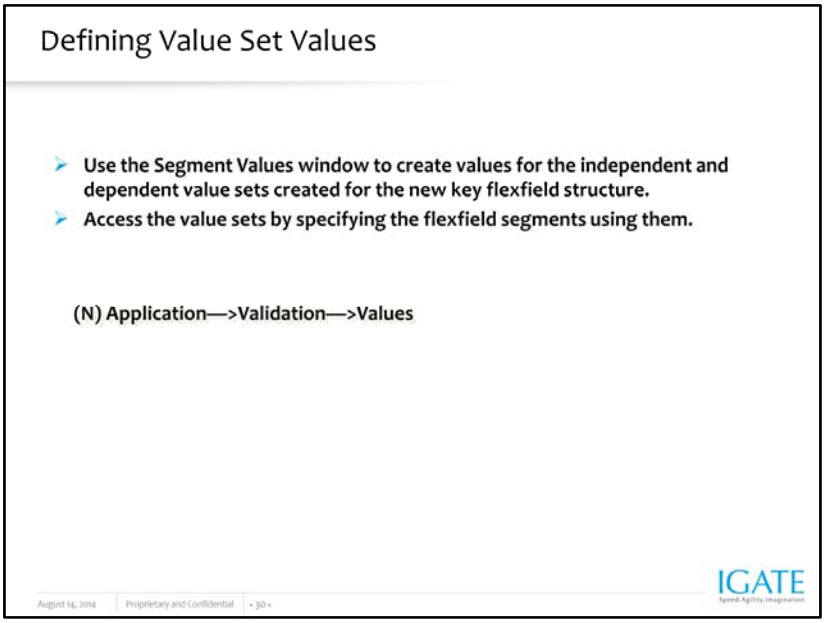
Defining Value Set Values
Use the Segment Values window to create values for the independent and dependent value sets created for the new key flexfield structure.
Access the value sets by specifying the flexfield segments using them.
(N) Application—>Validation—>Values
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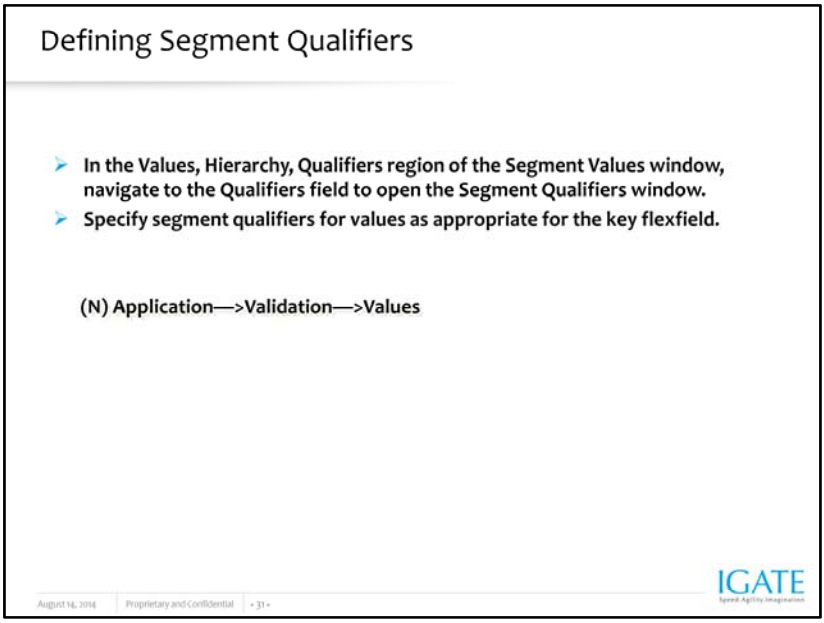
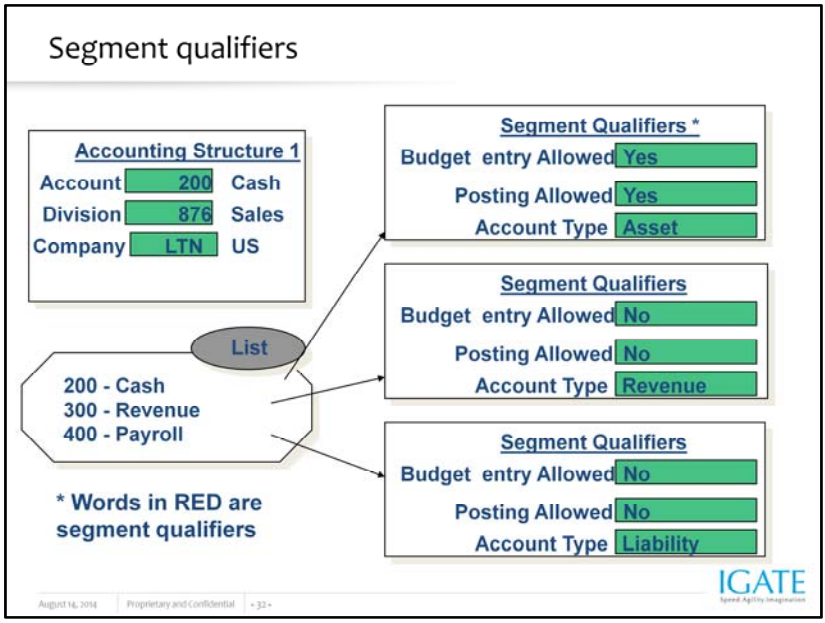


Defining Segment Qualifiers

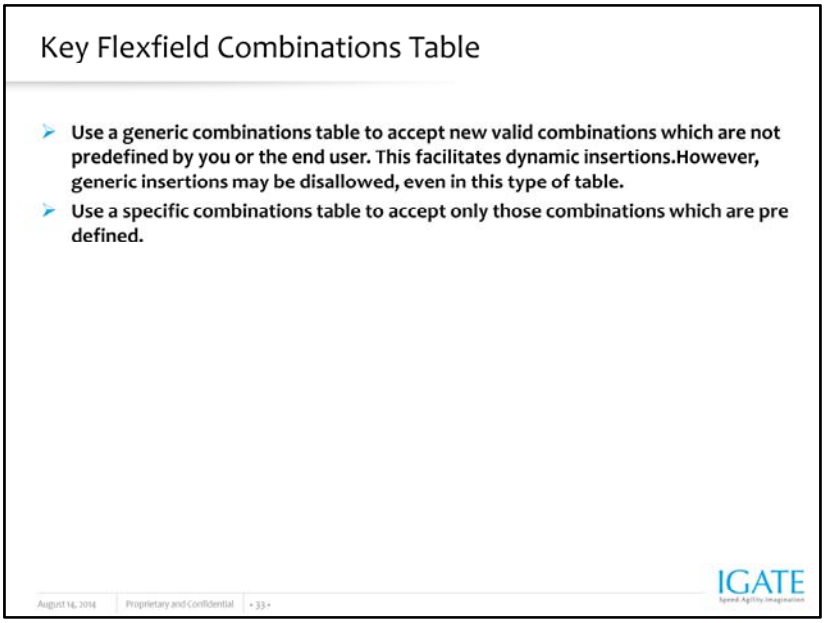
Specify additional qualifiers at the value level when appropriate. For example, Allow Budgeting is an Accounting Flexfield segment qualifier.

Whenever possible do not change a value, change its description. If reuse is not possible, disable unused values, do not delete them.



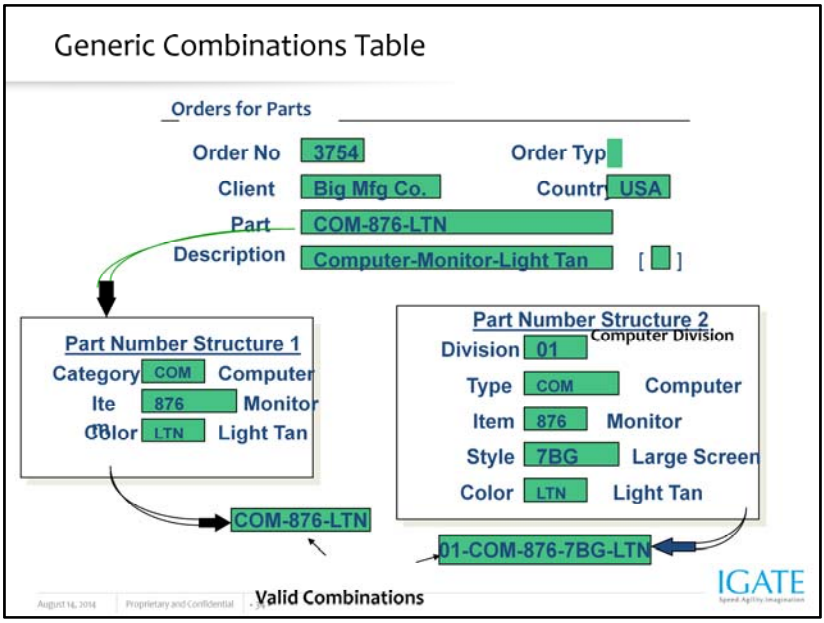
A segment qualifier describes characteristics of key segment values.
They hold additional information about the flexfield qualified segments.
Segment qualifiers are used to obtain information about segment values the end user enters while using the application.

A segment qualifier designates a particular type of value within a segment.
In oracle applications only 'accounting flexfield' uses segment qualifiers.



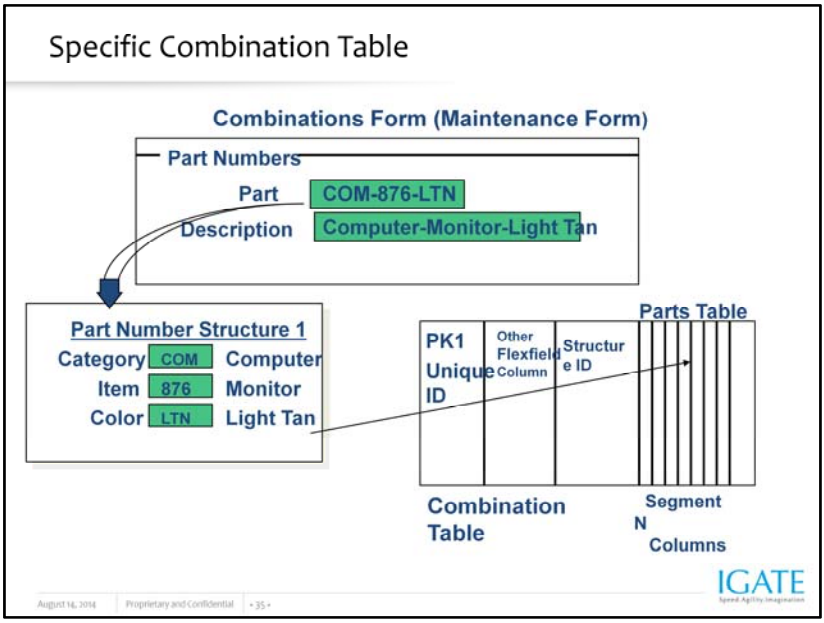
Key flexfields support a maximum of 70 segment columns in a combinations table.

One column is used to assign 'unique id' to each valid combination.
One column may be used for defining multiple structures by users.
The table should have a derived column for segment qualifiers, if they are used.



If the application uses a generic combination table, the end users can enter new valid combinations directly from the application form.

Before storing a new valid combination in a generic combinations table, the flexfield ensures that the new combination satisfies the cross - validation rules.



Define your combination table as specific if it contains any mandatory application specific columns, i.E. , Columns which cannot be entered using flexfield popup window.

Therefore users cannot dynamically enter new valid combinations.
All the valid combinations are anticipated and identified using a combinations table maintenance form.

Demo

- **Demo to define key flexfields**

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Summary

- **In this lesson, you have learnt:**
  - Key flexfields are required to pass information to Oracle Applications.
  - Some key flexfields have qualifiers that must be defined.
  - Design the key flexfield structure, behavior, and appearance.
  - Define your key flexfield according to your previously developed plan.
  - Define flexfield qualifiers and segment qualifiers if required by the flexfield.
  - Implement key flexfield options where appropriate.

Review – Questions

- **Question 1: Key Flex fields are Unique in Combination**
  - True/False